EMERGING FINANCIAL SERVICES TECHNOLOGY: NEW LEGAL ISSUES

Patents in Cyberspace: Electronic Commerce Patents

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Designing and implementing electronic commerce applications often results in new technological developments. These developments can be protected by patent.

INTRODUCTION

For many years, software companies have been obtaining patents for software-related inventions.[2] A patent can provide broad protection for a technological development implemented in software. For example, a patent can be obtained on a new software application, a new high level algorithm or a new communications protocol. Electronic commerce developments are primarily developments in software, algorithms and networks, and are thus prime candidates for patent protection. Many enterprises are already filing and obtaining patents on electronic commerce technology.

Patents are relevant not just to high technology companies. Banks and financial institutions, as users and developers of e-commerce technology, are discovering that patents can apply to their businesses too. Sophisticated financial institutions are using the patent system to protect their investment in technology.

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2 Donald S Chisum, "The Patentability of Algorithms", (1986) 47 *U Pitt L Rev* 959; David Bender, "The Case for Software Patents", (1989) 6 *Computer Law* 2; Stephen A Becker, "Drafting Patent Applications on Computer-Implemented Inventions", (1991) 4 *Harv J L & Tech* 237; John V Swinson, "Copyright or Patent or Both: An Algorithmic Approach to Computer Software Protection", (1991) 5 *Harv J L & Tech* 237; John V Swinson, "Software Patents in the United States", (1993) 4 *JLIS* 116; Annelies Moens, "The Use of Copyright and Patents for Software Protection", (1998) 4 *CTLR* 35; *CCOM v Jiejing* (1994) 122 ALR 417; *Arrhythmia Research Technology Inc v Corazonix Corp* 958 F 2d 1053 (Fed Cir 1992).

Electronic commerce technology can be protected by patent in Australia, the United States and elsewhere. At present, most of the e-commerce patent activity is taking place in the United States, but public records show that e-commerce patents are being filed and granted in other countries too.

When involved in developing or implementing new technologies, there are two patent-related issues that should be considered. First, should I protect this technology by patent? Failure to do so may allow competitors to freely use the same technology or provide the same product. Second, does this technology infringe another's patent? Infringing a patent can result in serious financial loss. The best known example is when Polaroid successfully sued Kodak for patent infringement, and Kodak was required to pay hundreds of million dollars of damages and close down a complete division of the company. Recently, Microsoft was found to infringe a patent of Stac Electronics, and paid approximately US$100 million to Stac in damages.

The following are some examples which show the reach of patents into the electronic commerce and financial fields:

- American Express, Visa, Mastercard, Reuters, Cybercash, IBM and Microsoft, to name just a few, all have patents and patent applications on e-commerce technology and products. Microsoft, for example, has filed a PCT (Patent Cooperation Treaty) patent application titled "Untraceable electronic cash" nominating a number of countries including Australia.[3] A PCT application is the first stage of protecting an invention internationally.

- In 1997 alone, 132 Internet commerce and electronic money patent applications were published as PCT applications,[4] many nominating Australia.

- Citibank NA owns at least eight United States patents, including, for example, a patent on a process for transferring funds through a communications network "allowing funds to be transferred instantly to an account so that the funds are available to the beneficiary at the time they are sent."[5]

- Open Market announced in March 1998 that it had obtained three United States patents on key areas of electronic commerce, discussed in more detail below.

- E-Data Corp is currently suing a number of companies in the United States for patent infringement. E-Data claims that its patent covers on-demand electronic distribution of products.[6] E-Data does not have a patent in Australia on this technology.

- State Street Bank was sued by Signature Financial Group Inc in Boston for patent infringement of its "hub & spoke" patent.[7] State Street prevailed at trial, but an appeal (which will likely determine the reach of patents over financial applications) is currently pending.

This article summarises some relevant principles of patent law, examines the areas of electronic commerce that are currently being patented, and provides some practical steps for those developing electronic commerce applications.

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3 PCT Application No WO97/09688.

4 Source: Internet Patent News Service, run by Greg Aharonian, 18 December 1997.

5 US Patent No 5,659,165, filed 24 July 1995, issued 19 August 1997, titled "Customer-directed, automated process for transferring funds between accounts via a communications network".

6 US Patent No 4,528,643, filed 1983, issued July 1995, titled "System for reproducing information in material objects at a point of sale location".

7 US Patent No 5,193,056, filed 11 March 1991, issued 9 March 1993, titled "Data processing system for hub and spoke financial services configuration".

WHAT IS A PATENT?

Simply, a patent gives its owner the right to prevent others from exploiting one's invention.[8] It is a right, granted by the government after an examination of a patent application, to prevent others from making, using or selling what is covered by the claims of the patent.

A patent is a right to exclude or prevent. Strictly speaking, a patent is not a monopoly.[9] A patentee[10] has no right to do what is patented. An example makes this clear. Company X invents and obtains a patent on the first word processor computer program. The next year, Company Y improves this technology and obtains a patent on a word processor program with an automatic spelling corrector. Company Y cannot make or sell what is covered by its own patent. To do so, Company Y would need to make a word processor, which is covered by Company X's patent. Company X has what is called a blocking patent.[11]

A patent is granted to a patentee for an invention. The subject of the patent must be both novel and involve an inventive step[12] (ie, generally, is non-obvious). The rules determining what is new and non-obvious are complex, and to some, appear rather subjective. However, one does not need to make a major breakthrough to be awarded a patent. Very few patentees invent the laser or discover the cure for Parkinson's disease. Most patented inventions are improvements, some critics of the patent system would say minor improvements, on existing technology.

The subject matter that can be covered by patent is extremely broad. It has been said that "anything under the sun that is made by man" can be patented.[13] Generally, patent provides protection for novel and non-obvious *technological* developments. For example, patents can be granted over new machines, industrial methods, drugs, methods for making drugs, computer hardware, computer software and toys. The list is limited only by human ingenuity. However, a patent should not be granted on abstract ideas[14] or works of fine art, such as literature, painting and poetry.

In relation to electronic commerce, the following can be protected by patent if new and non-obvious:

- all types of computer programs and algorithms relating to electronic commerce;
- Internet applications;
- electronic commerce products;
- data processing systems;

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8 Patents Act 1990, section 13(1).

9 A monopoly has been defined as "a privilege or peculiar advantage vested in one or more persons or companies, consisting in the exclusive right (or power) to carry on a particular business or trade, manufacture a particular article, or control the sale of the whole supply of a particular commodity." *Black's Law Dictionary*, 6th Ed, 1990.

10 In general terms, a patentee is the person to whom a patent has been granted or a subsequent assignee.

11 Conversely, Company X cannot expand its product line into word processors with automatic spelling correction without infringing Company Y's patent.

12 Patents Act 1990, section 18(1)(b).

13 *Diamond v Chakrabarty* 447 US 303, 309 (1980).

14 However, there is no requirement to make or "reduce the invention to practice" prior to filing for a patent.

- hardware devices such as ATMs and card readers; and
- possibly, new financial products.

Importantly, algorithms can be protected by patent.[15] For example, new algorithms for compression, encryption, searching, indexing or authentication can all be the subject matter of a patent. A patent on an algorithm can be extremely broad, covering any implementation of the algorithm, regardless of the computer language, operating system or processor that is used.

To obtain a patent, one must file an application. The patent application describes how to make and use the invention, and includes a number of claims that seek to define the legal boundary of the invention. In Australia, patent applications are examined by the Patents Office, part of IP Australia. The Patent Office maintains a register of all patents granted in Australia and an extensive prior art collection.

A patent is limited in time and in territory. In most countries, a patent has a term of 20 years from when the application for the patent is filed.[16] Each country has its own patent system. An Australian patent only covers activities in Australia. A United States patent only covers the United States. One will not infringe an Australian patent by making what is patented in Singapore and selling it in France. There is no "world patent." A patent application must be filed in each country where a patent is desired to obtain patent protection in that country.[17]

A valid patent can be a valuable asset. As mentioned above, a patent is a right to exclude others doing what is covered by the claims of the patent. Thus, if a competitor makes, uses or sells what is patented, the patentee may bring an action for patent infringement. The patentee is entitled to an injunction preventing the competitor doing what is patented, as well as damages, if the patent is valid and infringed. The damages can either be a reasonable royalty or, often more significantly, the profit the patentee would have made from using or selling the infringing items.

A key point in relation to patent infringement is that you can infringe a patent even if unaware of the patent and unaware of the patentee's product. The patent owner does not have to prove knowledge or copying to succeed in a patent infringement suit.

Care should be taken if hiring others to develop technology for your business. A patent is initially owned by the inventor or inventors. Thus, if an independent contractor is hired by a company to develop a new product, the independent contractor owns the rights to the patent over the product. Because patent assignments must be in writing,[18] unless the independent contractor enters a written agreement with the company assigning patent rights in the product to the company, the company will have no patent ownership rights in what was developed, even if the company paid for the development.

Patent law is rather complex, and patents are often difficult to read. The above is a very brief outline of patent law. There are many misconceptions about patents. To conclude and summarise, these are some of the facts about patents:

- software and e-commerce developments can be protected *both* by patent and copyright – copyright is the main form of protection for most software-based products, and patent can provide additional protection;

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15 Newell, "Response: The Models Are Broken, The Models Are Broken!" 47 *U Pitt L Rev* 1023 (1986).

16 In Australia, the term of a standard patent is 20 years from the date of the patent. Patents Act 1990, section 67.

17 International conventions, such as the Paris Convention and the Patent Cooperation Treaty, provide certain benefits to inventors seeking patent protection in more than one country.

18 Patents Act 1990, section 14(1).

- one does not need a major breakthrough to obtain a patent – most inventions are improvements on existing technology;
- patents are territorial – there is no "world patent";
- a business can infringe a patent even if unaware of the patent or the invention;
- a patent lasts for 20 years from the filing date – use of "older" technology may infringe an "older" patent; and
- in most cases, if one infringes a patent, both damages and an injunction will be awarded to the patent owner – the patent owner is under no obligation to license the infringer.

HOW COMMON ARE E-COMMERCE PATENTS?

There is no sure way to determine the number of electronic commerce patents or how many people and businesses are applying for patents on electronic commerce technology.

Patent Offices have various systems for the classification of inventions. However, there is no classification category for e-commerce inventions. E-commerce products are classified in many different areas. For example, underlying technology used in e-commerce applications is generally classified according to the technology, not the potential areas of use for the technology. Some electronic commerce applications are classified in broad categories, such as "application programs." The patent applicant drafts the patent application, and each applicant may use different terminology for the same concept, making keyword searching unreliable. Some patents are drafted in a way that is difficult to understand or determine exactly what the invention relates to. For these reasons, one cannot be sure how many e-commerce patents have issued.

It is also difficult to determine whether there are many pending patent applications relating to e-commerce.[19] For example, pending US patent applications are kept secret by the US Patent and Trademark Office until issuance. Because it often takes two or three years for a US patent to issue, patent applications for the latest developments are likely not to have issued as patents. Even though many applications relating to e-commerce may have been filed in the United States in recent years, most are likely to still be pending and secret. Non-US patent applications are, in most countries, published 18 months after the first filing date. In short, it is almost impossible to determine how many companies and individuals involved in electronic commerce are currently filing for patent protection.

Talk amongst patent attorneys suggest that there is a significant amount of activity in filing patents on e-commerce developments. Some United States statistics may give a clue as to the prevalence of e-commerce patents and applications.

In 1996, approximately 8,500 software patents issued in the United States. In the period February to July 1997, approximately 5,400 software patents issued. Of course, not all software patents relate to e-commerce. Roughly, the percentage of issued patents in areas possibly relating to electronic commerce is set out in Table 1.

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19 This paper assumes that most e-commerce and Internet inventions have, to date, been made in the United States. If so, most such patent applications would be first filed in the United States Patent and Trademark Office.

Table 1: Selective statistics relating to US Patents that issued in February – July 1997[20]

Area	Percentage and Number of the Patents that Issued
Network/Communications	20% (1,063 patents)
Operating Systems	12% (675 patents)
Graphical User Interfaces	7% (371 patents)
Security & Encryption	5% (243 patents)
Finance	3% (161 patents)
Navigation	3% (157 patents)
Internet	<1% (11 patents)

One can assume that many of the patents in the categories above are relevant to electronic commerce.

As mentioned above, applications filed outside the United States are published in most countries 18 months after the first filing date. Filing under the Patent Cooperation Treaty (PCT) is a common way to commence a foreign patent filing program, and PCT applications also are published 18 months after the corresponding national application was first filed. Examining published PCT applications is one way to glimpse patent trends. However, because (a) only 15% of United States applications are published as PCT applications; and (b) some PCT applications never issue as patents, statistics relating to PCT applications do not paint the full picture. Some of these PCT applications will likely issue as Australian patents. Over 500 PCT applications published in 1997 related to the Internet,[21] and as the Table 2 shows, some of these patents applications cover electronic commerce developments.

Table 2: Published PCT applications in 1997 in selected areas[22]

Area	No of PCT applications in 1997
Advertising	1
Billing	8
Commerce	104
Gambling	9
Money	28
Security	44

Public records indicate that many companies are involved in patenting Internet related inventions, including IBM, AT&T, Microsoft, Apple, Netscape, Citibank, Mastercard, American Express, Reuters, Cybercash, Sun, Time Warner, US West, MCI, Sony and Ericsson. Individuals and start-up companies are also filing for patent protection on electronic commerce technology.

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20 Source: Internet Patent News Service, 7 October 1997.

21 These applications were filed in 1995 and 1996.

22 Source: Internet Patent News Service, 18 December 1997.

To illustrate the breadth of the subject matter that can be covered by patent, and to provide some indication of recent patent activity relating to electronic commerce, Table 3 lists a selective sample of some recently issued US patents.

PROTECTING NEW TECHNOLOGY AND NEW PRODUCTS

E-commerce application developers and financial institutions should consider patent protection if creating new technology. As a "rule of thumb", anything involving computers or communications is potentially patentable.

Patents can protect generally technologies underlying e-commerce products, such as encryption, compression and authentication algorithms. Algorithms developed specifically for e-commerce applications can be patented, such as targeted advertisement delivery algorithms. Patents can also protect features of e-commerce applications, such as electronic shopping carts. New e-commerce applications and architectures can be protected, for example an on-line banking application, a smart card system or an electronic bill presentment architecture.

Even new financial products and services can be patented.[23] Many financial products and services are implemented in software. A patent may cover the software[24] that implements a financial product or processes data relating to the product. The patent could, in effect, prevent a competitor from offering the financial product.

Table 3: Sample of Recently Issued United States Patents

Title	Patent Number	Patentee	Date Filed	Date Issued
Electronic commerce using a secure courier system	5,671,279 see also 5,657,390	Netscape Communications Corp	13/11/95	23/9/97
Secure method for communicating credit card data when placing an order on a non-secure network	5,727,163 see also 5,715,399	Amazon Com, Inc	30/3/95	10/3/98
System for on-line financial services using distributed objects	5,706,442	Block Financial Corp	20/12/95	6/1/98
Electronic payment system and method	5,590,197	V-One Corp	4/4/95	31/12/96
System and method for bill delivery and payment over a communications network	5,699,528	Mastercard International	31/10/95	16/12/97
Design grid for inputting insurance and investment product information in a computer system	5,523,942	The New England Insurance Co	31/3/94	4/6/96

23 An example is the Merrill Lynch Cash Management Account, protected by US Patent Nos 4,346,442 and 4,774,663. See, *Paine, Webber, Jackson, & Curtis, Inc v Merrill Lynch, Pierce, Fenner, & Smith* 564 F Supp 1358 (D Del 1983).

24 Some would say that it is not really the software but the financial system (implemented in the software) that is protected by the patent.

Table 3: Sample of Recently Issued United States Patents (continued)

Title	Patent Number	Patentee	Date Filed	Date Issued
Computer system and method for electronic commerce	5,710,887	Broadvision	29/8/95	20/1/98
Method and apparatus for tracking the navigation path of a user on the world wide web	5,717,860	Infonautics Corp	20/9/95	10/2/98
Digital active advertising	5,724,424	Open Market	16/12/93	3/3/98
Method and system for the capture, storage, transport and authentication of handwritten signatures	5,544,255	PenOp Ltd	31/8/94	6/8/96
Interactive computer system to match buyers and sellers of real estate, businesses and other property using the Internet	5,664,115	Richard Fraser	7/6/95	2/9/97
Digital signature verification technology for smart credit card and Internet applications	5,613,001	Ezzat Bakhoum	16/1/96	18/3/97
Virtual reality generator for use with financial information	5,675,746	Paul Marshall	30/9/92	7/10/97

There are a number of reasons why people file for patent protection:

- ***Offensive:*** to stop competitors using the same technology. This is the most common motivation for seeking a patent.
- ***Defensive:*** so if sued by a competitor for patent infringement, you possibly will have some bargaining power, as the competitor may infringe your patents or want to use your patented technology. IBM would often counter-sue for patent infringement when accused of infringing another's patent. Microsoft has used its patent portfolio to obtain patent cross-licenses from (and in effect neutralising) competitors such as Wang, IBM, Apple and Hewlett-Packard.
- ***Licensing revenues:*** to license technology for a fee. For example, Texas Instrument has collected more than a billion dollars in licensing revenue from patent licenses.
- ***To assist raising finance:*** some venture capitalists will only invest in companies that have patents. Some start-up companies believe that having patents will assist in raising venture capital and make their company more valuable.
- ***Copyright protection is weak:*** court decisions in the United States have weakened copyright protection for software in recent years. For example, it is difficult to succeed in a copyright case where a competitor has copied the underlying functionality or the "look & feel" of your product. Also, to succeed in a copyright suit, you must prove that the infringer actually copied something, and what was copied was expression, not an idea. Patents can protect high level algorithms, and there is no requirement to prove copying.
- ***Ego:*** some people file patents to make themselves feel important.

There are important time limits that must be considered if a patent is to be filed. Using or disclosing the invention to others may prevent one from obtaining a patent on the invention. In most countries, including Australia, a patent application must be filed *before* the invention is *disclosed*. If the inventor tests the invention on a public Internet site prior to filing for a patent, it is often too late after this to obtain a valid patent. Unless correct agreements are in place, discussing the invention with a joint venture partner, technology provider or any other outside party will prevent the inventor from obtaining a patent on the invention in most countries.

The United States has more lenient rules for inventors. There is a "one year grace period" to file for a patent. In the US, a valid patent will not issue if:

- the invention was patented or described in a printed publication anywhere in the world *more than a year* prior to the filing date;
- the invention was in public use in the United States *more than a year* prior to the filing date; or
- the invention was sold or offered for sale in the United States *more than a year* prior to the filing date.

If you test your invention in public on the Internet or offer it for sale, then you have one year from that date to file for your US patent. As another example, a US patent should not issue on an algorithm if the algorithm is described in a printed publication anywhere in the world that was published more than one year prior to the filing date of the patent application.

Australia has much stricter rules than in the United States, and if you want to obtain patent protection in Australia, you must follow the Australian rules. If you are too late to obtain an Australian patent due to your own activities, you may be able to obtain a United States patent by taking advantage of the one year grace period. There is no requirement for an Australian inventor to file for patent protection in Australia first (or at all) before applying for a foreign patent.

As e-commerce and the Internet have an international reach, obtaining patents in foreign countries may be the only way to adequately protect the invention.

Additionally, a business should ensure that appropriate agreements are signed by those developing the technology, such as employees and contractors, so that the business owns all patent rights. Merely because the business pays for the development or use of the technology does not mean that it owns the patent rights in the technology.

REDUCING PATENT INFRINGEMENT RISKS

Patent Offices around the world are issuing patents relating to e-commerce at a growing rate. The likelihood that a financial institution or technology provider will infringe a patent is therefore increasing. *One can infringe a patent even if unaware of the patent.*

Because it is often irrelevant where an Internet server is located, some people have proposed that they can avoid infringement of a patent by locating the server (which performs the patented process or runs the patented software) offshore in a jurisdiction where there is no patent. In some instances, this may work. However, there are two points to keep in mind:

- for Internet and e-commerce applications, patents are often drafted to "catch" activities where the user is located, as well as where the server or central processor is located. If there is a United States patent and most of the users or customers are in the United States, it may be irrelevant that the server is located offshore.

- the United States Patent Act makes it any infringement to import into the United States the product of an infringing process, even if the process takes place outside the United States.[25] Although there is no reported case directly on point, it is believed that if data is processed offshore and the results of the processing are transmitted into the United States, this "importation" of the resultant data may be patent infringement if the process is protected by patent in the United States. Thus, an Australian bank may infringe a United States patent by transmitting data into the US to an Australian customer doing Internet banking while on vacation in the US.

There are a number of strategies to reduce patent infringement risks. These include:

- conduct patent clearance searches prior to the introduction of technology;
- obtain an explicit patent indemnity from third party suppliers of technology; and
- ensure that your liability insurance covers patent infringement or obtain specialist patent insurance.

COMPETITIVE INFORMATION

All patents and some patent applications are published.

A purpose of the patent system is to disseminate knowledge and to promote the progress of "the useful arts". One theory is that a patent is a contract with the government, where the inventor agrees to the publication of details about the invention in exchange for a limited period of protection for the invention. Many countries treat the technical knowledge disclosed in patents "as more than a useful by-product"[26] and as a justification for the patent system.

In short, the patent system is a great source of knowledge. For example, one can search patent databases to find:

- all patents owned by a competitor;
- the technical details of another's system (if patented);
- all patents on a particular topic; and
- details on technology that possibly can be licensed.

Patent information can be obtained for free on the Internet.[27]

EXAMPLE E-COMMERCE PATENT

Open Market, Inc has generated much publicity by claiming that it has been granted three broad US patents on widely used technologies for Internet commerce and marketing.

The most significant patent is said to be US Patent No 5,724,424, titled "Digital Active Advertising".[28] This patent was filed in December 1993 and issued 3 March 1998. It appears to be

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25 35 USC 271(g).

26 W R Cornish, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (London, Sweet & Maxwell 1989), p 84.

27 See, for example, http://www.ipaustralia.com.au and http://www.ibm.com/patents.

28 Another of Open Market's patents is said to cover electronic shopping carts used in Internet stores. The third is said to cover the way visitors who pass through a website are tracked. See US Patent No

carefully drafted. The abstract[29] of the '424 patent summarises what Open Market believes its patent is about. Note that the abstract of a patent is of no legal significance, and does not have any effect on whether one infringes the patent or not. The abstract of the '424 patent states:

> "A complete system for the purchasing of goods or information over a computer network is presented. Merchant computers on the network maintain databases of digital advertisements that are accessed by buyer computers. In response to user inquiries, buyer computers retrieve and display digital advertisements from merchant computers. A digital advertisement can further include a program that is interpreted by a buyer's computer. The buyer computers include a means for a user to purchase the product described by a digital advertisement. If a user has not specified a means of payment at the time of purchase, it can be requested after a purchase transaction is initiated. A network payment system performs payment order authorization in a network with untrusted switching, transmission, and host components. Payment orders are backed by accounts in an external financial system network, and the payment system obtains account authorizations from this external network in real-time. Payment orders are signed with authenticators that can be based on any combination of a secret function of the payment order parameters, a single-use transaction identifier, or a specified network address."

The '424 patent is complex, with 58 different patent claims. A business would infringe this patent if the business made, used or sold what is covered by *any one* of the 58 claims. Broadly, some claims are directed to an open network payment system for transferring funds from a buyer's account to a merchant's account with a "financial authorization network" acting as an intermediary to ensure the buyer has adequate funds. Other claims are directed to displaying digital advertisements received from merchants. Open Market has said it believes the patent covers Internet credit or debit card payments that get immediate authorisation over the Internet.

SUMMARY

Some people express surprise that financial software systems, such as those used in e-commerce, can be patented. Although Internet patenting activity has been receiving publicity in recent times, obtaining patents on financial software systems is not a new development. Consider, for example, the following financial software patents:

- US Patent No 3,573,747 titled "Instinet Communications System for Effectuating the Sale or Exchange of Fungible Properties between Subscribers" filed on 24 February 1969 and issuing 6 April 1971.
- US Patent No 3,581,072 titled "Auction Market Computation System" filed on 28 March 1968 and issuing 25 May 1971.
- US Patent No 3,634,669 titled "Analog Computation of Insurance and Investment Quantities" filed on 16 July 1969 and issuing 11 January 1972.

7,715,314 titled "Network Sales System" and US Patent No 5,708,780 titled "Internet Server Access Control and Monitoring System". Open Market has made broad statements about the scope of their patents, for example, "Open Market, Inc has received three patents from the US Patent and Trademark Office that cover fundamental technology for conduction business over the Internet. These wide-ranging patents give Open Market broad intellectual property protection on its innovative technology." See Open Market, Inc, "Open Market Receives Patents for Core Internet Commerce Technology", 1998, http://www.openmarket.com/whatsnew/patents/.

29 In this instance, the abstract of the '424 patent provides a good summary of what is generally covered by some of the claims of the patent. Keep in mind that only the claims of a patent, not the abstract, define the scope of the patented invention.

For a number of decades Wall Street has understood that financial software systems can be protected by patent.

The patent system is becoming increasingly relevant to e-commerce technology developers, financial institutions and service providers. Patent protection should be considered if one develops new technology. One should also ensure that technology one uses does not infringe another's patent.