

Software and business patents at the USPTO

The CAFC's en banc review of the *In re Bilski* case could mean major changes in the business method patents regime in the US. But as they wait for the court's decision, what can practitioners do for clients seeking protection for business methods?

By **Timothy L Harney**

The First Congress of the United States passed the statute creating the US patent system on 5th April 1790. Five days later it was signed into law. Nine years after that, almost to the day, inventor Jacob Perkins was granted the first financial patent for an invention entitled "Detecting Counterfeit Notes". It is believed by many practitioners that business method patents date back to this 1799 grant.

However, there are others who believe that business data processing methods do not date back that far. They contend their origins are found in patents issued almost 100 years later. They look to 1889 when three patents were issued to Herman Hollerith for inventions under the title of "Art of Compiling Statistics". Mr Hollerith's inventions were the foundation for his extremely successful Tabulating Machine Company, now known as IBM.

Whether business method patents emerged in the US after the Revolutionary War, or after the Civil War, is of little practical concern. They have certainly been around a long time. Therefore, it is somewhat surprising that the Federal Circuit's 1998 holding in *State Street Bank & Trust Co v Signature Financial Group Inc* has led many to believe that business method patents have only a very recent past. Undoubtedly, *State Street Bank* was a landmark for computer business methods. These have become a special animal, if not a new species of business method patents, and they have been controversial ever since.

The State Street case

State Street Bank and Signature Financial Group both acted as custodians and

accounting agents for multi-tiered partnership fund financial services (mutual funds). Signature Financial obtained a patent entitled "Data Processing System for Hub and Spoke Financial Services Configuration" in 1996. The Federal Circuit summarised the invention as follows: "In essence, the system identified by the proprietary name Hub and Spoke®, facilitates a structure whereby mutual funds (Spokes) pool their assets in an investment portfolio (Hub) organized as a partnership. This investment configuration provides the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership." The invention claimed was a computer system.

State Street Bank sought to have the patent invalidated, arguing that such computer business method patents were not statutory subject matter under 35 USC Section 101 because there was no physical manifestation, merely a mathematical formula that would fall under the abstract idea/algorithm exception. Moreover, it was argued that the patent should be invalidated under the long-held court exemption for business methods.

The Federal Circuit, however, did find the State Street Bank subject matter patentable. They recognised that a business method manifested by computer is made tangible by having a concrete result. They rejected the longstanding catch-all exemption for any invention that was a business method: "... Whether the claims are directed to subject matter within Section 101 should not turn on whether the claimed subject matter does 'business' instead of something else."

The result was a watershed: methods for doing business were suddenly patentable,

as were software applications. Practitioners rushed to the USPTO to protect their clients' business methods. Filings doubled within the first year, reaching more than 9,000 by 2006. In response, the office created Class 705 for business method patents and increased the number of examiners several fold. As the art has grown, the allowance rate has been dropping from 45% in 2001 to about 20% last year, reflecting the examiners' experience and depth in the art.

Recent decisions

State Street Bank has not, however, entirely settled the landscape in business method patents. Practitioners' continuing struggle is demonstrated in the conflicting decisions in *Ex parte Lundgren*, *In re Comiskey*, *In re Nuijten* and *In re Bernard L Bilski*.

In *Lundgren*, the United States Patent and Trademark Office Board of Patent Appeals and Interferences issued a precedential opinion eliminating the Patent Office procedure of rejecting patents under Section 101 as outside of the "technological arts". *Lundgren* involved a method directed to calculating compensation based on managers' performance criteria and transferring payments to them. The USPTO rejected the claims arguing that they were "outside the technical arts, namely an economic theory expressed as a mathematical algorithm without the disclosure or suggestion of a computer, automated means, apparatus of any kind, the invention as claimed is found non-statutory". The Board of Patent Appeals and Interferences disagreed. They found there is no judicially recognised separate "technological arts" test to determine patent eligible subject matter under Section 101 and declined to create one. Therefore, the examiner's rejection could not be sustained.

Practitioners believed that *Lundgren* broadened *State Street Bank* by eliminating the requirement for tying business method claims to a particular computer or electrical device. Further, given that the *Lundgren* was precedential, they believed that the USPTO examiners would faithfully follow it and expand the patentability of computer business methods. But they did not.

Along came *Comiskey* in 2007. At issue was legal software for directing mandatory arbitration. The USPTO argued that its claims were unpatentable subject matter because they were not tied to any particular computer and relied solely on human intelligence. This appeared to contradict *Lundgren* directly.

Nuijten immediately followed to compound the uncertainty. *Nuijten's* claims were directed

The In re Bilski case

Surprising to many in the field, over recent years the United States Patent and Trademark Office Board of Patent Appeals and Interferences has taken steps to become a kinder and gentler government body. As part of this move, the board began to publish informative opinions. It believes this will provide assistance and guidance to both examiners and practitioners.

One of these informative opinions, the only one issued in 2006, was *In Re Bernard L Bilski* (also referred to as *Ex Parte Bilski at the United States Patent and Trademark Office Board of Patent Appeals and Interferences*). *Bilski's* claims were directed to a method of risk management for commodities trading; specifically, related to bad weather. Claim 1 recites:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of: (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said

consumer; (b) identifying market participants for said commodity having a counter-risk position to said consumers; and (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

The patent examiner rejected the claims, finding that: "*Bilski's* claims did not recite, nor were they tied to any particular hardware or technology, such that it appears that *Bilski* recites nothing more than a disembodied "abstract idea."

The *Bilski* rejection was appealed to the Board of Patent Appeals and Interferences who found for the examiner. The Board held that "the transformations do not occur in non-machine implemented process claims, and therefore these claims did not qualify for patent protection".

In a prior decision, *Ex Parte Lundgren*, the Board expressly negated the USPTO's practice of rejecting patents under Section 101 as being outside the "technological arts". They found that there is no judicially recognised separate "technological arts" test

to a storage medium for signal with an embedded watermark. Once again, the USPTO rejected the claims as unpatentable subject matter. It was appealed and the Federal Circuit upheld the Patent Office's rejection. The court found that electromagnetic signals are too transient to be considered an "article of manufacture" under Section 101, and therefore not patentable.

Bilski further squeezed the patentability of computer business methods. *Bilski's* claims were directed to a method of mitigating the effects of weather in commodities trading. *Bilski's* claims were not tied to any particular form of technology. The Board of Patent Appeals and Interferences rejected the claims because they were not tied to any physical structure and could be performed by humans without outside aid. *Bilski* was appealed to the Federal Circuit. After hearing oral arguments last year, the Federal Circuit has decided that the case justifies review by the full court to determine what standard should govern eligible subject matter (see box).

This would be welcome. With *State Street Bank* and *Lundgren* on one side appearing to expand computer business methods patentability, and *Comiskey*, *Nuijten*

to determine patent eligible subject matter under Section 101. However, in *Bilski*, the board declined to follow *Lundgren*.

The board further found that *Bilski*'s patent is directed to a method of managing risk at a reduced cost, and is not tied to any physical structure. It does not recite a physical transformation or any electrical, chemical or mechanical act and could be performed entirely by human beings without any outside aid. The board determined that the method was not statutory subject matter under Section 101.

To be patentable, the board determined that business method claims must transform some physical subject matter to a different state or thing; ie, the "transformation test". The board recognised that a claim that can be entirely performed by a human only "if there is a transformation of physical subject matter from one state to another". The board held that *Bilski*'s method of managing risk did not provide the requisite transformation of matter.

The board also considered the "abstract idea test" to be a backup to the "transformation test". It found that *Bilski*'s claims are abstract because they relate to any and every possible manner of

performing the steps. If a method is abstract, it cannot have a concrete and tangible result, the two being mutually exclusive. Abstract relates to any and every possible manner of performing a method, whereas concrete and tangible requires some sort of physical manifestation. If one applies, the other cannot. Therefore, because the board found the claimed method was abstract, it found that the claimed method was not concrete and tangible. It was not implemented in some specific way to be considered practically useful in the patentable sense.

Bilski appealed to the Federal Circuit. Oral arguments were heard in October, 2007. The Federal Circuit decided that this case is significant and should be reheard by the full court (*en banc*). The Federal Circuit asked the following five questions:

- Whether claim 1 of the *Bilski* patent application claims patent-eligible subject matter under 35 USC § 101?
- What standard should govern in determining whether a process is patent-eligible subject matter under section 101?
- Whether the claimed subject matter is not patent-eligible because it constitutes an abstract idea or mental process; when does a claim that contains both mental

and physical steps create patent-eligible subject matter?

- Whether a method or process must result in a physical transformation of an article or be tied to a machine to be patent-eligible subject matter under section 101?
- Whether it is appropriate to reconsider *State Street Bank & Trust Co v Signature Financial Group Inc* and *AT&T Corp v Excel Communications Inc* in this case and, if so, whether those cases should be overruled in any respect?

It should be noted that a number of practitioners are unhappy with the Federal Circuit's decision to take this particular case. They are pleased that the court is willing to address the issue regarding the scope of Section 101. However, they feel that the claims in *Bilski* were poorly drafted and that an adverse opinion could result from the claim language, and not from the important underlying issues.

Nonetheless, many patent practitioners hope that the Federal Circuit will broadly construe Section 101 to find an invention patentable if it offers a "practical application of a process with a useful result". This test would be both helpful and promote the arts.

and *Bilski* on the other appearing to narrow it, there is ample need for clarification.

Waiting for *Bilski*

What should practitioners do to obtain patent protection for business methods and software amid the current uncertainty? The USPTO has provided some guidance for practitioners by issuing guidelines, white papers and presentations with updates. These can be helpful (see www.uspto.gov).

First, and foremost, the guidelines direct a search of the prior art. This search helps to estimate the scope of the current art to eliminate any blind spots, thereby increasing your chance of allowance and decreasing subsequent challenge. It also allows the practitioner to characterise the scope of the prior art to the examiner in language most favourable to his client. Knowing that the most relevant prior art has been overcome during examination obviously strengthens a patent, and lessens the potential for later re-examination.

Second, take time for careful claims drafting. This is not the place to take short cuts. More than one set of claims should be drafted: (1) to a method; and (2) to a physical implementation (eg, a computer and/or a

system). All the claims should provide a useful, concrete and tangible result, and not be drawn to data or a judicial exception *per se*. Any claims drawn to a computer or system should not include any of the following: (1) a known or obvious process on a computer or the internet; (2) a computer program *per se*; or (3) non-functional data on a storage device (eg, music on a CD). Further, if a functional signal is being claimed, the signal must be embedded in a computer-readable medium.

Third, conduct a second or examination search focused on the actual claim language. Taking the time to conduct such an examination search may uncover new or additional art that is closer to the actual claim language than that uncovered in the initial search. This should enable the practitioner to anticipate claim rejections, such that language can be included in the specification to support arguments for traversing such rejections, narrow the scope of the independent claims to avoid such rejections and/or verify that narrow, allowable dependent claims are included.

These steps will go a long way towards computer and business method claims passing examination and the patent being allowed. And, a patent allowed goes a long, long way to protecting your client's business.

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