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**A REPORT BY THE AIPPI STANDING COMMITTEE ON INFORMATION TECHNOLOGY AND INTERNET ON THE CURRENT SITUATION AROUND THE WORLD ON THE PROTECTION OF COMPUTER IMPLEMENTED INVENTIONS (CII)**

**Content:**

1. An introduction to AIPPI.
2. General remarks on economic aspects in connection with computer implemented inventions.
3. Current situation in the United States, Japan, Europe (including Germany and the United Kingdom), China, Canada, Australia and New Zealand.

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## **1. INTRODUCTION TO AIPPI**

AIPPI, the International Association for the Protection of Intellectual Property, was founded in 1897 and is dedicated to the development, improvement, and legal protection of intellectual property. AIPPI is a non-affiliated, non-profit organization headquartered in Switzerland, having over 9,000 members representing over 100 countries. The members of AIPPI include lawyers, attorneys, and agents working across all fields of intellectual property in corporate and private practice throughout the world, as well as academics, judges, government officials and other persons interested in intellectual property. AIPPI is organized into 68 National and Regional Groups.

The objective of AIPPI is to improve and promote the protection of intellectual property at both national and international levels. It does this by studying and comparing existing and proposed laws and policies relating to intellectual property, and working with both government and non-government organisations for the development, expansion and improvement of international and regional treaties and agreements, and national laws.

## **2. GENERAL REMARKS ON COMPUTER IMPLEMENTED INVENTIONS**

The patentability of computer software related innovations has been the subject of lively debate among intellectual property users and information technology experts for the past 50 years. This discussion is very similar to earlier discussions in connection with the recognition of patent protection for new, important fields of technology such as the extension to medical substances (approx. 100 years ago). A similar debate exists with regards to biotechnology.

The economies of the industrialized countries are increasingly dependent on the tertiary sector (service industry). Developments in the service industry are generally new working methods very often implemented through the use of computer networks such as the Internet. The question of the existence of patent protection for computer programs or computer implemented business methods thus becomes a question of applying the known protection system to the economic sector with the strongest growth.

Computer software related inventions or computer implemented inventions involve the use of a computer, computer network or other programmable apparatus, with at least one feature of the invention being realised by means of a computer program. In most cases such inventions are directed to a new functionality executed by means of a computer or other programmable device. Computer software related inventions penetrate almost all fields of technology.

The protection provided by copyright law and the protection provided by patent law, although applied to the same software product, cover completely different aspects of the product and should not be confused. Copyright protection only protects the specific expression of the program (i.e. the listing or specific code) against copying whereas patent protection protects the features of a new method (i.e. the functionality) independent of the specific code implementation of a program. In practice, an expression of an idea attracts copyright by the mere fact that it is a creation, i.e. the expression of any original computer program is protected by copyright. However, only the new and non-obvious subject matter and/or new and non-obvious functional implementation can be inventive and defined in a patent claim.

Up to the end of the 20<sup>th</sup> century, the question of patent protection for computer software related inventions mainly concerned inventions which were technical in nature and fell within the traditional definition of technology, i.e. science and industry. After a period of hesitation, most patent systems adopted criteria for granting computer software inventions related to technical devices.

At the turn of the century, patent applications directed to "business methods" emerged in the scenario, becoming a critical question. A business method is a method used in the 'conduct' of business. Some business methods need a computer to be implemented. Others can be either computer or human implemented.

Patent systems, in particular in Europe, attempted to exclude business methods from patentability, even when using a computer to implement.

The TRIPS agreement, which defines in Article 27 the subject-matter of patentable inventions, does not provide for any exclusion of patentability other than those exclusions based on public order or morality, or for diagnostic, therapeutic and surgical methods, as well as for plants and animals.

One should avoid the distorted notion that the recognition of patentability for computer software implemented innovations either in the business or in the technical field would necessarily flood the world with patents for computer software inventions. In reality, only a small number of those innovations would be eligible for patent protection, namely, those that are shown to be novel and non-obvious.

### 3. CURRENT SITUATION

#### 3.1. USA

Recent decisions of the US Supreme Court and the Federal Circuit present a new impediment to the patentability of software and other computer-implemented technologies, and to the enforceability of patents directed thereto.

In *Alice Corporation v. CLS Bank*, 134 S. Ct. 2347 (2014), the US Supreme Court unanimously struck down all the patent claims at issue, drawn to a method for exchanging financial obligations, a computer system configured to carry out the method, and a computer-readable storage medium containing program code for causing a computer to perform the method.

In *Alice*, the Court implemented a new two-step analysis for determining patent-eligible subject matter:

- Are the claims directed to a judicial exception, including laws of nature, natural phenomena and/or abstract ideas?
- If yes, what else is in the claims to transform the nature of the claim into a patent-eligible invention?

In answering “yes” to the first question, the Court quoted extensively from its recent *Mayo*, *Bilski*, and *Myriad* decisions, confirming that laws of nature and natural phenomena still constitute exceptions to the generally broad categories of inventions qualifying for protection in the US. The Court also indicated its desire to “tread carefully in construing this exclusionary principle lest it swallow all of patent law.”

The Court determined that claims at issue were drawn to the abstract idea of intermediated settlement, an ineligible concept for purposes of patent protection. The Court indicated the patent claims were drawn to a concept that is “a fundamental economic practice long prevalent in our system of commerce.” The Court further explained that it “need not labor to delimit the precise contours of the ‘abstract ideas’ category,” seeing no meaningful distinction between the risk hedging of *Bilski* and the intermediated settlement of *Alice*.

Regarding the second prong of the *Alice* test, inquiring as to what else might be in the claims could also serve as a search for an “inventive concept”, or for an element or combination of elements, sufficient to ensure the invention in practice amounts to significantly more than a patent merely upon the “ineligible concept” itself. In making the determination, the Court indicated the claims should be considered individually *and* as “an ordered combination.” Furthermore, the Court indicated the importance of determining whether the additional elements transform the nature of the claim into patent-eligible subject matter.

Thus, in *Alice*, the Court stated that mere recitation of a generic computer implementation cannot transform a patent-ineligible abstract idea. Generic computer implementation generally does not provide any “practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea].” Since each step of the claimed methods was performed by a purely conventional computer performing generic computer functions, these claims were deemed to be patent-ineligible. Regarding the system and media claims, the Court did not consider them to be substantively different from the method claims, i.e., merely reciting a handful of generic computer components to implement the same idea.

The *Alice* opinion refers to the desirability of solving a “technological” problem, wherein the solution is an “inventive application” of a formula or abstract idea. This formulation may blur the requirements of utility (or industrial applicability), novelty, and non-obviousness (or inventive step) with the question of patent-eligible subject matter.

In the first year after the *Alice* opinion was issued, patent claims have been found unpatentable by the U.S. PTO and by the U.S. courts in unprecedented numbers, for failing to recite patent-eligible subject matter. In a typical scenario, a claim is generalized to a high-level of abstraction and thereby determined to be “directed to” an abstract idea under the first prong of the *Alice* test. The elements of the claim, taken individually, are then characterized as not reciting “significantly more” than the abstract idea. This development has presented significant challenges with respect to the protection of computer-implemented inventions in the U.S.

However, several recent developments could potentially reverse the trend against the patentability of computer-related inventions. First, the U.S. PTO issued a May 4, 2016 memorandum to the Patent Examining Corps specifying that a subject-matter eligibility rejection must identify specific claim limitations which are alleged to recite an abstract idea and explain why the alleged abstract idea corresponds to a concept which the courts have previously identified as an abstract idea, and also must consider the elements of a claim in combination, and not individually, when determining whether a claim recites “significantly more” than an abstract idea.

Shortly thereafter, in *Enfish LLC v. Microsoft Corporation et al.* (Fed. Cir. 2016), the Federal Circuit indicated that it did not “read *Alice* to broadly hold that all improvements in computer-related technology are inherently abstract and, therefore must be considered at step two.” In doing so, the Federal Circuit clarified that some improvements to computer-related technology are not abstract for purposes of the first prong of the *Alice* test. Moreover, it held that “[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route.” In its May 19, 2016 follow-up memorandum to the Patent Examining Corps, the U.S. PTO confirmed the logical underpinnings of the *Enfish* decision and instructed the Examining Corps to conform patent examination to these principles.

Further developments and implementation can be expected (and will bear watching) in the U.S. PTO and in the US courts.

### 3.2. Japan

In Japan, computer software related inventions are patentable if they satisfy the requirements of the Japanese Patent Law that apply to other inventions, i.e. they relate to statutory invention (Sections 2(1) and 29(1)), and meet novelty, inventive step and description requirements. As for business-related inventions that use software, they are examined in the same way as software-related inventions.

In order to address the unique examination issues presented by these types of inventions, the Japan Patent Office released Examination Guidelines for software-related inventions. The Examination Guidelines explain with specific examples what kind of software-related inventions satisfy the requirements, including the statutory invention and inventive step requirement. A statutory invention is defined by Section 2(1) of the Japanese patent law as “a (highly advanced) creation of technical ideas utilizing a law of nature”. Since a law of nature has to be utilized, not all inventions constitute statutory inventions. For example, natural phenomena, man-made rules such as laws of economics, business schemes/methods, abstract ideas, pure mathematical algorithms, arbitrary arrangements, mental activity, mere presentation of information, and computer program listings do not constitute statutory inventions.

As for software-related inventions, according to the Examination Guidelines, unless it is a non-typical one such as an invention controlling an apparatus (e.g. washing machine, engine, hard disk drive), whether it constitutes a statutory invention is judged by whether or not information processing by software is concretely realized using hardware resources (e.g. CPU, memory). In other words, a software-related invention must be described in a claim such that software and hardware resources are working in a cooperative manner. Merely reciting hardware resources (such as a CPU or ROM) is not sufficient.

As for software-related invention including steps performed by a human, they usually do not constitute a statutory invention, since an invention as a whole must utilize a law of nature.

If a software-related invention constitutes a statutory invention, it is patentable in the form of an apparatus, a method, a program or a computer-readable storage medium storing a program. However, this invention must imply an inventive step. According to the Examination Guidelines, for example, the following do not usually involve an inventive step: 1) the application of the prior art to a different field (e.g. medical information retrieval applied to commodity information retrieval); 2) implementation by software of functions that were implemented by hardware in the prior art; and 3) systematisation of transactions which were performed by humans in the prior art.

When assessing the inventive step of a computer implemented invention, the person skilled in the art who should determine whether an inventive step exists is considered to have knowledge in the field of the software application (e.g. financial field) and in the field of computer technology. This seems to imply that the inventive contribution can also be made in the non-technical field (e.g.



financial field) as long as the claimed product satisfies the aforementioned statutory invention requirements.

### 3.3. Europe

#### 3.3.1 The European Patent Office (EPO)

The position in Europe is set by the European Patent Office (EPO). European countries generally follow the EPO case law. In particular, German and French Courts are reluctant to contest European Board of Appeal decisions and apply mainly the same criteria. UK Courts however apply a different test, while achieving a similar result.

Whether or not a patent can be obtained for software, business methods, or computer-implemented inventions is generally determined by a two-hurdle approach according to established case law of the EPO:

1<sup>st</sup> hurdle: Does the claimed subject-matter show a “technical character”?

2<sup>nd</sup> hurdle: Is the claimed subject-matter as a whole novel and involves an inventive step with technical effects?

The legal basis is Article 52 European Patent Convention (EPC):

(1) European patents shall be granted for any **inventions**, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.

(2) The following in particular shall **not be regarded as inventions** within the meaning of paragraph 1:

- (a) discoveries, scientific theories and mathematical methods;
- (b) aesthetic creations;
- (c) schemes, rules and **methods for performing mental acts, playing games or doing business, and programs for computers;**
- (d) presentations of information.

(3) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities **as such**.

There is no positive definition of the term “invention” in the EPC. According to the established practice in Europe, an “invention” within the meaning of Art. 52(1) EPC must have a technical character. The Boards of Appeal (BoA) at the EPO have however declined to provide a legal definition of the term “technical”. Case law of the BoA and the Guidelines for Examination in the EPO determine that a technical character can lie in the underlying problem, in the means (technical features) forming the solution to the underlying problem, in the effects achieved by solving the problem, or can be present if technical considerations (or technical knowledge) are required in order to realise a computer-implemented invention.

During examination, as a preliminary step (1<sup>st</sup> hurdle to overcome) the EPO assess the claimed subject-matter to determine whether there is the required technical character and, if so, then moves on to examine patentability under Art. 52(1) EPC where novelty and inventive step in view of technical effects is assessed (2<sup>nd</sup> hurdle more difficult to overcome). Otherwise, the claimed subject matter is objected and refused under Art. 52(2) & (3) EPC.

In practice, for most computer-implemented inventions it is possible to draft a set of claims complying with the technical character criterion (1<sup>st</sup> hurdle) and thereby take the claims outside the exclusions of Art. 52(2) EPC, merely by incorporating technical means in the claims, even if the technical means are commonly known. However, for computer-implemented inventions it is rather important to show a technical effect to the inventive step (2<sup>nd</sup> hurdle).

The EPO uses the inventive step condition to reject non-technical inventions. The following problem-solution approach is applied to determine whether or not there is inventive step:

1. identification of the closest prior art,
2. determination of the differentiating feature,
3. identification of the technical effect(s) of the differentiating features,
4. formulation of an objective technical problem based on those effects,
5. decision on whether the proposed solution would have been obvious for a skilled person.

Generally, features not contributing to the technical character of an invention have no significance for the inventive step assessment. That means, if the contribution provided by the invention as claimed is non-technical, e.g. lies in the field of economics, it is not taken into account and cannot contribute towards an inventive step. However, features implying non-trivial technical considerations when being implemented have to be regarded. Nevertheless, a mix of technical and non-technical features together, even if the non-technical features form a major part of the claimed subject-matter, can form a claim which complies with the EPC.

The national practice in the member states continues generally following the EPO case law with some slight variances. A further harmonisation is expected through the implementation of the unitary patent and the unified patent court.

In Europe, the claimed subject-matter of a computer-implemented invention should have technical character and show a technical effect in the sense of going beyond the normal interaction between hardware and software.

When preparing a patent application for a computer-implemented invention the emphasis should be on the technical aspects of the invention. These aspects may provide the framework of the invention and might be the basis for inventive step considerations. The focus should be on the technical features for which enough detail should be provided. Thus it is recommended to describe and define the features and their function to have support for the claims and a basis

for limiting them. The problem addressed should be technical, i.e. addressing a technically skilled person, e.g. an engineer and not for example an administrator. The solution should be described in technical terms, not in business terms. More importantly it should be described how these technical features solve the problem and perhaps which surprising effects occur or are achievable through those features. Technical considerations should have led to the solution.

### 3.3.2 Germany

In the recent past, the highest German court for patent cases, the Federal Court of Justice, has issued a series of decisions concerning the patentability of computer implemented inventions<sup>12345678</sup>. It has developed a set of tests for judging the patentability of such inventions that is consistently applied, also by the lower courts. The Federal Court of Justice derives its tests from case law of the EPO, in particular as summarized and analyzed by the Enlarged Board of Appeals in the decision G 3/08<sup>5</sup>, and compares the tests and the results with the case law of the courts in other European jurisdictions<sup>6</sup>.

For computer implemented inventions, the German Federal Supreme Court applies two additional test steps preceding the tests for novelty and inventive step.

In a first step, it has to be determined whether at least a partial aspect of the subject matter of the claimed invention lies in a technical field and thus qualifies as a technical invention according to Article 52 (1) EPC. This technicality requirement is already fulfilled if a method includes the processing, storing or transmission of data by means of a technical device. It is irrelevant if the subject matter of the claim contains non-technical features in addition to the technical features or which of the features characterize the claimed teaching.

Computer implemented inventions generally pass the technicality test easily. However, a claim directed to a method using a computer program for achieving its goal must pass a second test step for avoiding exclusion from patentability under Article 52 (2) and (3) EPC (computer program as such). Such methods are only patentable if the claimed teaching contains instructions that serve the solution of a specific technical problem with technical means. Instructions outside of the technical area do not fulfill this criterion; they are only relevant if they influence the solution of a technical problem with technical means<sup>5</sup>.

The most significant hurdle for computer implemented inventions is the inventive step test. When assessing the inventive step of a method including the use of a computer program, only those instructions are considered that determine or at least influence the solution of a technical problem with technical means.

So in practice, the three test steps applied by the German courts match the two test steps of the EPO. If the subject matter of a claim is considered to comprise an inventive step by the EPO, it must contain non-obvious instructions that

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<sup>1</sup> Elektronischer Zahlungsverkehr, GRUR 2004, p. 667

<sup>2</sup> Rentabilitätsermittlung, GRUR 2005, 143

<sup>3</sup> Steuerungseinrichtung für Untersuchungsmodalitäten, GRUR 2009, 479

<sup>4</sup> Dynamische Dokumentengenerierung, GRUR 2010, p. 613

<sup>5</sup> Wiedergabe topografischer Informationen, GRUR 2011, p. 125

<sup>6</sup> Fahrzeugnavigationssystem, GRUR 2013, 909

<sup>7</sup> Bildstrom, GRUR 2015, 660

<sup>8</sup> Entsperrbild, GRUR 2015, 1184

determine or at least influence the solution of a technical problem with technical means and can, therefore, not be a computer program as such, which would be excluded from patentability.

The German Federal Court of Justice has extended this test scheme to another exclusion from patentability under Article 52 (2) and (3) EPC, namely the exclusion of presentations of information<sup>567</sup>. A claim aiming at the presentation of information is not excluded subject matter under Article 52 (2) (d) and (3) EPC if it contains instructions that serve the solution of a specific technical problem with technical means. In two of these cases<sup>56</sup>, the Federal Court of Justice maintained the earlier decision to revoke the patent based on the lack of inventive step while in one case<sup>7</sup> the earlier decision was reversed and the patentability of a computer implemented method for displaying an image stream of medical images by simultaneously displaying on a monitor (at least) two subset image streams was held patentable, i.e. comprising an inventive step solving the technical problem of presenting the image content in a manner particularly suitable for the physical conditions of human perception and reception of information and aiming at enabling or improving the perception of the presented information by a human being<sup>7</sup>.

This judgement highlights the importance of thoroughly explaining the technical contribution of an invention when drafting a patent application for a computer implemented invention. On the other hand, computer implemented inventions also have to fulfill the standard patentability requirements of novelty and inventive step once their technical contribution is established.

### 3.3.3 United Kingdom

The patentability of computer implemented inventions is different throughout the world and the position of the various offices is constantly changing. Nowhere more so than the UK, where recent judgements by the Court of Appeal have significantly altered the position of the UK Intellectual Property Office (UKIPO). Although it is still difficult to get a software patent granted in the UK, software developers are nevertheless able to protect a wide range of software implemented inventions in the UK.

The UK Courts are strictly bound by earlier precedent and an extensive body of case law on software patents has developed over the last 20 years. The current practice of the UKIPO is based on a Court of Appeal judgement *Aerotel v Telco, Macrossan's Application* [2006] EWCA Civ 1371 ("*Aerotel/Macrossan*"), in which the latest test for determining patentability is laid out.

The Court of Appeal in *Aerotel/Macrossan* laid out a four step test with which to assess an invention (N.B. novelty and inventive step etc. are to be assessed once this test has been passed). The four steps are as follows:

1. Properly construe the claim;
2. Identify the actual contribution;
3. Ask whether it [the contribution] falls solely within the excluded subject matter;
4. Check whether the actual or alleged contribution is actually technical in nature.

The fourth step is only to be considered if the invention has passed the previous third step. The decisive question is the 'technical contribution' the invention makes to the prior art. The fourth step stems from the decision in *Merrill Lynch*, which states that "There must, I think, be some technical advance on the prior art in the form of a new result". This approach is completely different to that currently followed by the EPO.

In contrast to the approach followed by the EPO, the mere presence of conventional computing hardware does not of itself mean an invention makes a 'technical contribution' and so avoids the computer program exclusion. The UK Courts require more than this.

Subsequent to the *Aerotel/Macrossan* decision, the UKIPO adopted a very strict approach in its examination of UK patent applications, leading to the refusal of many cases and a barrage of criticism in return from disaffected applicants.

The most significant recent judgement affecting software patents is that of *Symbian Ltd's Application* [2008] EWCA Civ 1066 ("*Symbian*"). Before this, the UKIPO's practice following the *Aerotel/Macrossan* decision was to reject any application where the invention was an improvement in computer programming and the 'novel' features lie in a computer program. The UKIPO held the view

that a computer program was not patentable unless it makes a contribution outside the computer. The Court of Appeal decision in *Symbian* has now relaxed the requirements for patenting software in the UK and has brought the UK case law more into line with the EPO.

The *Symbian* patent application described how a library of functions (a "Dynamic Link Library"), useable by multiple application programs running on a computer, is accessed. It provides a way of indexing the library functions so that the computer will continue to work reliably even after making changes to the library. The Court of Appeal used the four step test to determine the patentability of the application and concluded that the invention does not fall solely within excluded subject matter "because it has the knock-on effect of the computer working better as a matter of practical reality". The key question is whether or not the invention makes a 'technical contribution'. The invention "solves a 'technical' problem lying with the computer itself". A computer running faster or more reliably may be considered to provide a 'technical contribution' even if the invention solely addresses a problem in the programming.

The courts have since provided further guidance for assessing the 'technical contribution' requirement in the fourth step of the Four Step Test. In *AT&T Knowledge Ventures LP and CVON Innovations Ltd* [2009] EWHC 343 ("AT&T/CVON"), the judge laid down five possible signposts of patentable subject matter, namely:

- i) whether the claimed technical effect has a technical effect on a process which carried on outside the computer;
- ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;
- iii) whether the claimed technical effect results in the computer being made to operate in a new way;
- iv) whether the program made the computer a better computer in the sense of running more efficiently and effectively as a computer;
- v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

These signposts have been used fairly regularly by the UKIPO, and the fourth sign post (improved efficiency of the computer) has proven to be particularly attractive for applicants arguing technical effect before the UKIPO. These signposts were recently approved by the Court of Appeal in *HTC Europe Ltd v Apple Inc* [2013] EWCA Civ 451, which used the fourth signpost to overturn a lower court's decision to refuse an Apple patent. It should be noted, however, that the listed signposts are neither exhaustive, nor binding.

The *Aerotel/Macrossan* judgement left an unanswered question: can claims to a computer program (or a program on a carrier) be allowable when other claims in a different form, claims covering the use of that particular program, would be allowed? The UKIPO thought not. The judgement in *Astron Clinica Ltd v*



*Comptroller-General* [2008] RPC 14 (“*Astron Clinica*”) has now clarified the law in this area. In principle, claims to the program should be allowable where claims to a method performed by running a suitably programmed computer or to a computer programmed to carry out the method are allowable, as long as the claim to the computer program is drawn to reflect the features of the invention which would ensure the patentability of the method which the program is intended to carry out when it is run. Claims to a computer program are now allowable when this condition is met.

Four questions concerning the patentability of computer implemented inventions had been referred to the EPO's Enlarged Board of Appeal by the EPO's President Alison Brimelow. The four questions were in no small part due to the inconsistencies highlighted in judgements such as *Aerotel/Macrossan* and *Symbian*. Inconsistencies in EPO case law was one of the reasons given for why the UKIPO was not allowed to appeal the *Symbian* decision to the House of Lords "because in its view it would be premature for the House of Lords to decide what computer programs are patentable before the issue has been considered by the Enlarged Board of Appeal of the [EPO]". However, this referral was subsequently deemed inadmissible in 2005, and it was held that there was no divergence in EPO case law. The EPO approach to computer implemented inventions has remained largely unchanged, and the trend in UK judgements has been a gentle creep towards the EPO approach.

### 3.4 China

The position in China is set by the State Intellectual Property Office (SIPO).

The legal basis is Article 2.2 of the Patent Law:

*"Invention", means any new technical solution relating to a product, a process or improvement thereof.*

The Examination Guidelines further set up the tests for satisfying the definition of "invention" as regulated in the Patent Law in Part 2, Chapter 9 regarding "special requirements for examining computer program related invention applications":

*In accordance with Article 2.2, "invention" in the Patent law means any new technical solution relating to a product, a process or improvement thereof. An invention application relating to computer programs is the subject matter of patent protection only if it constitutes a technical solution.*

*If the solution of an invention application relating to computer programs involves the execution of computer programs in order to solve technical problems, and reflects technical means in conformity with the laws of nature by computers running programs to control and process external or internal objects, and thus technical effects in conformity with the laws of nature are obtained, the solution is a technical solution as provided for in Article 2.2 and is the subject matter of patent protection.*

*If the solution of an invention application relating to computer programs involves the execution of computer programs not in order to solve technical problems, or does not reflect technical means in conformity with the laws of nature by computers running programs to control and process external or internal objects, or the effect obtained is not restrained by the laws of nature, the solution is not a technical solution as provided for in Article 2.2, and is not the subject matter of patent protection.*

According to the established practice in China, similar as that in Europe, an "invention" within the meaning of Article 2.2 must have a technical character, i.e., a patentable subject matter implemented mainly through computer program related invention must tie to and satisfy three technical elements: solving a technical problem, employing technical means and achieving a technical result.

For business method related inventions, most of them are drafted by employing technical means. However, they are rejected by the SIPO for not satisfying the other two technical elements: solving the technical problem and achieving technical effect.

In China, the problem solved and the effect obtained in the economics area are not regarded as "technical"

The SIPO used to reject the business method related inventions by not complying with Article 2.2. However, there is a trend in the SIPO recently to reject business method related inventions with inventiveness. For example, the following logic is adopted:

identification of the closest prior art;

determination of the features of a claim that distinguish the solution from the closest prior art (the "distinct features").

Once the presence of distinct features has been ascertained, then the inventive step is assessed taking the claim as a whole. If the distinct features provided by the invention as claimed are non-technical, e.g. lie in the field of economics, or if the effect of the technical means is non-technical although the distinct features use technical means, they are not taken into account in the assessment of inventive step and the invention is then deemed as obvious over the closest prior art.

The Examination Guidelines explicitly exclude the following subject matters to be granted in Part 2, Chapter 9: a computer program per se; or a medium/carrier for conveying the computer program.

However, method claims to the computer program should be allowable if the steps implemented by running the computer program are defined by using plain language; product claims to the computer program should also be allowable if they are drafted in means plus function manner or in functional modules manner.

### 3.5 Canada

In Canada, statutory classes of patentable subject matter are broadly defined in section 2 of Canada's *Patent Act*, RSC 1985, c P-4 [*Patent Act (Canada)*]:

“‘invention’ means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter”.

Canadian courts have expansively interpreted the five enumerated classes of invention: art, process, machine, manufacture and composition of matter (see e.g. *Shell Oil Co v Commissioner of Patents*, [1982] 2 SCR 536 [*Shell Oil*]).

However, the definition is further proscribed by the statutory exception that:

“No patent shall be granted for any mere scientific principle or abstract theorem” (*Patent Act (Canada)*, s 27(8)).

This exception has been used to exclude mere mathematical formula and mental steps from patentability (*Schlumberger Canada Ltd v Commissioner of Patents*, [1982] 1 FC 845, 56 CPR (2d) 204 (FCA) [*Schlumberger*]).

Notwithstanding an otherwise generally expansive interpretation, several judicial exceptions to patentable subject matter have also been created. Most notably methods of medical treatment and higher life-forms have been categorically excluded from patent protection in Canada (*Tennessee Eastman Co v Canada (Commissioner of Patents)*, [1974] SCR 111, 8 CPR (2d) 202 (dealing with medical treatment); *Harvard College v Canada (Commissioner of Patents)*, 2002 SCC 76, [2002] 4 SCR 45 (dealing with higher life-forms)).

Questions regarding the patentability of computer-related inventions and particularly inventions relating to software and business methods have been considered on several occasions by Canada's Federal Courts (*Schlumberger, supra*; *Progressive Games, Inc v Canada (Commissioner of Patents)* (1999), 177 FTR 241, 3 CPR (4th) 517 (FCTD), aff'd (2000), 9 CPR (4th) 479 (FCA); *Amazon.com, Inc. v. Canada (Attorney General)*, 2010 FC 1011, aff'd in part 2011 FCA 328). The questions were most recently explicitly considered by Canada's Federal Court of Appeal in *Canada (Attorney General) v. Amazon.com Inc.*, 2011 FCA 328 [*Amazon FCA*]. In that decision, the Federal Court of Appeal endorsed the lower Court decision affirming that there is no specific requirement for an invention to be scientific or technological in nature (*ibid* at paras 56-58). Likewise, there is no specific exclusion to the patentability of business methods (or computer software) (*ibid* at paras 59-63).

Further, the Federal Court of Appeal affirmed that inventions relating to software and business methods may qualify as an “art” or “process” in the enumerated classes of inventions (*ibid* at para 50). However, to determine whether or not such an invention qualifies as an “art” or “process”, the Court adopted the three-part test articulated by the Supreme Court of Canada in *Shell Oil*:

“ .... i) it must not be a disembodied idea but have a method of practical application; ii) it must be a new and inventive method of applying skill and knowledge; and iii) it must have a commercially useful result” (*Amazon FCA, supra* at para 50).

The Court additionally confirmed that “patentable subject matter must be something with physical existence, or something that manifests a discernable effect or change” (*ibid* at para 66).

However, despite endorsing patent eligibility of qualifying software and business method inventions, the Court further cautioned:

“This formulation of the issues to be considered does not mean that the Commissioner cannot ask or determine what the inventor has actually invented, or what the inventor claims to have invented. ... This requires the Commissioner’s identification of the actual invention to be grounded in a purposive construction of the patent claims. It cannot be determined solely on the basis of a literal reading of the patent claims, or a determination of the “substance of the invention” ... Purposive construction will necessarily ensure that the Commissioner is alive to the possibility that a patent claim may be expressed in language that is deliberately or inadvertently deceptive. Thus, for example, what appears on its face to be a claim for an “art” or a “process” may, on a proper construction, be a claim for a mathematical formula and therefore not patentable subject matter” (*ibid* at paras 42 to 44 [emphasis added]).

The doctrine of purposive construction has its origins in the U.K. as a tool in assessing infringement (*Catnic Components Ltd v Hill & Smith Ltd*, [1983] FSR 512 (Pat Ct)). As adopted into Canadian law, purposive construction affirms the primacy of the claims in defining the patent monopoly, but acknowledges that certain non-essential claim elements may be omitted or varied without avoiding liability for infringement, notwithstanding their express recitation in the language of a claim (*Free World Trust v Electro Sante Inc*, 2000 SCC 66, [2000] 2 SCR 1024 [*Free World Trust*]; *Whirlpool Corp v Camco Inc*, 2000 SCC 67, [2000] 2 SCR 1067).

Briefly, purposive construction of patent claims, as mandated by the Supreme Court of Canada (*Free World Trust, supra* at para 31), requires:

“The claim language must, however, be read in an informed and purposive way;  
... The language of the claims thus construed defines the monopoly. There is no recourse to such vague notions as the “spirit of the invention” to expand it further.  
... The claims language will, on a purposive construction, show that some elements of the claimed invention are essential while others are

non-essential. The identification of elements as essential or non-essential is made:

- (i) on the basis of the common knowledge of the worker skilled in the art to which the patent relates;
- (ii) as of the date the patent is published;
- (iii) having regard to whether or not it was obvious to the skilled reader at the time the patent was published that a variant of a particular element would not make a difference to the way in which the invention works; or
- (iv) according to the intent of the inventor, expressed or inferred from the claims, that a particular element is essential irrespective of its practical effect;
- (v) without, however, resorting to extrinsic evidence of the inventor's intention.

There is no infringement if an essential element is different or omitted. There may still be infringement, however, if non-essential elements are substituted or omitted.”

Typically, in the absence of an indication to the contrary, Canadian courts have treated each recited claim element as essential (*Martinray Industries Ltd v Fabricants National Dagendor Manufacturing Ltd* (1991), 41 CPR (3d) 1 at 18 (FCTD), citing *Eli Lilly & Co O'Hara Manufacturing Ltd.* (1989), 26 CPR (3d) 1 at 7 (FCA)).

Seizing on the Federal Court of Appeal's caution, the Canadian Intellectual Property Office issued new examination practice notices in March 2013 for computer-implemented inventions and to provide Patent Examiners guidance on how to purposively construe the claims (Canadian Intellectual Property Office, Practice Notice PN2013-02, “Examination Practice Respecting Purposive Construction” (8 March 2013) [PN2013-02]; Canadian Intellectual Property Office, Practice Notice PN2013-03, “Examination Practice Respecting Computer-Implemented Inventions” (8 March 2013) [PN2013-03]). These ‘practice notices’ supplement parts of existing guidelines in the Canadian Intellectual Property Office's *Manual of Patent Office Practice*, affirming the patentability of computer-related inventions when properly disclosed, claimed and enabled in a patent application (Canadian Patent Office, *Manual of Patent Office Practice*, (Ottawa: Industry Canada, Canadian Intellectual Property Office, 1998), Chapter 16).

However, rather than referencing all of the relevant factors for determining the essential or non-essential character of a recited claim element as set out in the Canadian jurisprudence, the Practice Notice Respecting Purposive Construction solely guides Examiners to identify those elements required to solve an identified problem, and consider these as essential, and to consider the remaining claim elements as non-essential. This reliance solely on a problem-solution approach in categorizing claim elements as essential or non-essential is arguably an unsupported departure from established Canadian law and has been sharply criticized by commentators such as Ferance, “Purposive Claim Construction and Computer-Implemented Inventions: A

Detailed Analysis of CIPO's Guidelines", (2013) 28 CIPR 259. Likewise, the departure from a presumption of essentiality of all claim elements has also been criticized (*ibid*).

Once essential and non-essential elements are identified, Examiners are encouraged to omit non-essential elements from their construction of the claims and to assess whether the claims define statutory subject matter based on this construction (PN2013-02, *supra* at 5; PN2013-03, *supra* at 2).

The *Practice Notice Respecting Computer-Implemented Inventions* specifically notes: "if an examiner concludes that the solution to a given problem is to perform certain calculations according to a specific equation, the use of a computer to perform the calculations may expedite the mathematical manipulations without having a material effect on the operation of the equation itself. The examiner could therefore conclude that the computer is not an essential element of the invention" (PN2013-03 at 4-5).

However, "[w]here it appears that the computer cannot be varied or substituted in a claim without making a difference in the way the invention works or that the computer is required to resolve a practical problem, the computer may be considered an essential element of the claim" (*ibid* at 5).

The *Practice Notice Respecting Computer-Implemented Inventions* confirms that "where a computer is found to be an essential element of a construed claim, the claimed subject-matter will generally be statutory" (*ibid* at 2).

However, where the computer is assessed to be non-essential, the claim may be found non-statutory if the essential elements of the claim define patent ineligible subject matter, including mere scientific principles and abstract theorems, "fine arts (i.e. things 'that are inventive only in an artistic or aesthetic sense'); methods of medical treatment... disembodied inventions (including those lacking a method of practical application); e.g. inventions that lack physicality; ... e.g. inventions where the claimed subject-matter is a mere idea, scheme, plan or set of rules" (*ibid.* at 2 [citations omitted]).

To date, the new practice notices have not yet been tested in Court. However, the Patent Appeal Board has considered the patentability of computer-related subject matter using an analysis consistent with the new practice notices on at least eight occasions: Commissioner's Decision 1337, 6 March 2013 (Canadian Patent Application No 2285834) [CD 1337]; Commissioner's Decision 1338, 14 March 2013 (Canadian Patent Application No 2304195); Commissioner's Decision 1339, 28 March 2013 (Canadian Patent Application No 2144068) [CD 1339]; Commissioner's Decision 1341, 28 March 2013 (Canadian Patent Application No 2222229) [CD 1341]; Commissioner's Decision 1345, 22 March 2013 (Canadian Patent Application No 2333184) [CD 1345]; Commissioner's Decision 1349, 11 July 2013 (Canadian Patent Application No 2235566) [CD 1349]; Commissioner's Decision 1355, 29 November 2013 (Canadian Patent Application No 2493971) [CD 1355]; and Commissioner's Decision 1373, 10 October 2014 (Canadian Patent Application No 2312726) [CD 1373].

In those decisions, a computerized method for interacting with postage meters was found to be statutory subject matter (CD 1337, *supra*); a computer-implemented method for the production of a standard bill of resources was found to be non-statutory (CD 1338, *supra*); a computer-implemented method for identifying and determining fraudulent transaction data and a computer controlled transaction processing system were found to be non-statutory (CD 1339, *supra*); a method of conducting electronic commerce transactions in a transaction server connected over a network to a merchant server was found to be directed to patentable subject matter (CD 1341, *supra*); an application for an automated seed sorting technique was found to be statutory subject matter (CD 1345); a method of calculating vehicle insurance using driver-related data obtained from in-vehicle sensors was found to be statutory subject matter (CD 1349); an application for a computerized auction method was denied (CD 1355); and an application for a computer-implemented financial advice system was denied (CD 1373).

Under Practice Notices currently applied at CIPO, computer-implemented inventions are generally considered patent-eligible if they are directed to a solution of a computer problem. “Computer problem” means problems with the operation of a computer as opposed to problems whose solutions may be implemented using a computer. To assess patent-eligibility, CIPO Examiners purposively construe the claims by: first identifying a problem and solution provided by the invention, and then identifying the claim elements required to solve such problem. The claim elements identified as being required to solve the problem are considered essential, while the remaining claim elements are considered non-essential. Non-essential claim elements do not lend weight to patent-eligibility. For example, a computer that is merely used as a platform to implement the solution to an identified problem may not be recognized as an essential claim element, such that if the only remaining essential claim elements are directed to subject matter that lacks physicality or is a mere idea, scheme, plan, or set of rules, then the claimed invention as a whole will be considered as pertaining to subject matter that is not patent-eligible.

Canadian jurisprudence may allow for a broader definition of patent-eligibility than what is currently being applied at CIPO. However, Canadian courts have not yet addressed whether the *de facto* CIPO practice above is in full compliance with governing law. For example, Canadian courts have indicated that claim elements that are physical in manifestation or produce a “discernible” effect or change may be found patent-eligible; without necessarily undertaking the problem-and-solution analysis noted above.



### 3.6 Australia

In Australia, an invention is considered to constitute patent eligible subject matter only if “the invention, so far as claimed in any claim, is a manner of manufacture within the meaning of section 6 of the Statute of Monopolies”<sup>9</sup>, being the first English patent statute of 1623.

The leading authority for determining the scope of the “manner of manufacture” requirement remains the “landmark” Australian High Court ‘NRDC’ decision<sup>10</sup>. In NRDC, the High Court emphasised the importance of maintaining a flexible approach to the assessment of patent eligibility, unconstrained by requiring compliance with any “exact verbal formula”, and instead asking: “[is] *this a proper subject of letters patent according to the principles which have been developed for the application of s 6 of the Statute of Monopolies?*”<sup>11</sup>. In other words, it is left to our Courts to determine the boundaries of patent eligibility.

In NRDC, the High Court held that the invention before it was a patentable method, observing that it provided “a mode or manner of achieving an end result which is an artificially created state of affairs of utility in the field of economic endeavour”, a phrase that became established as the touchstone for determining patent eligibility.

The expansive approach of NRDC was subsequently relied upon by the Federal Court in 1991<sup>12</sup> to establish that computer programs were not excluded from patent eligibility under Australian law, a decision that effectively opened the gates for software patents in Australia.

In 2006, an attempt to patent an asset protection method involving purely financial and legal steps without the use of a computer was rejected by the Australian Full Federal Court in *Grant*<sup>13</sup> on the basis that the “artificially created state of affairs” of NRDC required “a physical effect in the sense of a concrete effect or phenomenon or manifestation or transformation.” The Court contrasted the method before it with computer implemented methods, noting that the latter were patent eligible because “there was a component that was physically affected or a change in state or information in a part of a machine. These can all be regarded as physical effects.” Those comments were taken to indicate that any computer implemented method would be patent eligible.

In contrast to the broad acceptance of computer implemented inventions taken by the Courts, in recent years the Australian Patent Office has adopted a generally negative attitude to their patent eligibility, albeit mainly in the context

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<sup>9</sup> s18, *Patents Act 1990 (Cth)*

<sup>10</sup> *National Research Development Corp v Commissioner of Patents* (1959) 102 CLR 252

<sup>11</sup> *Ibid*, at 269

<sup>12</sup> *International Business Machines Corporation v Commissioner of Patents* (1991) 33 FCR 218

<sup>13</sup> *Grant v Commissioner of Patents* [2006] FCAFC 120

of inventions involving finance, gaming, or computer automation of methods that (in the eyes of the Patent Office) could be performed manually.

In 2010, the Australian Patent Office handed down a decision<sup>14</sup> rejecting claims directed to “a computer-implemented method for generating an index” by applying respective weightings to selected assets. On appeal to the Australian Federal Court<sup>15</sup>, the claimed method was held not to produce an “artificially created state of affairs” because the result of working the method was only the index itself, which “is nothing more than a set of data... If that were sufficient to satisfy the requirement of an artificially created state of affairs, any computer-implemented scheme would be patentable, merely by reason of the fact that it happens to be implemented by a computer.”

Shortly after rejecting the *Research Affiliates* application, the Australian Patent Office rejected the claims of another patent application, for *RPL Central*, entitled “Method and System for Automated Collection of Evidence of Skills and Knowledge” as being directed to a “mere business or commercial plan or scheme”.

An appeal to the Federal Court<sup>16</sup> was successful, the Court holding that the invention was patent eligible because “the magnitude of the task performed by the invention ... and the express terms of the claims themselves mean that the computer is an essential part of the invention claimed”<sup>17</sup>.

Importantly, the Court distinguished the *RPL Central* claims from those in *Research Affiliates* on the basis that *Research Affiliates* had accepted the Commissioner of Patents’ submissions “that the only physical result generated by the method of the claimed invention is a computer file containing the index” and that “in reaching this ultimate conclusion, his Honour was influenced by ... the fact that the specifications contained virtually no substantive detail about how the claimed method was to be implemented by a computer.”

Both Federal Court decisions were appealed to the Australian Full Federal Court (FFC). The FFC *Research Affiliates* appeal decision<sup>18</sup> was handed down in November 2014.

The FFC held that the claims in *Research Affiliates* do not constitute patentable subject matter because they are directed to an “abstract idea”. The FFC said: “the method of the invention is not one that has any artificial or patentable effect other than the implementation of a scheme, which happens to use a computer to effect that implementation.”

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<sup>14</sup> *Research Affiliates, LLC* [2010] APO 31 (17 December 2010)

<sup>15</sup> *Research Affiliates LLC v Commissioner of Patents* [2013] FCA 71

<sup>16</sup> *RPL Central Pty Ltd v Commissioner of Patents* [2013] FCA 871

<sup>17</sup> *ibid.*, at 156

<sup>18</sup> *Research Affiliates LLC v Commissioner of Patents* [2014] FCAFC 150 (10 November 2014)

Referring to NRDC, the FFC held: "the effect of Research Affiliates' submissions is that the mere implementation of any abstract idea or scheme in a well-known machine is sufficient to render that unpatentable subject matter patentable because it gives rise to an "artificial effect". That approach is inconsistent with NRDC and is one of form not substance."

The FFC said that the requirement for "an artificially created state of affairs of economic significance was part of the High Court's reasoning [in NRDC], but did not represent a sufficient or exhaustive statement of the circumstances in which a claimed invention is patentable."

The FFC said: "In examining whether a claimed invention is properly the subject of letters patent, it is necessary to look not only at the integers of that claimed invention but also *at the substance of that invention...* It is a question of *understanding what has been the work of, the output of, and the result of, human ingenuity ....* Here, that subject matter is truly the scheme, the idea, the index... As set out in the specification it may be, and in the claimed method it is, implemented in a computer, but *the ingenuity of the inventors, the end result of which is the invention, is directed to the idea, which is not patentable...* The specification makes it apparent that *any inventive step arises in the creation of the index as information and as a scheme.* There is *no suggestion in the specification or the claims that any part of the inventive step lies in the computer implementation.*" (emphasis added)

Although the *Research Affiliates* FFC appeal decision may pose difficulties for patenting financial or business methods, it also seems clear that an important issue in the FFC decision is that, although the claims required computer implementation, "it is apparent from the description in the specification that the computer is simply the means whereby the analyst accesses data to generate an index. The work in generating the index and weighting is described in terms of the work of the analyst rather than as some technical generation by the computer. Indeed, ... the exemplary embodiment makes it clear that it may be, but is not necessarily, implemented on a computer."

Significantly, the FFC referred, apparently approvingly, to the *RPL Central* Federal Court appeal decision, observing that, in *RPL Central*, "the involvement of the computer in the invention ... is inextricably linked with the invention itself", and that: "the specification and the claims provided significant information about the invention which was to be implemented by means of the computer and that the computer was "integral" to the invention there claimed. His Honour distinguished it from the primary judgment in the present case on that basis. ... As we read his Honour's reasons, he aligned the invention with a *new use of a computer...*, in contrast to mere implementation of the invention by a computer."

Notwithstanding the FFC's apparent approval of the decision in *RPL Central*, the Australian Commissioner of Patents pressed on with its appeal of the *RPL*

*Central* Federal Court decision to the FFC, which handed down its decision<sup>19</sup> in December 2015.

The FFC allowed the Appeal, rejecting the claimed invention as patent ineligible because it was nothing more than a scheme or business method that happened to be computer-implemented. The Court said<sup>20</sup>:

“A claimed invention must be examined to ascertain whether it is in substance a scheme or plan or whether it can broadly be described as an improvement in computer technology. The basis for the analysis starts with the fact that a business method, or mere scheme, is not, per se, patentable. The fact that it is a scheme or business method does not exclude it from properly being the subject of letters patent, but it must be more than that. There must be more than an abstract idea; it must involve the creation of an artificial state of affairs where the computer is integral to the invention, rather than a mere tool in which the invention is performed. Where the claimed invention is to a computerised business method, the invention must lie in that computerisation. It is not a patentable invention simply to “put” a business method “into” a computer to implement the business method using the computer for its well-known and understood functions.”

“It is not a question of stating precise guidelines but of deciding, in each case, whether the claimed invention, as a matter of substance not form, is properly the subject of a patent.”<sup>21</sup>

With a nod to the UK *Aerotel/Macrossan* decisions, the Court stated that relevant considerations include whether the invention solves a technical problem and whether it makes a technical contribution.

In May 2016, RPL Central applied to the Australian High Court for special leave to appeal the FFC decision, but the High Court dismissed the application, stating baldly that “the Full Court was plainly correct”<sup>22</sup>.

It can be concluded that, as Australian law stands at present, mere computer implementation is insufficient to transform an otherwise unpatentable scheme or abstract idea into patentable subject matter. However, if the claims and in particular the description indicate that the involvement of a computer is inextricably linked with the invention, or the invention can be seen as providing an improvement in computer technology or a “new use of a computer”, then the claims may be considered to constitute patent eligible subject matter in Australia. However, the “invention” that is the subject of this assessment is not necessarily that claimed, but rather one that can be gleaned from the specification as being the result of the ‘ingenuity of the inventors’. The subjective nature of this assessment can create considerable uncertainty for some types of computer implemented inventions. On the other hand, inventions

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<sup>19</sup> Commissioner of Patents v RPL Central Pty Ltd, [2015] FCAFC 177

<sup>20</sup> *ibid.*, at 96

<sup>21</sup> *ibid.*, at 98

<sup>22</sup> RPL Central Pty Ltd v Commissioner of Patents [2016] HCASL 84 (5 May 2016)

that are technical in nature or solve a technical problem should be considered patent eligible.

Finally, in April 2016 the Australian Productivity Commission produced a draft Report<sup>23</sup> that it intends to make final. The draft Report includes a recommendation to exclude “business methods and software” from patent eligibility, arguing that ‘the patent protection that has been afforded to [these]... in Australia has generally been excessive, ineffective and not in the interests of the community.’”

Although the Report refers to the European-style exclusion recently introduced into New Zealand law (see below), it does not propose to adopt that language into Australian law. Rather, it recommends that the Australian legislation be amended to explicitly exclude simply “business methods and software”, yet still contemplates retaining protection for what it refers to as “embedded software”<sup>24</sup>.

The public was invited to make written submissions on the draft report by 3 June 2016, and the report is expected to be finalized by August 2016 and handed to the Australian government for consideration.

Whatever the ultimate effect of the Report, it appears that Australian law continues to move closer towards the approaches adopted in the UK or Europe for assessing the patent eligibility of computer implemented inventions, which at least provide relative certainty compared to the current situation in Australia.

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<sup>23</sup> <http://www.pc.gov.au/inquiries/current/intellectual-property/draft>

<sup>24</sup> *ibid.*, 252

### 3.7 New Zealand

On 13 September 2014, the New Zealand *Patents Act 2013* came fully into force, replacing the *Patents Act 1953*.

Under the 1953 Act, an “invention” is defined as “any manner of new manufacture the subject of letters patent and grant of privilege within section 6 of the Statute of Monopolies and any new method or process of testing applicable to the improvement or control of manufacture; and includes an alleged invention.”

Accordingly, the common basis of this aspect between New Zealand and Australia meant that New Zealand law has closely followed Australian law with regard to patentable subject matter, including the patentability of computer implemented inventions and software.

However, that is no longer the case. Section 11 of the *Patents Act 2013* includes the following:

“(1) A computer program is not an invention and not a manner of manufacture for the purposes of this Act.

(2) Subsection (1) prevents anything from being an invention or a manner of manufacture for the purposes of this Act only to the extent that a claim in a patent or an application relates to a computer program as such.

(3) A claim in a patent or an application relates to a computer program as such if the actual contribution made by the alleged invention lies solely in it being a computer program.”

(4) The Commissioner or the court (as the case may be) must, in identifying the actual contribution made by the alleged invention, consider the following:

(a) the substance of the claim (rather than its form and the contribution alleged by the applicant) and the actual contribution it makes:

(b) what problem or other issue is to be solved or addressed:

(c) how the relevant product or process solves or addresses the problem or other issue:

(d) the advantages or benefits of solving or addressing the problem or other issue in that manner:

(e) any other matters the Commissioner or the court thinks relevant.

The wording of clause (2) will, of course, be familiar to European and UK patent practitioners, and the intention is to align the law in New Zealand with UK precedent. Accordingly, New Zealand Examiners have adopted a European approach to the assessment of patent eligibility

Section 11 also includes two helpful real world examples falling on either side of the exclusion. A computer program that controls the operation of a washing

machine to improve the effectiveness and efficiency of the washing machine<sup>25</sup> would be considered to be a patentable invention for the purposes of the Act. Conversely, a computer program for automatically completing legal documents<sup>26</sup> would not be considered to be a patentable invention.

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<sup>25</sup> The stated intention is that "inventions that make use of embedded computer programs will be patentable", and it is significant that the New Zealand Fisher & Paykel companies have filed hundreds of patent applications, including patents to washing machines.

<sup>26</sup> See *Aerotel Ltd v Telco Holding Ltd and others*, and Neal William Macrossan's application [2006] EWCA Civ 1371 (27 October 2006).