AIPPI

To: EPO
Registry of the Enlarged Board of Appeal
Attn. Mr. Messerli
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From: AIPPI, Tödistrasse 16, 8027 Zürich
Fabienne Martin

Re **Referral under Article 112 (1) (b) EPC of 22.10.2008**
Case number G3/08

Pages 28 (incl. of cover)

Date: April 27, 2009

Dear Mr. Messerli,
Dear Sirs,

May I invite you on behalf of the Bureau of AIPPI to read and take into consideration attached letter and documents? Thank you.

Yours sincerely,

Fabienne Martin
Executive External Relations

ASSOCIATION INTERNATIONALE POUR LA PROTECTION DE LA PROPRIETE INTELLECTUELLE
INTERNATIONAL ASSOCIATION FOR THE PROTECTION OF INTELLECTUAL PROPERTY
INTERNATIONALE VEREINIGUNG FÜR DEN SCHUTZ DES GEISTIGEN EIGENTUMS

Thierry Mollet-Viéville
President

AIPPI

By e-mail

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April 29, 2009

Re **Referral under Article 112 (1) (b) EPC of 22.10.2008**
Case number: G3/08

Dear Mr. Messerli,
Dear Sirs,

On behalf of the International Association for the Protection of Intellectual Property (hereinafter referred to as "AIPPI") we kindly draw your attention to the following.

AIPPI is the oldest international organisation studying matters of IP law. The results of its studies are generally considered of outstanding quality and authority by international and national governmental and non-governmental organisations. AIPPI maintains an excellent working relation with the European Patent Office.

AIPPI's attention was drawn to a referral made by the President of the EPO to your Board in October 2008 regarding various questions on the patentability of software and computer-implemented inventions.

We like to inform you that AIPPI has established its Special Committee Q132 a long time ago which treats "Computer software, information networks, artificial intelligence and integrated circuits". Under its mandate and in its responsibility this committee has prepared the enclosed opinion on the questions raised in the referral.

AIPPI respectfully submits to your Board the attached opinion for consideration. The opinion reflects the views of our Association as expressed, among others, in earlier Resolutions and explains in detail the issues touched in the referral and the positions AIPPI takes based on its comparative law studies.

Yours sincerely,

Thierry Mollet-Viéville President	Jochen Bühling Reporter General	José Antonio B.L. Faria Correa Chairman of Q132

cc Bureau of AIPPI

AIPPI

G 3/08
Opinion on behalf of AIPPI
(The International Association for the Protection of Intellectual Property)

1. Presentation of AIPPI.

2. General remarks on economic aspects in connection with computer implemented inventions.

3. Current situation in the United States, Japan and Europe.

4. General position of AIPPI regarding computer implemented inventions.

5. Position of AIPPI regarding the questions of referral G3/08.

1. AIPPI

The International Association for the Protection of Intellectual Property, generally known under the abbreviated name AIPPI, is the world's leading International Organization dedicated to the development and improvement of intellectual property. It is a politically neutral, non-profit organization, domiciled in Switzerland and currently has over 8000 Members representing more than 100 countries. The Members of AIPPI include lawyers, patent attorneys and trademark agents as well as judges, scientists and engineers. They also include corporations.

AIPPI dates back to 1897, shortly following the signature of the Paris Convention for the Protection of Industrial Property in 1883. Starting with an emphasis on Western Europe it has become a truly international Association, including North and South America, Eastern European countries, Asia, Australia and Africa.

The objective of AIPPI is to improve and promote the protection of intellectual property on both an international and national basis. It pursues this objective by working for the development, expansion and improvement of international and regional treaties and agreements and also of national laws relating to intellectual property.

It operates by conducting studies of existing national laws, and proposes measures to achieve harmonization of these laws on an international basis. AIPPI conducts scientific work, namely the study of issues of topical concern in the IP world. These studies operated by national groups or international special committees are concentrated or synthesized and are the basis for the preparation of draft Resolutions and Reports, which are then discussed at Congresses and Executive Committee Meetings. When a consensus is achieved, a final Report and Resolution are prepared for adoption by the Executive Committee.

In its long history, AIPPI has adopted more than 700 Resolutions and Reports. The presentation of these Resolutions and Reports to international Governmental Organizations, in particular the WIPO, has contributed considerably to the development, improvement and harmonization of the international protection of Intellectual Property.

2. GENERAL REMARKS ON COMPUTER IMPLEMENTED INVENTIONS

In line with its mission, AIPPI is honoured to provide its contribution with observations to the Enlarged Board of Appeal of the European Patent Office on the referral G3/08.

The questions of the referral G3/08 are related to the general debate whether some categories of inventions should not be eligible for patentability and more particularly refer to computer software implemented innovations.

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 as regards biotechnology.

The economies of the industrialised countries are increasingly dependent on the tertiary sector (service industry). New 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 are inventions the implementation of which involves the use of a computer, computer network or other programmable apparatus, 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 to be 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 from 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 20th 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.

Around the turn of the century, patent applications directed to "business methods" emerged on the scene, becoming a critical question. A business method is simply 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 computer implemented.

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 word 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

In the United States, computer software patents and business method patents are covered by the same rules that apply to all inventions. An invention is entitled to patent protection if it satisfies these requirements: utility/patentability (35 USC § 101), novelty (§ 102), non-obviousness (§ 103), and clear written description (§ 112).

The statutory requirements of 35 USC § 101 are: "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof ...".

The language of the statute suggests a liberal interpretation and the US congress has stated that Section 101 should include "everything under the sun made by man" (Diamond v. Chakrabarty 447 US 303, 309 (1980)). In fact, US courts have recognised that Section 101 should be liberally applied to new technologies, regardless of whether congress predicted the technological advance or not. This is perhaps the reason why the principles behind this language have remained virtually unchanged for over 200 years in the US.

Although the US courts construe Section 101 broadly, they have recognised three judicially created exceptions to patent eligible subject matter: laws of nature, natural phenomenon, and abstract ideas. This last exception, abstract ideas, has posed historical problems for software and business method inventions.

The Federal Circuit has stated that an abstract idea by itself never satisfies the requirements of 35 USC. 101. However, an abstract idea when

practically applied to produce a useful, concrete and tangible result satisfies Section 101 (State Street Bank & Trust Co. v. Signature Financial Group, Inc.).

While "process" is one of the categories of subject matter eligible for patent protection, the courts have made clear that not every method claim is patentable under section 101. "The question is whether the method described and claimed is a 'process' within the meaning of the Patent Act." Gottschalk v. Benson, 409 US 63, 64 (1972). "The statutory definition of 'process' is broad....An argument can be made, however, that this Court has only recognised a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" Parker v. Flook, 437 US 584, 588 n.9 (1978).

Consistent with these Supreme Court cases, the Court of Appeals for the Federal Circuit recently issued an opinion affirming a final decision by the Board of Patent Appeals and Interferences sustaining a rejection of claims because they were not directed to patent-eligible subject matter under 35 USC. 5 101. See In re Bilski, 545 F.3d 943, 88 USPQ2d 1385 (Fed. Cir. 2008). The court's opinion clarified the standards applicable in determining whether a claimed method constitutes a statutory "process" under § 101.

As clarified in Bilski, the test for a method claim is whether the claimed method is

(1) tied to a particular machine or apparatus, or

(2) transforms a particular article to a different state or thing.

This is called the "machine-or-transformation test". The Court indicated that either a physical object or substance, or data representing an underlying physical object or substance, would suffice as an "article" to be transformed under prong (2) of the test.

According to the USPTO, there are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent-eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting, is not sufficient to pass the test.

The significance of Bilski is that claims reciting only steps performed by a general purpose machine without more, or claims reciting a method with the mere addition of a general purpose computer, may also be excluded.

However, the Court recognised that "future developments in technology and the sciences may present difficult challenges to the machine-or-transformation test, just as widespread use of computers and the advent of the Internet has begun to challenge it in the past decade" and that "the

Supreme Court may ultimately decide to alter or perhaps even set aside this test to accommodate emerging technologies".

Bilski has petitioned the Supreme Court for a writ of certiorari — asking the high court to determine whether the new test of patentable subject matter is the correct test.

The petition asks two questions:

> Whether the Federal Circuit erred by holding that a "process" must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing ... despite this Court's precedent declining to limit the broad statutory grant of patent eligibility for "any" new and useful process beyond excluding patents for "laws of nature, physical phenomena, and abstract ideas."
>
> Whether the Federal Circuit's "machine-or-transformation" test for patent eligibility, which effectively forecloses meaningful patent protection to many business methods, contradicts the clear Congressional intent that patents protect "method[s] of doing or conducting business." 35 USC. § 273.

For the present time however, the *'en banc'* CAFC decision is the rule.

A review of Federal Circuit cases since the US Supreme Court decision in Diamond v. Diehr (450 US 175 (1981)), including both the State Street and AT&T cases, and including the case of In Re Bilski, provides insight into the types of inventions that the Federal Circuit has and will continue to find patent eligible. These cases reveal that claims that have recited specific machines, machine manipulation, or processes within machines have all been found to recite statutory subject matter. Similarly, claims that have recited a physical transformation or generation of data have also been found to recite patentable subject matter. On the other hand, claims that have recited abstract ideas by themselves (i.e. as such), claims that have recited only steps performed by a general purpose machine without more, and claims that have recited only steps that could be performed by a human have been found to not recite statutory subject matter. Thus, attempts to claim abstract ideas by themselves or methods performed only by a human, or claims reciting such methods with the mere addition of a general purpose computer will incur Section 101 invalidity problems.

Summary

In US practice, any useful invention made by man is eligible for patent protection, including any new and non-obvious computer software and business method that qualifies under the rules as determined by the case law.

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 of what kind of software-related inventions satisfy the requirements, including the statutory invention and inventive step requirements. 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 utilised, 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 or not it constitutes a statutory invention is judged by whether or not information processing by software is concretely realised 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 utilise 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.

Summary

In Japan, software inventions and even software implemented business methods are eligible for patent protection if a specific interaction with a hardware resource is defined in the claims.

3.3. EUROPE

The position in Europe is set by the European Patent Office. 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.

3.3.1. EPO Position on Patentability of Computer Implemented Inventions

The legal basis is Article 52 of the 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.

According to the established practice in Europe, an "invention" within the meaning of Art. 52(1) EPC must have a technical character.

Case law of the Boards of Appeal at the EPO determine that the 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 program.

In fact, for most computer implemented inventions, it is possible to draft a patent application and a set of claims complying with this technical character criterion. Therefore, in particular to exclude business method inventions, the EPO has developed, since around 2000, the "technical contribution" theory and used the inventive step condition to reject non-technical inventions. The

EPO used the following problem-and-solution approach to determine whether there is inventive step:

identification of the technical field,
identification of the closest prior art,
identification of the technical problem,
determination of the technical features of a claim that contribute to the solution (the "technical contribution"),

Once the presence of a technical contribution has been ascertained, then the inventive step is assessed taking the claim as a whole. 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 in the assessment of inventive step (T931/95 – Pension Benefits/PBS) and the invention is not patentable. Non-technical features are then taken into account only if they cooperate with technical features to provide a technical result.

"State of the art" according to Art. 54 EPC means "state of technology" and does not extend to the state of the art in commerce and business methods. Automation of a business method using conventional hardware and programming methods must be considered obvious to a skilled person (T172/03 - Order management/RICOH).

If a software-related invention has technical character and makes a technical contribution, it is patentable in the form of an apparatus, a method, a program or a computer-readable storage medium storing a program.

Summary

The European Patent Office grants patent protection to software related inventions, including software related business methods, provided they have technical character and make a technical contribution.

3.3.2. German position on Patentability of Computer Implemented Inventions

The German Federal Supreme Court of Justice (BGH) is generally in line with the decisions of the EPO, although the starting point of the argumentation might be slightly different.

According to the consistent case law of the BGH "computer programs are patentable if they have a particularity that goes beyond the mere use of a computer" ("Search for Faulty Character Strings", 33 IIC 2002, 753). Such a particularity is present e.g. if the computer program solves a concrete technical problem with technical means" ("Electronic Payment System", 36 IIC, 242). According to this decision a concrete technical problem can be the secure transmission of data from one computer to another. However, "to determine the profitability of a medical apparatus or to automatically determine and transmit data relevant to a desired business result" (BGH, GRUR 2005, 143 – "Profitability Determination") or "to supply to the offerer the

information on time, so that he may offer the customer interactive help at his computer in case he is not likely to place an order by himself" (BGH, GRUR 2005, 141 – "Offering Interactive Help") are not technical problems.

According to the decision "Electronic Payment System" only an inventive solution of a problem in a technical field is patentable, because "only a contribution to technology justifies patent protection" (Headnote of this decision).

Summary

In Germany, computer programs and even computer- implemented business methods are eligible for patent protection if the computer program or the computer-implemented invention solves a concrete technical problem.

3.3.3. French position on Patentability of Computer Implemented Inventions

French Courts generally follow the decisions of the EPO and also the evolutions of in EPO case law.

A recent case for which French and European decisions were taken simultaneously in the field of business methods concerns EP 0 995 161 and a corresponding French patent 97/08712 (INFOMIL - "Device, method and computerised cashing system for automatic delivery of discount coupons"). The French Court revoked the French patent, in a first instance. A decision of an Opposition Division (confirmed by a European Board of Appeal – T0116/06) revoked the European Patent. The French Court and the European Board of Appeal came to the same conclusions – invention not excluded from patentability but lacking inventive step.

The French Court indicates that "*the fact that the result is to provide a commercial advantage and to participate in the marketing of a store is not to be considered as what is protected is the computer system*". The Court concludes that the invention is not excluded from patentability. Then, the Court considers that the distinctive feature with respect to prior art "*is implemented in an existing system and does not require any inventive effort; it only requires that a computer technician programs this additional feature into the content of a file already in place to obtain the improvement.*" The Court concludes that no inventive step is then involved.

3.3.4. UK Position on Patentability of Computer Implemented Inventions

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. As the UK courts are bound by earlier precedent, the new test had to tie in to the judgement in *Merrill Lynch's Application* [1989] RPC 561 ("*Merrill*

Lynch") and subsequent judgements in *Gale's Application* [1991] RPC 305 ("*Gale*") and *Fujitsu's Application* [1997] RPC 608 ("*Fujitsu*").

The Four Step Test

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 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.

Symbian

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.

Computer Program Claims

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, such as 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 that 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.

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]".

Summary

Recent judgments in the UK courts have looked more favourably on the patentability of computer implemented inventions. Software which improves the way in which a computer works should now be patentable in the UK along with software which provides an external technical effect.

4. POSITION OF AIPPI ON PATENTABILITY OF COMPUTER IMPLEMENTED INVENTIONS

AIPPI has adopted two Resolutions on this matter. Resolution Q133 (Appendix A) was on the subject of "Patenting of computer software". Resolution Q158 (Appendix B) covered the subject of "Patentability of Business Methods". The position expressed by these resolutions has been confirmed in a Special Committee Report in 2006.

The AIPPI Resolutions were voted almost unanimously after thorough discussion. There was no discrepancy between the three families of AIPPI (members of industry, attorneys and barristers). That is, the AIPPI position clearly shows the position of international IP experts and users of the patent system as regards patentability of software related inventions.

In Resolution Q133, AIPPI resolved that patents should be granted without discrimination in all areas of technology, including that of computer software, such as programs, and that all computer software meeting the patentability requirements should be considered patentable in the same manner and treated equally, with no distinction being drawn between the

different types of computer software and applying the same rules as in other fields of technology. Further, according to Resolution Q133, computer software should be inherently patentable in any medium in which it can be commercialised.

More recently (question Q158), AIPPI addressed the problem of the business methods.

Numerous operations which in the past could only be undertaken in an abstract manner may now be carried out by machines, thanks to the development of electronics and computing, thus acquiring an industrial nature.

The development of economic activity on the Internet demonstrates the importance of the question of patent protection for commercial or economic methods. Indeed, the processes of transmission of information to Internet users, and access to this information, are essential for the success of commercial operations carried out through the Internet. Easy access to this information, obtained for example through a particular layout of icons and a hierarchical arrangement or classification of the information, may contribute to the success of commercial operations. The same applies to methods used for receiving orders or providing services.

However, the Internet is not the only sphere in which the protection of commercial or economic methods is of interest to those involved. In traditional business sectors, and in particular mass retailing, banking, finance and insurance, new business methods such as methods of promotion through the distribution of reduction coupons, particular systems of sale by auction, methods for the calculation of interest rates or systems governing tied sales, are generally computer implemented and may have great practical interest. But the success of a business may also be due to an enterprise's capacity to use a computer implemented method, for example for the verification of quality, or for internal communications allowing full dialogue between people working on an industrial or commercial project.

This shows that the protection of the methods utilised in the economic and commercial fields enjoys a significant importance.

The temporary difficulties with which the various Patent Offices may be conformed when performing searches and examination due to emerging databases in the fields of non-technical activities should not be viewed as a hurdle for the protection for computer implemented inventions in the economic and commercial fields.

In Resolution Q 158, AIPPI resolved that:

1. Inventions including methods used in all fields of industrial, commercial and financial activities [...] should be entitled to patent protection provided that **the invention as defined in the claims has a technical content.**
2. If such an invention as a whole has a technical content, that should be sufficient for patentability **even though the point of**

novelty and inventive step (non-obviousness) does not lie in the technical content.

3. Further, the protection of such inventions by patents should be assessed by or based upon the same criteria as other inventions, and no new or special criteria should be applied.
4. The assessment of the inventive step for such inventions should be made on a case-by-case basis and even known methods may, if their application to a new field is inventive, be granted patent protection.
5. Merely transforming a known method into software form does not give rise to a presumption that such an invention has an inventive step.

[...]

Thus, AIPPI's formulation requires technical content as a prerequisite for patentability, and recognises as sufficient the technical content of an invention implemented in a technical system (which is always the case for computer software), even if the inventive contribution does not have a technical character.

According to AIPPI, **new and inventive** business methods and other non-technical innovations should be patentable if implemented on a computer. **A technical content is however necessary** to avoid patent claims only reciting business method steps executable by hands.

5. POSITION OF AIPPI REGARDING THE QUESTIONS OF REFERRAL G03/08

Question 1

Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?

The decisions T1173/97 (Computer Program Product/IBM) and T424/03 (Clipboard formats/MICROSOFT) appear to support a positive answer.

However, the way an applicant wishes to protect an invention reflects market needs, practicability, and various media in which it can be commercialised.

Restricting the possibility for the applicant to claim a computer implemented method in the form of a computer system will generally oblige the patent owner to use the rules of contributory infringement to attack an infringer. This is not desirable as contributory infringement rules are often more restrictive than the rules for direct infringement.

Hence, the position of AIPPI is that the manner in which a computer program is claimed should not be limited when it is otherwise inherently patentable.

Question 2

(a) Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(c) and (3) merely by explicitly mentioning the use of a computer or a computer-readable data storage medium?

The decisions T1173/97 (Computer Program Product/IBM) and T258/03 (Auction Method/HITACHI) appear to diverge on the issue. IBM concluded that a computer program product is not excluded from patentability if, when it is run on a computer, it produces a further technical effect which goes beyond the normal physical interactions between program (software) and computer (hardware). With such an approach, the answer to question 2(a) will be "no" and that to question 2(b) will be "yes". On the other hand, following the approach of T258/03 which is often referred as the leading case on the "any hardware" approach will lead to answer question 2(a) in the affirmative.

According to resolution Q158 of AIPPI, if an invention as a whole has a technical content, this should be sufficient for patentability even though the point of novelty and inventive step (non-obviousness) does not lie in the technical content. The technical content of an invention is satisfied if the invention is implemented in a technical system such as a computer or a computer-readable data storage medium. A technical content is however necessary to avoid patent claims only reciting business method steps executable by hands.

Hence, the position of AIPPI is **YES**: a claim in the area of computer programs avoids exclusion under Art. 52(2)(c) and (3) merely by explicitly mentioning the use of a computer or a computer-readable data storage medium.

(b) If question 2(a) is answered in the negative, is a further technical effect necessary to avoid exclusion, said effect going beyond those effects inherent in the use of a computer or data storage medium to respectively execute or store a computer program?

NO for the reasons exposed in 2(a)

Question 3

(a) Must a claimed feature cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim?

According to T163/85 (Colour Television Signal/BBC) and T190/94, a technical effect on a physical entity in the real world was required. In T125/01 (Gerätesteuerung/HENZE) and T424/03 (Clipboards formats/MICROSOFT),

technical effects requirements were met by the respective computer programs.

The position of AIPPI is that a technical effect "within" a computer qualifies as "a physical entity in the real world." With such a definition, the above cases are reconciled.

Furthermore, a claim as a whole defines an invention and the matter for which protection is sought. Thus, to cause a technical effect, only at least one claimed feature **having a technical content** is needed in a claim for the invention as a whole to have a technical character.

Hence, for AIPPI, the answer is **YES**, but the "physical entity in the real word" can include elements representing a technical effect either inside a computer or outside a computer, i.e. either a physical object or substance, or computer data. **Consequently, in practice, this condition will be fulfilled for any computer implemented method.**

(b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?

YES for the reason explained above.

(c) If question 3(a) is answered in the negative, can features contribute to the technical character of the claim if the only effects to which they contribute are independent of any particular hardware that may be used?

If question 3(a) were to be answered in the negative, AIPPI will consider that any technical feature can contribute to the technical character of the claim, whatever is its effect (See the answer to 3(a)). Hence, the answer would be **YES**.

Question 4

(a) Does the activity of programming a computer necessarily involve technical considerations?

The question concerning the technical considerations in the activity of programming has been answered in the past by the EPO on a case by case basis, in the cases of T1177/97 and T172/03 (Order management/RICOH) on the one hand, and T833/91, T204/93 and T769/92 (General purpose management system/SOHEI) on the other hand. Some of these held that programming is a technical activity, and some held that it is a mental act of the programmer.

There are various kinds of computer programs – Operating systems which control the basic machine functions; Application programs, which perform a specific function like input of specific data, output display of specific data, and basic manipulation of application data; and Infrastructure programs which sit between operating systems and basic application programs and

which perform various complex functions such as network and communications control between hardware devices, data base management systems and other complicated data transformation functions. Nobody contests that Operating systems and Infrastructure programs involve a technical activity. However, some application programs can be quite technical without requiring the level of technical skill as is required for operating and infrastructure programs. This level can determine whether or not the claim is obvious (merely transforming a known method into software does not give rise to a presumption that such an invention has an inventive step), but the activity of programming itself is technical.

AIPPI finds it important to look at the actual tasks performed by a programmer in order to decide whether features resulting from the activity of programming are inventive or not, but considers that the activity of programming itself is necessarily technical.

Hence, AIPPI considers that the response should be **YES**: the activity of programming a computer necessarily involves technical considerations.

(b) If question 4(a) is answered in the positive, do all features resulting from programming thus contribute to the technical character of a claim?

YES, see response to question 4(a).

(c) If question 4(a) is answered in the negative, can features resulting from programming contribute to the technical character of a claim only when they contribute to a further technical effect when the program is executed?

If question 4(a) were to be answered in the negative, AIPPI will consider that the features contributing to the technical character of the claim should be determined on a case by case basis, taking into account the actual tasks performed by the programmer. Hence, the response should be **NO**.

SUMMARY

The current rules on computer-implemented inventions in the major patent systems are as follows:

In the US, any useful invention made by man is eligible for patent protection, including any new and non-obvious computer software and computer implemented business method, provided the claimed method can meet the machine or transformation test.

In Japan, software inventions and even software implemented business methods are eligible for patent protection, if a specific interaction with a hardware resource is defined in the claims.

The European Patent Office grants patent protection to software related inventions, including software related business methods, provided they have technical character and make a technical contribution.

The AIPPI resolutions require a technical content as a prerequisite for patentability. AIPPI recognises that the technical content is satisfied if the invention is implemented in a technical system (which is always the case for computer software), **even though the point of novelty and inventive step does not lie in the technical content**. According to AIPPI, **new and inventive** business methods and other non-technical innovations should be patentable **if implemented on a computer.**

April 29, 2009

AIPPI

QUESTION 133

Patenting of computer software

Yearbook 1997/III, pages 299 - 303
Executive Committee of Vienna, April 18 - 22, 1997

Q133

Question Q133

Patenting of computer software

Resolution

AIPPI

considering its previous positions and resolutions adopted since 1974 recognising the need to protect creations embodied in computer software in general;

considering that copyright protection for computer software was initially recommended by AIPPI due to such type of protection being immediate and able to take benefit from already existing international conventions;

considering that copyright protection has been recognised by AIPPI as being inadequate as a sole system for protecting computer software;

considering the increasing technical and economic importance of computer software and the fact that effective protection for computer software developers is critical;

considering that the TRIPS Agreement requires patent protection without restriction for any inventions in all areas of technology; and

considering the **reasons** appended to this resolution,

Resolves that:

1. As a question of principle clearly reflected in the TRIPS Agreement and taking into account other reasons of a legal, economic and practical nature, patents should be granted without discrimination in all areas of technology, including that of computer software, such as programmes.

2. Computer software should be considered patentable provided that the claimed subject matter meets the traditional patentability requirements of novelty, inventive step (non-obviousness) and utility or industrial applicability.

3. The technical character of computer software should be generally acknowledged and its industrial applicability should be construed in a broad manner so as to embrace the concept of enabling a useful practical result.

4. In spite of increasingly liberal interpretations by the national and regional Patent Offices and Courts, modifications in many national and regional laws regarding patents are recommended to provide or ensure adequate patent protection for computer software; this including the abolition of any limitations in the laws or treaties relating to industrial property, as well as to promote legal certainty.

5. All computer software meeting the patentability requirements should be considered patentable in the same manner and with equality of treatment with no distinction being drawn between the different types of software.

6. Patent protection and copyright protection for computer software are of a different nature and relate to different aspects of the software. They may co-exist notwithstanding their different terms of protection.

7. Computer software should be inherently patentable in any medium in which it can be commercialised.

8. The establishment of special rules for different technologies is undesirable in general with respect to the presentation of the specification (description) and the drafting of the claims and the same principle should apply to patents relating to computer software, it being as usual the responsibility of the applicant to ensure that he meets the relevant national or international requirements. Moreover, special rules should not be encouraged as a solution to other problems, such as the difficulty to effect prior art searches. In this respect, AIPPI encourages all efforts by Patent Offices and all other interested parties to make prior art searches more reliable in the area of software without resorting to the adoption of special rules that could impose undue or unnecessary burden on patent applicants.

9. The concept of inventive step or non-obviousness should be applicable to the patentability of computer software, notwithstanding any practical difficulties that may exist.

10. The exercise of patent rights in the case of computer software is no different in principle from that in the case of other types of invention.

Reasons:

A) Principle of patentability

Independently of the terms of any specific national legislation, there is no doubt that the creation of computer software is of considerable technical complexity. In principle, therefore, there is no reason to deny patent protection to inventions in the area of computer software. Such a position is integrally in accordance with Article 27 of the TRIPS Agreement.

The creation of computer software is basically as lengthy and expensive a process as the software is simple to copy. A literal copy may be prohibited under copyright. However, the functional concept behind a given software may be copied without such an evident infringement of the copyright. Functional concepts translated into products or processes are the proper subject matter of patents and an efficient system of protection is highly desirable in order to protect investment and to encourage development in this particular technical area.

To exclude computer software from patent protection would be arbitrary and discriminative with respect to a technology of ever increasing importance and which merits concrete protection. In addition the dividing line between hardware and software is becoming increasingly blurred and it is discriminative to consider one patentable and the other not.

B) Conditions of patentability

If software is to be patentable, it is most appropriate that the same conditions apply as they do for other types of invention. Apart from novelty and inventive step (or non-obviousness), the law in most jurisdictions requires patentable inventions to have a technical character or technical applicability. Software can take many types of form, may be machine-integrated or not and new types of software will certainly appear with new technological development. It is therefore not appropriate to distinguish between the different types which should all be treated on an equal footing, the question of patentability depending on the invention meeting the traditional requirements.

With respect to technical or industrial character or applicability, basically all computer software is technical in nature and this alone should meet this requirement. However, it is important that some useful practical result be obtained. Moreover, the difference between a technical result and, for example an aesthetic result is not pertinent to the generally technical nature of the software in itself. In considering the patentability of any given software, therefore, any legal requirement regarding technical character should be construed broadly so as to embrace the concept of obtaining a useful practical result.

It should also be observed that the requirement of technical nature is open to many interpretations, as has been demonstrated by the many decisions on the matter. It is recommended that there only be a requirement for inventions to enable a useful practical result.

C) Legal Certainty and changes in legislation

The tendency of the courts in many countries that require inventions to have a technical character, including the European Patent Office, has become progressively less strict in construing the requirement as applied to software related inventions.

The laws of a large number of countries contain prohibitions to the patenting of software "per se". This is contrary to the TRIPS Agreement, contrary to the position given above and it is not useful.

Alterations in the relevant national and regional legislations, removing the software "per se" prohibition and eliminating the technical character requirement are therefore recommended to ensure the universal recognition of the patentability of computer software and to provide legal certainty.

It is emphasised that the removal of the software "per se" prohibition does not mean that all software is patentable. It only means that the mere fact that a claimed invention relates to software "per se" should not be a reason in itself for rejection. Naturally, it must fulfil the normal requirements of patentability,

D) The co-existence of patent and copyright protection

In spite of the difficulties that may arise

- in attempting to draw a line of demarcation between the aspects of computer software that can be protected under copyright and by means of a patent;

- with regard to the differences there may be between the proprietary rights under copyright and patent law; and

- with regard to the different durations of copyright and patent protection, especially with regard to problems that may arise in determining which aspects of the computer software cease to be protected when the patent rights expire,

there appears to be no decisive reason against the co-existence of patent and copyright protection. The apparent problem appears to be analogous to the difference between patents and models or registered designs which have historically existed side by side. Similarly, there appears to be no overriding reason why the expiry of a patent relating to software should have any effect on the protection under copyright that may continue to be in force.

E) Purely abstract data handling operations

The fact that a computer software invention involves merely abstract data handling operations should not exclude it from patentability, provided that it enables a useful practical result.

F) Software in machine-readable form

Considering that software in combination with a known general purpose computer may be patentable when a useful practical result is obtained, and furthermore that it is the software itself that represents the true technical and economic importance of the creation, it is arbitrary to consider the product that is commercialised to be excluded from protection. It would be the same thing as to say that a novel nut can only be patented when claimed in combination with its bolt or that a spark plug can only be claimed in combination with an internal combustion engine. Consequently, it is reasonable to consider computer software to be inherently patentable in any medium in which it can be commercialised, provided that it is novel and inventive and, furthermore, that when used appropriately, i.e. in combination with a computer, it produces a useful practical result.

G) The specification (description) and claims

It is a basic position of AIPPI that specific rules or norms for the drafting or presentation of the specification or claims of patents should be avoided wherever possible. There would appear to be no convincing reason for this to be different with respect to software inventions. The applicant for a patent should have the choice of presenting and claiming his invention as he thinks fit. Whether a patent does or does not meet the requirements of disclosure and patentability will always arise in the case of any technology and each applicant has to assume the responsibility of deciding how he meets the requirements. The meeting of very specific rules could well be an undue, unnecessary and possibly expensive burden on the applicant.

The only plausible reason for special rules for the presentation of the specification appears to be to facilitate prior art searches. However, this would not appear to justify the burden or the lack of liberty imposed on the applicant.

At the same time, AIPPI encourages Patent Offices and other interested parties to continue to make all efforts to devise manners, such as the development of classification systems and data-bases, to facilitate prior art searching.

H) The exercise of computer software patent rights

Notwithstanding the difficulties that may arise in the exercise of rights, in particular the questions of territoriality in the case of computer software used in international communications networks, no convincing reason has been found in principle for the exercise of software patent rights to be different from the exercise of patent rights in any other technical field. Exceptions to rights, such as with respect to interoperability (e.g. the communication between one software and another) are not approved, without prejudice to parallel laws or regulations that may already exist in other areas, including those relating to commercialisation, anti-trust and others.

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AIPPI

QUESTION 158

Patentability of Business Methods

Yearbook 2001/II, pages 243 - 244 Q158
38th Congress of Melbourne, March 23 - 30, 2001

Question Q158

Patentability of Business Methods

Resolution

AIPPI

Considering that:

(a) The patent system is designed to compensate fairly research as well as the creation of new inventions.

(b) The right to protect inventions arising out of economic activities is guaranteed by article 1 of the Paris Convention.

(c) Pursuant to article 27 of the TRIPS treaty, a patent may be obtained for any invention in all fields of technology.

(d) The question of protection of business methods has been raised due to the widespread use of computers and the development of software.

(e) During the 1997 meeting of the Executive Committee held in Vienna, which considered Question 133 "The Patentability of Computer Software" the AIPPI formally declared it was in favour of patent protection of computer software.

And whereas:

(f) Since its origins, patent law has progressively adapted to new subject matter,

(g) Problems resulting from this expansion have nevertheless been resolved without the necessity of substantially modifying the criteria for the granting of patents,

(h) Creations of a purely abstract nature are generally excluded from the scope of protection of patents,

(i) In several legal systems, inventions, in order to be protected by patents, must not only be useful but must also possess a technical content,

(j) The TRIPS treaty has not specified how it intends the term "fields of technology" appearing in article 27 to be defined with respect to the definition of patentable subject matter,

(k) The expansion of patentable subject matter, which has not yet been considered by different national laws may raise practical problems, particularly with respect to procedures and rules of examination before patent offices.

Adopts the following resolution:

1 Inventions including methods used in all fields of industrial, commercial and financial activities, herein referred to for purposes of simplification as "business methods", should be entitled to patent protection provided that the invention as defined in the claims has a technical content.

2 If such an invention as a whole has a technical content, that should be sufficient for patentability even though the point of novelty and inventive step (non-obviousness) does not lie in the technical content.

3 Further, the protection of such inventions by patents should be assessed or based upon the same criteria as other inventions, and no new or special criteria should be applied.

4 The assessment of inventive step for such inventions should be made on a case-by-case basis and even known methods may, if their application to a new field is inventive, be granted patent protection.

5 Merely transforming a known method into software form does not give rise to a presumption that such an invention has an inventive step.

6 Patents for business methods should be treated in the same way as patents in other fields. In particular:

a. The scope of protection granted by patents with respect to business methods should be the same as the protection granted to other inventions.

b. Where evidentiary methods allow for a reversal of the burden of proof, this should be available for business method patents as well.

c. The term for such patents should be the same as for patents in other fields.

d. The remedies for infringement of such patents, such as damages and injunctions, should be the same as for patents in other fields.

7 In the granting of such patents, AIPPI encourages the improvement of search and examination procedures by patent offices, particularly by the creation of databases in connection with prior art.

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