

SOFTWARE PATENTABILITY IN CEPIS NATIONAL MEMBERS

Discussion Paper
Author: Juan-Antonio Esteban, ATI
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1. Executive summary

This position paper provides insight on the position of the different CEPIS members with respect to software patentability. The paper also aims to serve as an introduction to the matter of software patentability by describing patents versus copyright and the current situation of software patentability in Europe. Finally, the paper includes reference documents relevant to the current legislative procedure being carried out in European institutions.

As a summary of the findings, as of the time of finishing the first version of this document in November 2004, only two CEPIS member organizations have an official position on software patentability. This situation confronts with the social and legislative debate that is seen in several European countries recently.

2. Introduction to software patentability

2.1. What is a patent?

In simple words, a patent is a right given by a government which gives a protection in the form of monopolistic right of commercial exploitation to the patent holder. This right extends to the invention described in the Claims section of the patent application document. Usually, these claims are made up of techniques described in the patent. Patents are requested in Patent Offices, which are organizations specifically created by governments to evaluate and grant patent rights. Patents have a validity of 20 years and are granted after a review process that among other characteristics evaluate the innovation of the proposed patent. Patents are valid in the geographical territory covered by the Patent Office that has granted the patent right, and the disputes related to patents are solved by courts.

In return of these exclusive commercial rights, all data related to the patent is publicly accessible. In this way, when patents expire, the invention may be exploited by any third party.

In case a patent holder identifies any third party using commercially any product or service covered by his patent claims, he can act against the third party, usually by demanding the payment of royalties, that are set by the patent holder. In the case commercialization has occurred in the past, the patent holder may claim the rights retrospectively. In extreme cases, the patent holder may request the third party to stop the commercialization of the products or services that make use of the patent.

Interested readers may consult more details of the relevant legislation in their respective local patents office web. For the European Patent Office, please consult <http://www.european-patent-office.org/legal/epc/e/contents.html>. EPO has [28 member states](#), comprising all the member states of the European Union (except Latvia, Lithuania and Malta) together with Bulgaria, Liechtenstein, Monaco, Romania, Switzerland and Turkey.

2.2. What is a software patent?

The term software patent, although extremely popular, is considered by some lawmakers as not rigorous, and therefore other terms are used, such as patents on computer-implemented inventions. In the rest of this paper, by *software patent* we will refer to all those patents that may affect the commercialization of a software program. In other words, software patents are those patents that be used to claim rights against third parties due to the production, distribution or use of software programs.

With this definition, software patents may affect:

1. A service delivered by a software program. In this category we will include business models sustained by a given software piece.
2. Internal functionality of a software program. Let's give two views, depending on the concept of software programs that we apply:
 - If software programs are conceived as an information process that returns a given output data after processing some given input data, patents may affect how the program reads the input data, how it processes it, or how it produces the output data.
 - If software programs are conceived as a formal description of an algorithm, written in an executable form, any part of the algorithm may be subject of patentability.

2.3.Examples of software patents

The following set of existing software patents exemplifies different types of patents that are considered within the concept software patent described in the previous chapter. All the patents in this chapter are purely software, with no claims on hardware inventions or other physical elements or transformations of the “physical world”.

1. Computer-aided diagnosis system for medical use. Program to make medical diagnosis based on automatic calculations from input data in the form of images or texts (EP0487110).
2. System and method for computer based testing: Program to check if a pupil has understood a teaching material, based on the answer of the individual to a certain questionnaire (US5565316).
3. System for placing a purchase order via a communications network. This patent is known as the “1-click Amazon patent”, and describes the use of cookies to complete a purchase of goods in a e-commerce site. (US5960411).
4. Digital Coding Process. It is the “basic MP3 patent”. Its main claim includes any system to compress acoustic signals based on taking spectral coefficients from the signal, quantify them and code them (EP287578).
5. Compression in wireless communications. A standard TCP connection between two computers is used to multiplex communications between applications in both ends, and thus reduce the data transmitted (US5867661).

Commercialization of any software or service based on a software that infringes any of the claims would be subject to permission from the patent holder.

Interested readers may consult the full text of these patents, including their claims, in esp@cenet, <<http://ep.espacenet.com>>, providing the patent number shown within brackets.

2.4.Patents or copyright

Computer software has traditionally been protected by copyright legislation, a part of intellectual property legislation. This legislation grants exclusive rights of commercialization to the author of a program, and therefore prohibiting copying, redistribution or modification without permission. Therefore, to have the rights on a program it is necessary and enough to be its creator. In other words,

proving the authorship of a program is enough to ensure that the author has all the rights on the program.

As explained in the previous chapters, patents act in a very different way. First, a patent holder does not need to build a software program to show its functionality. Second, the author who writes a program may perfectly use a patented element without knowing it, by simply “reinventing” the concept by him or herself. In simplistic terms, copyright legislation protects the creator of a program, while patent legislation gives rights to the persons who describe techniques that programs may use.

This different protection is also noticeable because software is one of the few fields in which patents intend to protect an element, software programs, which is already protected specifically by another legislation.

2.5. Economic effects of patents

The most obvious economic effect of software patents is the possibility of patent holders to generate income either by exclusive commercialization of products or services based on those patents, or by requesting third parties royalties to use their patents. However, any study on the economic effects should include the costs that the software patent system will have on software creators and on the IT sector in general.

As a minimum, any software producer will have to consider the costs to perform a patent analysis of his products, in order to identify the number of patents that may affect him and to budget contingency provisions for royalties for patents not correctly identified in the analysis process.

As a more generic effect, it is important to consider effects on the sector and on specific companies of usual actions taken when patents exist on a given field: intimidating claims, reinforcement of monopoly positions, agreements among big players with large patent stocks, blocking of key technologies due to commercial interests of holders of basic patents, etc.

2.6. Historical evolution of software patents

At the end of the 60's and beginning of the 70's, when software market emerged, there was a worldwide consensus to apply an extension to copyright law to cover software programs. After this agreement, in a few years all developed countries had modified their legislation to protect software programs under copyright law. Simultaneously, patent legislation was modified in regions like Europe to specifically exclude software programs, following other exclusions such as mathematics, and therefore, algorithms.

During the 80's and 90's, judges in the USA accepted more and more cases on patents dealing with software. After 20 years, without any legislative change, it is considered that software patents are perfectly valid in the US. This situation, that was perfectly clear by mid-90's, has derived the existence of hundreds of thousands of patents related to software registered by the US Patent Office. However, it was only recently that the first strong impacts of software patents are noticed, since enough time has passed so that patent requests have turned into valid patents and into demands to third parties. Recently, cases like *Eolas vs Microsoft*, in which Eolas won a 500 MUSD case for a patent currently under reexamination, are showing the true dimension of the matter.

3. Status of software patentability in EU

All countries that belong to the European Union, with the exception of Latvia, Lithuania and Malta,

and some further countries in Europe: Bulgaria, Liechtenstein, Monaco, Romania, Switzerland and Turkey, are part of the Convention on the Grant of European Patents, or Munich convention. This convention specifies in chapter 52.2 the exclusions to patentability and among them cites “programs for computers”. This convention is binding for all participating countries, and has been translated in all of them into local legislation. This convention also promotes the creation of the European Patent Office (EPO), in addition to the local patent offices. The geographic effect of the patents granted by the EPO covers all countries adhered to the convention. It is important to note that the EPO is not an organization of the European Union, and therefore escapes the democratic controls established by the European Commission and Parliament.

Following its own interpretation of the Munich convention, and with the declared intention of updating its practice to current reality, the OEP has been admitting software patents for years. Nowadays, it is estimated in more than 30.000 the number of accepted software patents, some of them among the examples shown in the previous chapter.

With the public intention of harmonizing the situation in Europe, the Internal Market Directorate-General of the European Commission published in 2002 a proposal of European Directive on software patentability, which many analysts declare would increase the extent of patentability in Europe, including all software programs, in a very similar way to the situation in the USA. This proposal of directive had a warm acceptance by the EPO, by many professionals in intellectual property and by large associations in the IT industry. However, has been strongly contested by other trade associations, mainly SME-based, syndicates, professional organizations and, over all, the free software community.

The process of approval of the directive begun with its debate in the European Parliament, where it followed a long process of commissions, after which the plenary approved it in September 2003, with more than 50 amendments. These amendments leave de facto software programs out of the extent of patentability. In parallel, the European Council, the representatives of the national governments of the European Union, has been studying the directive and it is expected that any day (November as it is written this article) gives a firm resolution on the matter, probably in favor of the initial proposal of directive. If this hypothetical discrepancy would become true, the parliament would have to give this opinion for a second time.

4. Review of positions in CEPIS members

Positions of national CEPIS members have been obtained using direct correspondence with the representatives of the national organizations in CEPIS bodies, in the period August-November 2004.

As of the day of publishing this document, early November 2004, only two national associations recognize having an official position on software patentability. Some national associations express interest or recognize local activity without having an official position and many others declare no activity at all on the matter. It is to notice that during this period of time, the matter has been active in several national parliaments, apart from the activity at European Council and Parliament level.

In order to summarize the current activity on software patentability, the following section shows a table with all CEPIS members an a summary line with their position.

For the two associations with a position on the matter, GI in Germany and ATI in Spain, an specific section reproduces their official positions.

Finally, the last section in this chapter captures national activity on software patents obtained by public media sources.

4.1. Complete list of positions, CEPIS national members

The following table summarizes the activity related to software patents in all CEPIS member organizations.

No Position means that the member association has not released public or official statements on the matter

PATENT means that the member association has released public statements in favor of the patentability of software.

COPYRIGHT means that the member association has released public statements in favor of the continuation of copyright as the intellectual property regulation for software.

Unknown means that the author has not been able to retrieve information from the CEPIS national member.

Software Patentability in CEPIS national members

Country	CEPIS Member	Position on SW Patents	Notes
Austria	OCG	Unknown	
Belgium	FAIB/FVB	Unknown	
Switzerland	SI	No Position	
Croatia	CITS	Unknown	
Cyprus	CCS	No Position	
Czech Republic	CSKI	Unknown	
Germany	GI	PATENTS	
Germany	ITG	No Position	- Provided comments in the 2003 proposal for action
Denmark	Dansk-IT	Unknown	
EE	EITS	Unknown	
ES	ATI	COPYRIGHT	
Finland	FIPA	Unknown	
Greece	EPY	Unknown	
Hungary	NJSzT	No Position	- Participation in lobbying activities to influence the government
Iceland	ISIP	No Position	
Ireland	ICS	No Position	
Italy	AICA	No Position	
Italy	ALSI	Unknown	
Lithuania	LIKS	No Position	
Latvia	LITTA	Unknown	
Luxembourg	ALI	Unknown	
Malta	CSM	Unknown	
Serbia Montenegro	JISA	No Position	
Netherlands	NGI	No Position	- Individual activity from local members
Norway	DND	Unknown	
Poland	PITS	Unknown	
Romania	ATIC	Unknown	
Sweden	DFS	Unknown	
Slovakia	SSCS	Unknown	
Slovenia	SDI	No Position	
Turkey	IAT	No Position	
UK	BCS	No Position	

4.2.GI

The German association GI issued the following official statement on software patentability on June 2001. The full position, only available in German, is attached as an appendix.

Statement of the German CEPIS Society GI (Gesellschaft für Informatik e.V.) Concerning the Protection of Patent Rights for Software Based on the Relevant Document of the EU Commission (Passed by the presidency of the GI on June, 30th 2001)

Executive Summary

The public debate surrounding the patentability of software has become increasingly lively during the past year. This is largely due to negotiations among the member states of the Europäisches Patentübereinkommen EPÜ (European Patent Agreement) to revise said agreement, and the decision in Munich to keep the EPA clause concerning the "unpatentability of software for data-processing-instruments." In October 2000 the EU-commission presented a paper with the title Patentability of computer implemented inventions asking members for comments. The comment from the presidency of the GI reflects the view of this society concerning the question of whether software should be patented, and can be summarized as follows:

1. A change in paradigm which took place over a period of 30 years, from the manual work of the 'art of programming' to the engineering discipline 'software technology' has to be taken into consideration with regard to the granting of patents.
2. The problem of finding an adequate protection for software lies in its dual nature. On the one hand, a software product is a form of speech and, on the other hand, because of the aforementioned 'abstract machine', it is also a technical object. The differentiation between hard- and software has therefore disappeared in many cases and to make a distinction between the two concerning patent rights has become pointless.
3. The same criteria that apply to other technical objects must be applicable to software patents and should be examined just as carefully: novelty, degree of inventiveness, industrial applicability and disclosure of the invention are necessary prerequisites.
4. In the event of patent protection of software failing we must expect software investors to once again show a tendency towards withholding information rather than openness. This is especially undesirable in areas such as cryptographies, e-government etc.
5. Therefore, the GI supports the notion of recognizing the technical character of software and the need to grant software the same protection as other technical inventions. A failure to implement patent protection for software is basically tantamount to the refusal of patent rights protection for all technical objects since software possesses technical characteristics - in many cases these characteristics are preponderant.

Translated by Anya Barthels-Suermond for UPGRADE.

4.3.ATI

On April 2003, the board of ATI, the Spanish CEPIS member association, took a formal position on software patentability. At the same time, ATI was defining a proposal for action for CEPIS as European Association.

CEPIS AND COMPUTER IMPLEMENTED INVENTIONS PATENTS

An ATI proposal for action

COMPUTER IMPLEMENTED INVENTIONS OVERVIEW

The development of computer programs also called computer implemented inventions requires considerable human, technical and financial resources. However, such programs or inventions can be copied at a fraction of the cost needed for their development and are not clearly protected in all European Union Member States by present legislation. Protection, where it exists, has different attributes. These differences have a negative effect on the common market with regard to a fundamentally important technology.

Knowledge is expensive to produce but cheap to reproduce, just the reverse of what happens with material goods. Marshall observed long ago, that nature is subject to decreasing yields while man to increasing ones. What really is under discussion, is the innovation and generation of knowledge that is at the heart of the debate. This is the core engine of all the economy of knowledge.

Patent and copyright protections are complementary. In very general terms, patents protect new technical ideas and principles, while copyright protects the form of expression used. For example, a patent might protect a new sort of paper, while the printed content of a newspaper would be protected by copyright. In computer terms, the actual code (whether machine-readable or in a form which is intelligible to human readers) would be subject to copyright protection, while underlying technological ideas may be eligible for patent protection.

On the other hand, a computer program will be accorded copyright protection where the form of expression is original in the sense of being the author's own intellectual creation. Third parties would not be able to produce substantially the same content material as the original author has produced, even if they used different technical principles to do so. But the third party will be able to use, copy, adapt, or rework such a program paying the corresponding royalty.

Accordingly, the same program may be protected by both patent and by copyright law. That protection may be cumulative only in the sense that an act involving exploitation of a particular program may infringe both the copyrights in the code and a patent whose claims cover the underlying ideas and principles of the invention using the program.

Current Computer software protection in Europe

Computer software has been traditionally protected in the European countries through copyright. In fact European law forbids explicitly patents on computer software. The European Patent Convention (EPC) says that patents should not be granted for computer programs as such. However computers are themselves machines like other technological devices. Over the years, national courts have decided that there is no reason why a patent should not be granted for a machine programmed to carry out some technical function, or a technical process carried out using a computer or similar machine. But in common with all other inventions, it still needs to be new and not obvious.

It is important to notice that the EPC affects to its 26 member states and 5 so-called extending states.

The European Patent Office (EPO), being a result of the EPC, is not an European Union institution, and therefore not bound by a EU directive. However, being all EU countries (and also EU candidates) members of the EPC, a directive on software patents would, of course, affect largely to the actuation and practices of the EPO.

While in general Copyright gives the holder, among other rights, the right to perceive a royalty for the copy or use of his work, but not the right to prevent its use or copy if he received the royalty payment, Patent law gives the holder of a patent for a computer-implemented invention the right to prevent third parties from using software incorporating any new technology he has invented (as defined by the patent claims).

The European Patent proposal and software innovation

Here is where lies the big problem with the initiative of the European Commission of a proposal of a directive for patents for computer-implemented inventions which necessarily will prevent the possibilities of increase of innovation by European companies and citizens in the field of Information technologies, particularly in the field of computer software.

There is an absolute lack of a global knowledge, duly organised about the techniques and technologies available and in the public domain on computer software. The state of the art is normally well known, but there is not a single database that covers all the patents already granted both by the European Patent Office and by the U.S. Patent Office and other countries equivalent in the field of computer software. Consequently the Patent Offices of the different countries and the patent applicants are before an enormous difficulty to find specifics about the prior art, even if it exists, so there is no guarantee that a patent will not be granted to program already existing. But what is worse, any computer program developer might find himself that he is breaking a patent without knowing that fact, and worse yet he might be prevented the exploitation of his own work and the progress of his own technology.

The intellectual nature of computer software and its equivalent of computer implemented inventions puts a big difficulty in accepting the use of the present day patent rights for its protection. Either the use of copyright is continued or a totally new concept of law of patents where the monopoly of exploitation is not granted should be developed.

In summary, the European Commission is proposing a new directive that, despite the claims by its supporters, will introduce software patents in Europe, in terms very similar to those in the US. This introduction is being taken without the affected parties being informed, and without promoting campaigns to show all the benefits and problems it could introduce, in a balanced way. And of course, without letting all these parties (specially including IT professionals and IT-related SMEs) give their informed opinion about the matter.

How the Patent Directive affects informatics professionals

The directive proposal about software patents is probably the single largest change in the regulation of the European software industry since its birth. The impact on the IT professionals in case it is finally approved would not be neglectible for several reasons:

- To start with, IT professionals have little to gain from it. In our professional environment, it is really rare that a single person asks for a patent. In most cases, companies ask for patents related to the developments made by their employees. From a selfish point of view, patents show no gain for most of us.
- From a more general point of view, software patents would cause a shift in influence and

importance from IT professionals to industrial property specialists. Now, when developing a new software product, engineers are one of the most influential parties. In case software patents enter the game, even before an engineer can start working on a project, a lawyer should study the field, doing patent studies and searches. Any work done should also be validated by patent specialists. IT professionals would no longer be able to decide which technology is better for a product just in terms of technical and economical factors. The opinion of lawyers (for instance, in terms of exposition to patent lawsuits) would be of great importance too.

- IT professionals are the best qualified to judge about the influence of software patents on IT innovation. Now the discussion about the convenience of software patents is mainly in the hands of lawyers (although fortunately more and more engineers are entering the field), who are deciding what we will be able to do in the next years in our everyday work. We should be at least helping to shape our future as professionals. Also, we should be explaining the society the implications of these measures in the general returns from the IT industry, its rate of development, and in general the balance between what the society needs in terms of innovation and new products, and what it loses when it gives commercial monopolies on technologies.

All in all, IT professionals will be affected in our daily work, with little to gain, and seeing at the very least several problems for us as professionals, and for the general good of society. In addition, and despite the opinion we may have about the matter, we should not let these decisions be taken without our input being taken into account.

Proposal for action

There are several possible actions to be followed, in case CEPIS wants to be an active actor in this debate in Europe. Find below some proposals:

- Discuss the issue in all national organizations. In most European countries, despite the deep impact that the current developments about software patents could have on the IT professionals, there is little concern about those issues. Informing professionals, companies and administrations at the national level, and participating in the decision making about this issue should be top priority for CEPIS national members.
- Launch a CEPIS working group on the matter, with the aim of coordinating actions and writing a report on the matter.
- Join, coordinate with or support European-level campaigns for informing decision makers of the problems that software patents would introduce in the European IT landscape.
- Decide on a declaration to be approved by CEPIS and national organizations with respect to the matter. Publish this declaration and inform about it to political instances and media. The declarations by ATI could be used as a draft.
- Lobby both at the European Commission level (specially DG-INFO and DG-Competition) and at the European Parliament level. Such a change in the legal framework of the software industry should not be taken without hearing (and taking into account) the opinions of the European IT professionals. Try to join (or help to create, in case they do not exist) working groups on this matter, both at the European and at the national levels.
- Try to inform IT-related SMEs organizations of the problems of the directive proposal. SMEs are probably the most damaged party in case the directive is approved as it is now. Try to coordinate efforts with them.

References (sites with information about software patents)

- Group on software patents of FFII. Probably the best compiled information about software patents and the process of the directive proposal on software patents. Also, information about the campaigns against software patents in Germany and at the European level (English, German, French and partially other languages): <<http://swpat.ffii.org>>
- EuroLinux Petition for a Europe free of software patents. More than 130,000 signatures against software patents in Europe (several languages): <http://petition.eurolinux.org/index_html>
- SoftwarePatenter. Information about software patents and the campaigns in Nordic countries against the directive proposal (Danish): <<http://softwarepatenter.dk/>>
- ProInnova. Information about software patents and the campaigns in Spain against software patents (Spanish): <<http://proinnova.hispalinux.es>>
- Group on software patents of Caliu. Information about software patents and the campaigns in Catalonia and at the European level (Catalonian): <<http://www.caliu.info/Caliu/Patents/>>
- Section on software patentees of the LPF. Information about software patents and the situation in the United States (English): <<http://lpf.ai.mit.edu/Patents/patents.html>>
- FreePatents. News and reports on the situation of software patents in Europe (English): <<http://www.freepatents.org/>>

References (selected information about some specific topics)

- Detailed analysis of the directive proposal on software patents. Includes the verbatim text of the directive proposal, comments on it, and a proposal for an alternative wording which would put software outside the scope of patentability (English, German, French): <<http://swpat.ffii.org/vreji/papri/eubsa-swpat0202/>>
- Petition (call for action) by FFII, related to the directive proposal and signed by several organizations and personalities (English and several other languages): <<http://swpat.ffii.org/papers/eubsa-swpat0202/demands/index.en.html>>
- "11 Questions on software patentability issues in Europe and the US", by Philippe Aigrain. A short text answering the most common questions about software patents (English): <<http://cip.umd.edu/Aigrain.htm>>
- "Software Useright: Solving Inconsistencies of Software Patents", by Jean Paul Smets. An "all in one" paper on software patents, including legal, economical, technical and business aspects (English): <<http://www.smets.com/it/policy/useright/useright.pdf>>
- "European Software Patents: Assorted Examples". A selection of software patents already granted by the European Patent Office (and probably illegal, according to the European Patent Convention), which would (probably) become legal in case the directive proposal becomes directive with the current wording (English): <<http://swpat.ffii.org/patents/samples/index.en.html>>
- "Sequential Innovation, Patents, and Imitation", by James Bessen, Eric Maskin (MIT y Harvard). One of the few detailed and deep studies on economics of software patents (and other similar patents) (English): <<http://swpat.ffii.org/papri/bessenmaskin00/index.en.html>>
- News related to software patents (English, German and other languages): <<http://swpat.ffii.org/news/index.en.html>>

Digital version available at <<http://www.ati.es/DOCS/documentos/cepis-patentes-042003-eng.html>>

5. Reference Documentation

5.1. Complete Official position on Software Patents: GI, Germany.

[PDF document of the complete GI position, in German, attached as a separate document]

5.2. The Vote of the European Parliament. Sept 24th 2003. Amended Software Patent Directive

Full version from: <http://www3.europarl.eu.int>. Full URL can be found in the references section.

An annotated version can be found at: <http://swpat.ffii.org>

Patentability of computer-implemented inventions

P5_TC1-COD(2002)0047

[A5-0238/2003](#)

Position of the European Parliament adopted at first reading on 24 September 2003 with a view to the adoption of Directive 2003/.../EC of the European Parliament and of the Council on the patentability of computer-implemented inventions

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission⁽¹⁾,

Having regard to the opinion of the *European Economic and Social Committee*⁽²⁾,

Acting in accordance with the procedure laid down in Article 251 of the Treaty⁽³⁾,

Whereas:

(1) The realisation of the internal market implies the elimination of restrictions *on free movement* and of distortions in competition, while creating an environment which is favourable to innovation and investment. In this context the protection of inventions by means of patents is an essential element for the success of the internal market. *Effective, transparent* and harmonised protection of computer-implemented inventions throughout the Member States is essential in order to maintain and encourage investment in this field.

(2) Differences exist in the protection of computer-implemented inventions offered by the administrative practices and the case law of the different Member States. Such differences could create barriers to trade and hence impede the proper functioning of the internal market.

(3) Such differences have developed and could become greater as Member States adopt new and different administrative practices, or where national case law interpreting the current legislation evolves differently.

(4) The steady increase in the distribution and use of computer programs in all fields of technology and in their world-wide distribution via the Internet is a critical factor in technological innovation. It is therefore necessary to ensure that an optimum environment exists for developers and users of computer programs in the Community.

(5) Therefore, the legal rules ***governing the patentability of computer-implemented inventions*** should be harmonised ***so as to ensure that*** the resulting legal certainty ***and the level of requirements demanded for patentability*** enable innovative enterprises to derive the maximum advantage from ***their inventive process*** and provide an incentive for investment and innovation. ***Legal certainty will also be secured by the fact that, in case of doubt as to the interpretation of this Directive, national courts may, and national courts of last instance must, seek a ruling from the Court of Justice of the European Communities.***

(6) ***The rules of the Convention on the Grant of European Patents signed in Munich on 5 October 1973, and in particular Article 52 thereof concerning the limits to patentability, should be confirmed and clarified. The consequent legal certainty should help to foster a climate conducive to investment and innovation in the field of software.***

(7) ***Under the Convention and the patent laws of the Member States, programs for computers together with discoveries, scientific theories, mathematical methods, aesthetic creations, schemes, rules and methods for performing mental acts, playing games or doing business, and presentations of information are expressly not regarded as inventions and are therefore excluded from patentability. This exception applies because such subject-matter and activities do not belong to a field of technology.***

(8) ***The aim of this Directive is not to amend the aforementioned Convention, but to prevent different interpretations of its provisions.***

(9) ***In its Resolution of 30 March 2000 on the decision by the European Patent Office with regard to patent No EP 695 351 granted on 8 December 1999⁽⁴⁾, the European Parliament once again called for a review of the Office's operating rules to ensure that it was publicly accountable in the exercise of its functions. In this connection it would be particularly desirable to reconsider the practice whereby the Office sees fit to obtain payment for the patents that it grants, as this practice harms the public nature of the institution.***

(10) Patent protection allows innovators to benefit from their creativity. Patent rights protect innovation in the interests of society as a whole, *and* should not be used in a manner which is anti-competitive.

(11) In accordance with Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs⁽⁵⁾, the expression in any form of an original computer program is protected by copyright as a literary work. However, ideas and principles which underlie any element of a computer program are not protected by copyright.

(12) In order for any invention to be considered as patentable it should have a technical character, and thus belong to a field of technology.

(13) ***In order to be patentable, inventions in general and computer-implemented inventions in particular must be susceptible of industrial application, new and involve an inventive step. In order to involve an inventive step, computer-implemented inventions must in addition make a new technical contribution to the state of the art, in order to distinguish them from pure software.***

(14) ***Accordingly, an innovation that does not make a technical contribution to the state of the art is not an invention within the meaning of patent law.***

(15) ***However, the mere implementation of an otherwise unpatentable method on an apparatus such as a computer is not in itself sufficient to warrant a finding that a technical contribution is present.***

Accordingly, a computer-implemented business method, data processing method or other method in which the only contribution to the state of the art is non-technical cannot constitute a patentable invention.

(16) If the contribution to the state of the art relates solely to unpatentable matter, there can be no patentable invention irrespective of how the matter is presented in the claims. For example, the requirement of technical contribution cannot be circumvented merely by specifying technical means in the patent claims.

(17) Furthermore, an algorithm is inherently non-technical and therefore cannot constitute a technical invention. Nonetheless, a method involving the use of an algorithm might be patentable provided that the method is used to solve a technical problem. However, any patent granted for such a method should not monopolise the algorithm itself or its use in contexts not foreseen in the patent.

(18) The scope of the exclusive rights conferred by any patent are defined by the claims. Computer-implemented inventions must be claimed with reference to either a product such as a programmed apparatus, or to a process carried out in such an apparatus. Accordingly, where individual elements of software are used in contexts which do not involve the realisation of any validly claimed product or process, such use will not constitute patent infringement.

(19) The legal protection of computer-implemented inventions does not necessitate the creation of a separate body of law in place of the rules of national patent law. The rules of national patent law remain the essential basis for the legal protection of computer-implemented inventions. This Directive simply clarifies the current legal position with a view to securing legal certainty, transparency, and clarity of the law and avoiding any drift towards the patentability of unpatentable methods such as trivial procedures and business methods.

(20) This Directive should be limited to laying down certain principles as they apply to the patentability of such inventions, such principles being intended in particular to ensure that inventions which belong to a field of technology and make a technical contribution are susceptible of protection, and conversely to ensure that those inventions which do not make a technical contribution are not so susceptible.

(21) The competitive position of European industry in relation to its major trading partners will be improved if the current differences in the legal protection of computer-implemented inventions are eliminated and the legal situation is transparent. With the current trend for traditional manufacturing industry to shift their operations to low-cost economies outside the European Union, the importance of intellectual property protection and in particular patent protection is self-evident.

(22) This Directive should be without prejudice to the application of the competition rules, in particular Articles 81 and 82 of the Treaty.

(23) The rights conferred by patents granted for inventions within the scope of this Directive should not affect acts permitted under Articles 5 and 6 of Directive 91/250/EEC, in particular under the provisions thereof in respect of decompilation and interoperability. In particular, acts which, under Articles 5 and 6 of that Directive, do not require authorisation of the rightholder with respect to the rightholder's copyrights in or pertaining to a computer program, and which, but for those Articles, would require such authorisation, should not require authorisation of the rightholder with respect to the rightholder's patent rights in or pertaining to the computer program.

(24) At all events, the legislation of the Member States must ensure that patents contain innovations

and involve an inventive step, so as to prevent inventions already in the public domain from being appropriated simply by being incorporated into a computer program.

(25) Since the objectives of the proposed action, namely to harmonise national rules on computer-implemented inventions, cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the action, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary to achieve those *objectives*,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Scope

This Directive lays down rules for the patentability of computer-implemented inventions.

Article 2

Definitions

For the purposes of this Directive the following definitions shall apply:

- a) 'computer-implemented invention' means any invention ***within the meaning of the European Patent Convention*** the performance of which involves the use of a computer, computer network or other programmable apparatus and having ***in its implementations*** one or more ***non-technical*** features which are realised wholly or partly ***by a*** computer program or computer programs, ***besides the technical features that any invention must contribute;***
- b) 'technical contribution', ***also called 'invention'***, means a contribution to the state of the art in ***a field of technology. The technical character of the contribution is one of the four requirements for patentability. Additionally, to deserve a patent, the technical contribution has to be new, non-obvious, and susceptible of industrial application. The use of natural forces to control physical effects beyond the digital representation of information belongs to a field of technology. The processing, handling, and presentation of information do not belong to a field of technology, even where technical devices are employed for such purposes;***
- c) '***field of technology***' means ***an industrial application domain requiring the use of controllable forces of nature to achieve predictable results. 'Technical' means 'belonging to a field of technology';***
- d) '***industry***' ***within the meaning of patent law means the automated production of material goods.***

Article 3

Data-processing and patent law

Member States shall ensure that data processing is not considered to be a field of technology within the meaning of patent law, and that innovations in the field of data processing are not considered to be inventions within the meaning of patent law.

Article 4

Conditions for patentability

In order to be patentable, a computer-implemented invention must be susceptible of industrial application, new and involve an inventive step. In order to involve an inventive step, a computer-implemented invention must make a technical contribution.

Member States shall ensure ***that a computer-implemented invention making a technical contribution constitutes a necessary condition of involving an inventive step.***

The significant extent of the technical contribution shall be assessed by consideration of the difference between all of the technical features included in the scope of the patent claim considered as a whole and the state of the art, irrespective of whether or not such features are accompanied by non-technical features.

In determining whether a given computer-implemented invention makes a technical contribution, the following test shall be used: whether it constitutes a new teaching on cause-effect relations in the use of controllable forces of nature and has an industrial application in the strict sense of the expression, in terms of both method and result.

Article 5

Exclusions from patentability

A computer-implemented invention shall not be regarded as making a technical contribution merely because it involves the use of a computer, network or other programmable apparatus. Accordingly, inventions involving computer programs which implement business, mathematical or other methods and do not produce any technical effects beyond the normal physical interactions between a program and the computer, network or other programmable apparatus in which it is run shall not be patentable.

Article 6

Member States shall ensure that computer-implemented solutions to technical problems are not considered to be patentable inventions merely because they improve efficiency in the use of resources within the data processing system.

Article 7

Form of claims

Member States shall ensure that a computer-implemented invention may be claimed ***only*** as a product, that is as a programmed ***device***, or as a ***technical production process***.

Member States shall ensure that patent claims granted in respect of computer-implemented inventions include only the technical contribution which justifies the patent claim. A patent claim to a computer program, either on its own or on a carrier, shall not be allowed.

Member States shall ensure that the production, handling, processing, distribution and publication of information, in whatever form, can never constitute direct or indirect infringement of a patent, even when a technical apparatus is used for that purpose.

Member States shall ensure that the use of a computer program for purposes that do not belong to the scope of the patent cannot constitute a direct or indirect patent infringement.

Member States shall ensure that whenever a patent claim names features that imply the use of a

computer program, a well-functioning and well documented reference implementation of such a program shall be published as a part of description without any restricting licensing terms.

Article 8

Relationship with Directive 91/250/EEC

The rights conferred by patents granted for inventions within the scope of this Directive shall not affect acts permitted under Articles 5 and 6 of Directive 91/250/EEC, in particular under the provisions thereof in respect of decompilation and interoperability.

Article 9

Use of patented techniques

Member States shall ensure that, wherever the use of a patented technique is needed for a significant purpose, such as ensuring conversion of the conventions used in two different computer systems or networks so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.

Article 10

Monitoring

The Commission shall monitor the impact of computer-implemented inventions on innovation and competition, both within Europe and internationally, and on European businesses, **especially small and medium-sized enterprises and the open source community, and** electronic commerce.

Article 11

Report on the effects of the Directive

The Commission shall report to the European Parliament and the Council, *not later than ...* ⁽⁶⁾, on

- a) the impact of patents for computer-implemented inventions on the factors referred to in *Article 10*;
- b) whether the rules governing **the term of the patent and** the determination of the patentability requirements, and more specifically novelty, inventive step and the proper scope of claims, are **adequate**;
- c) whether difficulties have been experienced in respect of Member States where the requirements of novelty and inventive step are not examined prior to issuance of a patent, and if so, whether any steps are desirable to address such difficulties;
- d) **whether difficulties have been experienced in respect of the relationship between the protection by patent of computer-implemented inventions and the protection by copyright of computer programs as provided for in Directive 91/250/EEC, and whether any abuse of the patent system has occurred in relation to computer-implemented inventions;**
- e) **whether it would be desirable and legally possible having regard to the Community's international obligations to introduce a 'grace period' in respect of elements of a patent application for any type of invention disclosed prior to the date of the application;**

- f) *the aspects in respect of which it may be necessary to prepare for a diplomatic conference to revise the Convention on the Grant of European Patents, also in the light of the advent of the Community patent;*
- g) *how the requirements of this Directive have been taken into account in the practice of the European Patent Office and in its examination guidelines;*
- h) *whether the powers delegated to the Office are compatible with the need to harmonise Community legislation, and with the principles of transparency and accountability;*
- i) *the impact on the conversion of the conventions used in two different computer systems to allow communication and exchange of data; and*
- j) *whether the option outlined in the Directive concerning the use of a patented invention for the sole purpose of ensuring interoperability between two systems is adequate.*

In this report the Commission shall justify why it believes an amendment of the Directive necessary or not and, if required, will list the points to which it intends to propose an amendment.

Article 12

Impact assessment

In the light of the monitoring carried out pursuant to Article 10 and the report to be drawn up pursuant to Article 11, the Commission shall assess the impact of this Directive and, where necessary, submit proposals for amending legislation to the European Parliament and the Council.

Article 13

Implementation

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than ...⁽⁷⁾. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive.

Article 14

Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the Official Journal of the European *Union*.

Article 15

Addressees

This Directive is addressed to the Member States.

Done at ,

For the European Parliament

For the Council

The President

The President

(1) OJ C 151 E, 25.6.2002, p. 129.

(2) OJ C 61, 14.3.2003, p. 154.

(3) Position of the European Parliament of 24 September 2003.

(4) **OJ C 378, 29.12.2000, p. 95.**

(5) OJ L 122, 17.5.1991, p. 42. Directive amended by Directive 93/98/EEC (OJ L 290, 24.11.1993, p. 9).

(6)* 54 months after the entry into force of the Directive.

(7)* ***Eighteen months after the entry into force of the Directive.***

5.3. The political agreement reached in EU Council, May 18th 2004

COUNCIL OF THE EUROPEAN UNION

9081/04 (Presse 140) PROVISIONAL VERSION

2583rd Council Meeting

Competitiveness (Internal Market, Industry and Research)

Brussels, 17 and 18 May 2004 President Ms Mary HARNEY An Tánaiste (Deputy Prime Minister) and Minister for Enterprise, Trade and Employment of Ireland

PATENTABILITY OF COMPUTER-IMPLEMENTED INVENTIONS - Public deliberation

The Council reached political agreement by a qualified majority with the Austrian, Italian and Belgian delegations abstaining and Spain voting against, on a common position concerning the proposal for a Directive on the patentability of computer-implemented inventions. Once the text has been formally adopted by the Council, it will be submitted to the European Parliament for second reading. The agreed text contains provisions, in accordance with the practice developed within the European Patent Organisation, for patentability of computer-implemented inventions stipulating, inter alia, that a computer program as such cannot constitute a patentable invention. For a computer-implemented invention to be patentable it must be susceptible of industrial application and involve an inventive step.

9081/04 (Presse 140)

6. References and acknowledgments

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