

How to protect software inventions

The patentability of software and business method inventions continues to be debated in many jurisdictions. **Sam Frost** and **Ebad Rahman** explain that, in the past two years, Canada has implemented new guidelines that attempt to provide more uniform, consistent and predictable examination

The Canadian Intellectual Property Office (CIPO) amended two key chapters in its Manual of Patent Office Practice (MOPOP) in 2005, Chapter 12 (Utility and Subject Matter) and Chapter 16 (Computer-Implemented Inventions). The MOPOP establishes guidelines for examiners and applicants on the preparation and examination of patent applications. The amended chapters deal with subject matter requirements for patent applications and also specifically provide guidelines for claiming computer-implemented inventions. The MOPOP amendments are not legally binding, but they serve as practical guidelines to follow when determining how to prepare patent applications for computer-implemented inventions in Canada.

Computer-implemented inventions

The MOPOP chapters relating to computer-implemented inventions were eagerly anticipated due to the lack of jurisprudence on the patentability of software in Canada. Remarkably, there has been only one court decision in Canada that has dealt with the issue of the patentability of software. In *Schlumberger Canada Ltd v Canada (Commissioner of Patents)*, a decision from 1981, the invention at issue was a method of analyzing measurement data using certain mathematical formulae. The Federal Court trial division held that the method was not patentable on the basis that the invention was directed to mere calculations. As a result, one of the main principles that emerged from this case and that grounds current practice in Canada is that the use of a computer to implement a discovery does not change the nature of that discovery.

Prior to the MOPOP amendments, the approach taken in Canada to the patentability of computer programs was unclear and not necessarily consistent. The new MOPOP amendments establish that software and business method patent applications are patentable if they meet certain criteria. Specifically, such inventions may be protected by a patent where they meet the requisite tests for patentability (for example, novelty, non-obviousness and utility), produce an “essentially economic result in relation to trade industry or commerce”, and are claimed appropriately.

The two-part test

A two-part test is applied when determining whether an invention falls within the statutory definition of patentable subject matter. Practically, for software or business method inventions, this requires establishing that they meet the criteria: (1) being an “act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or condition”, and (2) pro-

ducing an “essentially economic result relating to trade, industry or commerce”. The MOPOP amendments have stressed the importance of producing an “essentially economic result in relation to trade, industry or commerce”. An essentially economic result is considered to exist when the method at issue relates to a method for making a vendible product, operating or using an invention, or making a diagnosis.

While CIPO’s position on the patentability of software inventions has been clarified through the MOPOP amendments, the long-term impact of these guidelines in the absence of new jurisprudence on the patentability of software remains to be seen. However, it appears that in 2006 the number of Canadian patents granted for computer-implemented technologies increased substantially. While this may be attributable to previous increases in filing of patent applications related to digital computing and data processing as illustrated in table 1, it also probably has to do with the adoption of the guidelines by the Canadian patent examiners. A study of the patents that have been granted in certain classes (the class related to data processing) indicates a substantial increase in the number of patents granted for data processing-related technologies. For example, in the past year, patents have been granted in Canada for applications related to methods of managing financial transactions and methods for ensuring secure financial transactions. Previously, it is likely that applications for this type of subject matter would have been rejected as unpatentable. The new approach adopted by CIPO appears to indicate an increased willingness in Canada to issue patents for computer-implemented technologies.

Examples of acceptable claims

The other amended chapter in the MOPOP lists types of claims that are acceptable, and possible types of claims are mentioned for computer-implemented inventions. These are: process (method) claims; system or apparatus claims that use the computer program; and manufacture claims. Manufacture claims with respect to computer programs include products or computer media, including signals, that embody code or data structures. Method claims must be directed towards the operations that take place in a computer system when the method is run. Method claims must describe the steps that are carried out on, or by, an inventive combination of hardware and/or software. Where a software program that performs a novel function has been installed on a computer system, the computer system is considered to be a different computer system to one that does not have the software that performs the novel function installed upon it. Claims, therefore, may be directed towards the apparatus or machine that has installed upon it a novel computer

A real and substantial connection to cyberspace

Website content and e-commerce transactions give rise to IP disputes no longer restricted by bricks-and-mortar territorial boundaries. Catherine Lovrics and Sharyn Costin offer a Canadian perspective on where jurisdiction is likely to be assumed over your online activities

In Canada, the principle of a “real and substantial connection” to the forum guides and limits the assumption and recognition of jurisdiction. Relevant connecting factors are not prescribed, and differing degrees of connection to the forum will constitute a “real and substantial” connection depending on the facts and issues involved in the case. The connection need not be the most real and substantial of all jurisdictions, but it must not be minor, fleeting, ephemeral or relatively unimportant. Courts will start by considering the forum’s “connection” to: the plaintiff, the defendant, the subject matter of the action, the cause of action, the location of the wrongdoing, the damages suffered and the transaction of the parties.

In disputes resulting from the internet, the court will look to the website(s) involved for indications as to which territories have jurisdiction over the website(s) or online transaction. From a practical perspective, foreseeability of a jurisdiction from the perspective of the website owner or content provider is often used as a barometer for whether there is a real and substantial connection. Though none are determinative, connecting factors specific to the internet include: the location of the content provider, the host server, the intermediaries and the end user. For the purposes of comity, order and fairness, a jurisdiction will be sufficiently, although perhaps

not “real and substantially”, connected to a communication over the internet if it transmits or receives the communication.

Disputes involving IP rights

In disputes involving IP infringement, whether IP rights exist in the same jurisdiction as the use or infringement of those rights will be a central consideration. If online activities are alleged to go beyond the territorial scope of an IP licence agreement, courts will generally see if measures were undertaken to limit the website’s presence to the respective jurisdiction where IP clearance was obtained.

In borderless cyberspace, where your website is should be obvious. Clearly state the territory that is intended to have jurisdiction over online content and transactions, and whose laws apply. Notices and contract clauses governing jurisdiction should be explicitly brought to the attention of visitors to your website, for example through online process requirements such as click-through requirements.

Generally, the more commercial and interactive your website, the greater care required to ensure you are not mistakenly entering unintended jurisdictions. Your website should be consistent with jurisdictional notices and clauses. Pay attention to: the actual and likely audience of your website; the currencies you list prices in and in which you accept payments; where e-commerce agreements can be entered into from and where they may be partially performed; and in which countries you offer value-added customer services. If you advertise, market or solicit business to or from a particular market, that territory will be more likely to have jurisdiction

over your online activities. It is a good idea to prohibit advertising, feedback and testimonials from being posted on your website by companies and people from territories that you are avoiding, and to avoid advertising on websites that are likely to attract unintended audiences. Be mindful that reference will also be made to bricks-and-mortar business activities (that is, whether you have a Canadian bricks-and-mortar business presence, a physical address in Canada, a Canadian bank account, or are listed on a Canadian stock exchange with full trading privileges).

If you have an international online presence, country-specific entry to your website(s) will help to temper multiple assertions of jurisdiction over the entirety of your web-presence, and will make your online content and policies much easier to manage. If territory-based IP clearances were obtained, it is a good strategy to use scripts or technology that identify the location of visitors to your website through internet protocol addresses, or other geographic location identifiers to prevent visitors from particular countries from accessing, downloading from, or transacting on your website or server.

By taking an objective look at your website, consider whether your conduct supports the conclusion that you are choosing to conduct business in a jurisdiction, or avoiding it. If it is likely you are building a bridge to a particular jurisdiction, it is important to ensure that you are meeting local laws, including consumer protection, privacy and tax laws.

By Catherine Lovrics and Sharyn Costin. Lovrics is a lawyer and Costin is a lawyer and trade mark agent with Bereskin Parr in Toronto

program. The third types of claims that may be used to protect computer-implemented inventions, or software, are claims that are directed towards the computer-readable mediums that are used to store the computer programs. The software that is embodied upon the computer-readable mediums will direct a computer system to function in a specific manner. These claims provide the possibility for a patentee to capture various methods by which software may be distributed, and therefore may allow for a greater scope of enforcement.

To better illustrate the types of claims for computer-implemented inventions that may be acceptable to the Canadian Intellectual Property Office, the MOPOP guidelines include example claims. The guidelines suggest the following language be used in a method claim:

A method of enrolling signature information of an authorized user onto an identification card comprising the steps of:

- a) collecting samples of a signal at a rate of at least “n” times a frequency component of said signal which is to be preserved, where “n” is an integer greater than four

- b) digitally filtering said samples representing said signal to remove high frequencies; and
- c) storing said filtered samples on said card.

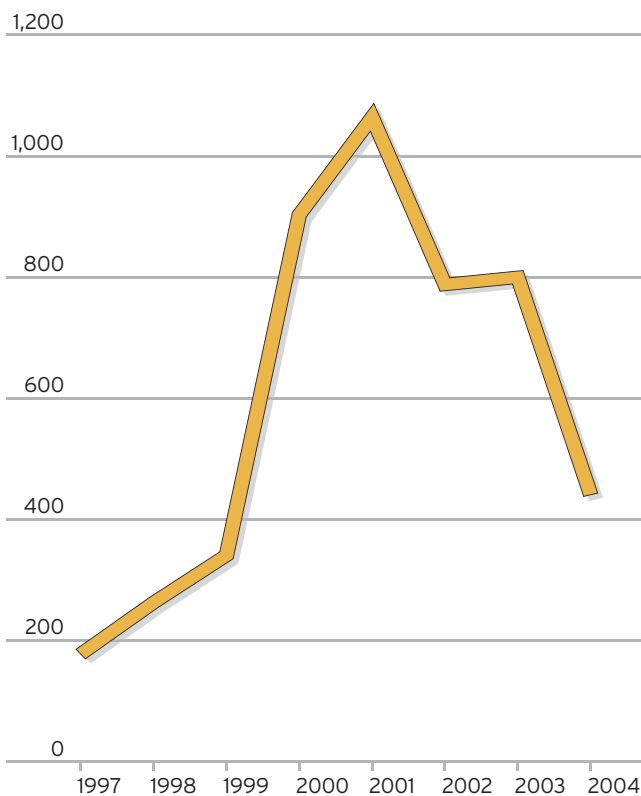
A claim that is directed towards the apparatus used to carry out the above method is also provided. The claim incorporates functional language in the steps of the method claim by using “means-for” language. Many practitioners are aware of the limitations associated with using such language in US applications, particularly with respect to the doctrine of equivalents. However, the use of “means-for” language does not trigger the same concerns in Canada, and in any event could be replaced with suitable apparatus terms. The following claim is suggested by the guidelines:

An apparatus for enrolling signature information signals of an authorized user onto an identification card comprising:

- a) means for collecting samples of a signal at a rate of at least “n” times a frequency component of said signal which is to be preserved, where “n” is an integer greater than four;

Table 1: Patenting trends

Number of applications filed in Canada in Class GO 6F 17/60 (Digital computing and data processing related applications)

**Table 2: Granted patents**

Examples of computer-implemented applications granted by CIPO

2,420,610	Networked business system
2,407,724	Distributing television advertisements over the internet
2,407,144	Method and system for facilitating management of information technology investments
2,396,006	Automated system and method for monitoring financial transactions
2,366,517	Person-to-person, person-to-business, business-to-person, and business-to-business financial transaction system

- b) a filter for digitally filtering said samples representing said signal to remove high frequencies;
- c) means for storing said filtered samples on said card.

Finally, as mentioned above, claims may also be directed towards the medium upon which software may be recorded. An example of such a claim is also provided:

A computer readable memory having recorded thereon statements and instructions for execution by a computer to carry out the method of claim 1.

Therefore, based on these new CIPO guidelines and the patents that are being allowed in Canada, the current environment is favourable and does encourage inventors of software-related inventions to seek patent protection. However, it remains to be seen how Canadian courts will deal with the issue of the patentability of software and whether they will interpret the statutory provisions as generously as CIPO; in the meantime, it appears that Canada may be considered a jurisdiction that grants software patents when claimed appropriately.

Business methods

With regard to the patentability of business methods in Canada, the fact that the subject matter of an application is directed towards commercial activities does not automatically exclude that subject matter from patentability. The recently released guidelines specifically state:

These methods are not automatically excluded from patentability, since there is no authority in the Patent Act or Rules or in the Jurisprudence to sanction or preclude patentability based on their inclusion in this category. Patentability is established from criteria provided by the Patent Act and Rules and from Jurisprudence as for other inventions.

In Canada, business method inventions that have an “essentially economic result in relation to trade, industry or commerce”, when claimed in an appropriate manner, may be considered patentable subject matter. The fact that an application is directed toward a business method related subject matter does not automatically exclude it from patentability and such inventions can be protected by a patent as long as they meet the other standard tests for patentability (novelty, non-obviousness and utility).

However, it is important to note that in Canada, unlike the United States, pure business method inventions that deal with schemes, plans and ideas for doing business or methods of accounting are not considered patentable subject matter.

While pure business method patents are not allowed in Canada, the Canadian Patent Office has recently granted patents that have a significant business component to them. These patents include a patent that covers a method of delivering promotional offers on shopping card handles (Canadian patent 2,453,869) and a patent for displaying merchandise and for monitoring sales of the merchandise (Canadian patent 2,289,407). Further examples of patents granted by the Canadian patent office can be found in table 2.

While the guidelines do provide that business method-related applications are to be treated in the same manner as applications directed towards other technologies, examiners have been known to reject applications that deal with commercial activities. Therefore, when filing a business method-related application in Canada, it is important to ensure that the claims have been prepared in light of the guidelines laid out by the CIPO. While the CIPO guidelines do not specifically provide for example claims that are directed towards business methods, the guidelines that have been provided for computer-implemented inventions should be used when preparing business method-related applications. Specifically, the technological components in business method-related applications should be incorporated into the claims, so that such applications may be treated as computer-implemented technologies.

Claim appropriately

While the impact of both business method and software patent applications on the Canadian economic landscape remains to be seen, it does appear that for the time being, when claimed appropriately such applications may be granted in Canada.



Sam Frost



Ebad Rahman

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