



FICPI position paper
to
the European Commission's Consultation Paper
on
The Patentability of Computer-implemented Inventions

FICPI, the International Federation of Intellectual Property Attorneys, broadly representative of the profession in private practice in more than 70 countries, including national Patent Attorneys, European Patent Attorneys, Representatives before OHIM, Patent Agents and Trademark Agents in all Community countries, through the European Union Members Commission of FICPI (EUCOF), **comments on the Consultation paper of the European Commission as follows :**

With the prevailing uncertainty in Europe with respect to removal of the still existing exclusion in the European Patent Convention as well as national patent laws harmonized with the convention of "programs for computers" as such from patent protection the International Federation of Industrial Property Attorneys (FICPI) highly welcomes the initiative taken by the Directorate General for the Internal Market for a consultation process addressed to all interested circles and the public at large.

The subject of patenting of computer-implemented inventions, in particular in the business, financial and E-commerce sectors, was intensively discussed at the world congress of FICPI in Vancouver in June 2000 resulting in the adoption of a resolution considering



- the significant differences between the approach taken within the existing framework of the US patent system and the maintenance of the exclusion of business methods from patenting in European patent law and the risk of distortion of global trade that may be caused by such differences,
- the development of patenting practice in Europe and Japan leading to grant of patents on computer or software operated business methods, and
- the US approach including the business method patent initiative action plan published by the US Patent and Trade Mark Office,

and resolving that there is an urgent need to harmonize conditions for patent protection in this field.

In line with this position FICPI continues to take the firm view that patent protection should be available to all inventions in all fields of technology.

FICPI has therefore fully supported the proposals for bringing the wording of Article 52 (1) EPC into line with Article 27 (1) of TRIPS and for deletion of the whole list of exclusions in Article 52 (2). In this context FICPI has expressed its regret that when presented to the Diplomatic Conference for Revision of the European Patent Convention the latter proposal had been limited to a "minimum solution" for deletion of only "programs for computers" as such, while maintaining the other exclusions in the list.

With recent developments indicating that it might be difficult to find a consensus or sufficient majority even for this minimum solution, which in our view is needed to bring the convention into compliance with TRIPS, FICPI has taken note of the outcome of the diplomatic conference showing that, in opposition to removal of the computer program



exclusion, a majority of member delegations preferred to wait for the result of the consultation now initiated by the Commission and move the discussion of Article 52 (2) to the second basket of the conference instead of adopting a negative decision, which could have an impact on the current practice in the EPO with respect to acceptance of applications on computer-implemented inventions and thereby affect the validity and enforceability of patents already granted in this field.

FICPI can fully subscribe to the views expressed in the announcement of the Commission of the consultation paper on the patentability of computer-implemented inventions and the accompanying report by Robert Hart, Peter Holmes and John Reid on the study contract on the economic impact of patentability of computer programs that the current legal situation is unsatisfactory by lack of clarity and legal certainty caused by the fact that, despite the exclusion of computer programs "as such" from patentability, thousands of patents have been granted by national patent offices and by the European Patent Office for technical inventions using a computer program and that this situation has adversely affected investment and innovation in the software sector and has also had a negative impact on the functioning of the inner market.

Whereas FICPI is well aware of the concerns voiced in particular by the "open source community" in Europe supported to a certain extent by economists specialising in IP rights we share the conclusions of the study contract report that

- there is no evidence that European independent software developers have been unduly affected by the patent position of larger companies or indeed of other software developers;



- European independent software developers are making disproportionately little use of the patenting possibilities open to them compared with the use made by larger companies and by US SME's and even independent software developers;
- there is increasing although still relatively low use by European independent software developers of patents in raising finance or in licensing, i.e. in getting an invention through to being an innovation of benefit e.g. to customers.

In the announcement of 19th October 2000, the European Commission invites comments in particular on the following items :

1. innovation and competition, both within Europe and internationally,
2. European businesses, including small and medium-sized enterprises,
3. electronic commerce, and
4. the creation and dissemination of free/open source software.

The positions and arguments of FICPI on these topics are as follows :

1. Innovation and competition, both within Europe and internationally

As a starting point of the discussion it is today generally accepted that the patent system in general promotes technological innovation.

"To summarize, the economic rationale for the patent system is that on account of the appropriable nature of inventions it is necessary to grant patents so as to provide an incentive to invent and publish (Hart, Holmes and Reid, page 29, fifth paragraph)."



The study of Hart, Holmes and Reid tries to evaluate whether the special nature of software-implemented inventions requires deviations from this generally accepted fact. The conclusion to which the authors of the study arrive is somewhat undecided on the topic :

"The core conclusion is that while patent protection of CPRIs (Computer Program Related Inventions) has broadly similar potential effects to that in other industries, these effects are both positive and negative and the balance between them may be distinctive. In particular the sequential incremental character of software patents and the importance of network effects are crucial; they require attention to the possibility of blocking patents and dominance via de facto standardization. This can be addressed in principle either by a patent regime tailored to the needs of this field, or by careful application of competition law." (Hart, Holmes and Reid, page 38, penultimate paragraph)

The sequential incremental character of software inventions and the network effects will be discussed in the following.

Sequential incremental character of software inventions :

The frequent new releases of popular computer programs (in many cases to fix bugs) gives many software users the impression that innovation in the software field is of sequential and incremental character. This is generally not true. Incremental improvements are present in all fields of technology (cars, electronics, engineering etc.) but may be less aggressively promoted than in the software industry. Smaller updates, amendments and bug fixes in the most cases lack the necessary inventive step anyway and are therefore not patentable.



Software innovation, however, is in no way restricted to popular operating systems and desktop programs. Computer programs have been developed for an enormous range of applications including embedded software which is not visible to the user and software for niche markets mainly developed by smaller companies. Every time a completely new software application is invented, this does not consist of incremental innovation but a completely new field of technology. In the past a large number of new software application fields have been invented including spreadsheet programs, web browsers, encryption software, database software, data compression software, speech recognition software, enterprise resource planning programs, e-commerce software, document processing software, medical imaging software, engine control software, etc. etc. The assumption that software innovation mainly consists of a sequential and incremental further development of some sort of master program is clearly wrong. Any conclusions drawn from this assumption therefore must also be wrong.

Network effects :

The report of Hart, Holmes and Reid discusses the economic problems caused by network effects, i.e. that the value of a product increases with the number of products taking part in a network as for example a telephone. This network effect can lead to the lock-in effect creating a de facto monopoly as for example for office application software. Since the Microsoft Office Suite is very popular and widespread, most computer users are familiar with this software. The costs of switching to competing application software are high, in particular for training the people. This leads to the creation of a de facto monopoly. The fear is that one company or a restricted number of companies can achieve through patented



standards a legal monopoly similar to the de facto monopoly. Examples of monopolies obtained through patent law in information technology, however, are non-existent. The monopolies or near monopolies discussed in the public are all examples of de facto monopolies not related to patent rights, like the Microsoft monopoly in PC operating systems, office application software, and browser software, and the Intel near monopoly for PC microprocessors.

Experience in the consumer electronics and telecommunication industry shows that it is rather unlikely that one company can obtain all patents necessary for establishing a new standard. A standard only becomes a standard if it is widespread, i.e. if the technology is licensed under reasonable conditions to a sufficiently large number of cooperation partners. The VHS standard for home video, the CD standard for audio recording, the DVD standard for video recording, the GSM standard for mobile communication and many others are based on intellectual property rights including patents. None of these patent-based standards have led to a monopoly but rather to fierce competition based on a common platform. Patent pooling has been working well in the telecommunication industry for a long time (see Keersey, MacNaughton, *Managing Intellectual property*, September 1999, 16) without competition-threatening effects. It is hard to understand why the study does not mention the telecommunication industry one single time with respect to network effects, monopolies and patent pooling. The fields of telecommunication and consumer electronics show that standards and network effects are not particular to software and that the existing patent system has shown to deal with these problems without creating unwanted monopolies.

The concerns expressed in the study about the effectiveness of the patent system to provide benefits for the society as a whole are neither specific software-related nor new. They have been dealt with in other fields of technology with satisfactory and beneficial results for the economy and the consumer.



2. Consequences for European businesses, including SMEs

In the summary of the study of Hart, Holmes and Reid the effect of patent rights for small and medium-sized companies is discussed.

"Possession of intellectual property rights helps any small company or individual independent software developer to raise finance to develop and market such innovations, and/or to license competitors and/or to sell or license his or her innovation to a major player. Possession of relevant intellectual property rights empowers the SME or individual. A patent is much more powerful in this respect than copyright." (Hart, Holmes and Reid, page 2, last paragraph)

Regarding the situation in the United States the study mentions :

"On the one hand there is abounding evidence that the profitability and growth of independent and SME software developers in the States has often been to a significant extent dependent on possession of patent rights."

The positive effect of patent protection on a development and growth of the US economy in the last 20 years and of SMEs in particular is also supported by other studies like for example a Japanese study carried out by Joshitake Kihara, IIP Bulletin 2000, page 174 to 183. Strong IP rights including patent protection are important for SMEs and start-up companies as means to raise capital for financing their development activities. Larger corporations with big R&D budgets need not to rely on external capital for funding their development activities.

Moreover, patent protection is important for SMEs to improve their bargaining position with respect to large company customers. For this reason the car parks industry, for example, is one of the most active in terms of patent applications in Germany.



A situation in which patent protection for software-implemented inventions is much more difficult to obtain in Europe than in the United States or Japan means a huge competitive disadvantage for European businesses, in particular smaller enterprises. European companies not being aware of the necessity to protect their innovations by patents have a competitive disadvantage with respect to American and Japanese competitors when the European company wishes to enter these markets.

The Internet makes the market for telecommunication, software and related products and services a global market. Local solution on intellectual property matters are therefore not adequate and the consequences harmful for European businesses.

3. Consequences for e-commerce

In the discussion about the impact of patents for software-implemented inventions on the development of the electronic commerce and electronic business the remarks made by Jeff Bezos, CEO of Amazon.com may not be given too much weight. The enforcement of Amazon's one-click patent against a competitor has provoked negative publicity threatening sales and discomfoting analysts. So Jeff Bezos had to take measures to limit the damage done, even by promising US\$ 10,000 for anyone who finds prior art against his one-click patent (www.bountyquest.com). The observations made by Jeff Bezos are therefore more intended to keep analysts happy than to propose a patent system better suitable for electronic commerce.



Problems with patents in the field of electronic commerce are mainly related to incomplete prior art search facilitating grant of unjustified or too broad patents. This is typical for new technologies but the problem will solve itself when more published prior art is available. In the biotech art this problem occurred about 10-12 years ago. Today patent offices like the EPO say that biotech inventions are, thanks to modern data bases, among the best searchable applications.

It can at the moment not be seen that the patent activities in the United States have substantially reduced growth of electronic commerce. Even the one-click patent (which by the way was objected by the EPO as being obvious) is not a real threat for competitors. Clicking twice for placing an online order is a bearable burden for customers and therefore not a substantial limitation for competitors.

4. Creation and dissemination of open source software

The study of Hart, Holmes and Reid deals with problems of developers of open source software. The study concludes that although developers of open source software may find it advantageous to file patents to obtain bargaining positions, e.g. license money from owners of proprietary platforms. In the summary of the study, page 4, first two paragraphs, one unnamed open source developer is cited :

"I think it is important to draw the distinction that open source is invariably used to create an interoperable platform, i.e. a common body of source code that creates a foundation on top of which applications can be built. The goal of open source is to make sure that IP rights or other proprietary rights do not interfere with that platform. However, all platforms exist to support applications built 'on top' of that platform. Windows applications, LINUX applications, Pearl applications, etc. I've yet to see an open source license that required applications built on top of this platform to cede back IP rights - clearly that would destroy incentive to use that platform.



So the value of IP rights which might encompass a platform fall primarily on the value of being able to protect applications built on top of the platform. The rest of the rights necessary to create the platform are often most valuable when given away - open sourced - in order to incent growth of the platform that makes the applications valuable. It is that simple."

The Open Source Community desires to create open platforms which can be used and further developed globally and without restrictions. Innovations, however, are not the main goal of open source developers. This has been stressed by Linus Torwalds, developer of the LINUX kernel, in an interview given to the German magazine "Computerwoche" published on 13th October 2000 :

"The great change through LINUX was not the technology, but the way to do things. The sociology of software development, so to say, has changed. Certainly one cannot write many graduate theses about LINUX technology. But one can write a lot about the functioning of the networked development work. Moreover, LINUX radically changes the software business.

As Techie I concede that we do nothing differently, only better. But does the purchaser of a car want a radically different car or only one which drives better, more reliable, faster and safer? Nobody has something against innovation, but against something completely different. Technically LINUX hardly comprises something radically new. What operating systems do today has substantially been conceived in the 1960s."

In fact, more substance to the question appears to have been provided by the concern voiced during the still ongoing discussion in USA against

- patents being granted on trivial, indeed old, ideas and that considerations of such patents let alone attacking such patents is a major burden, particularly on SME and independent software developers.



In the view of FICPI such a concern reflects a classical problem that has emerged also in the past when patent protections is made available to a new field of industry, namely that insufficient availability of a solid searchable prior art base and a level of skill and experience with patent office examiners to assess inventiveness may create temporary problems during a transitional period. From experience there is solid evidence, however, that such problems can and will be overcome and it is appropriate to point in this context to the action plan initiated by the US Patent Office to cope with the problem.

Conclusion

The most important purpose of the directive must be the removal of legal uncertainty about patent protection of software-implemented inventions, which keeps off particularly small businesses from obtaining patent protection for their software-implemented inventions. This legal uncertainty can be overcome by clearly and unambiguously stating that inventions implemented as computer programs are patentable subject matter.

The concerns about economic disadvantages of patent protection of software-implemented inventions generally are not software specific and may be best taken care of by improvements of general patent law and practice, in particular improved search and examination, faster procedures, harmonized enforcement and moderate costs. Special rules how to judge inventive step in particular for those inventions does not seem appropriate in a EU Directive. Patent law must remain flexible to adapt to future technological developments and allow a further international harmonization of patent laws in the future.



Comments on the key elements of the consultation paper
by the services of the Directorate General for the Internal Market

In the following the wording of the key elements proposed by the consultation paper is reproduced in bold letters.

i The principle

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. In that context, a computer-implemented invention is considered to belong to the field of technology.

FICPI agrees with this regulation. It implements the non-discrimination requirement of Art. 27(1) TRIPS. It furthermore provides a legal certainty needed by European businesses. One could probably supplement this provision by a statement clarifying that a computer-implemented invention also includes a computer program implemented invention and that the availability of patent protection and the rights enjoyable by a patent holder shall not be restricted on the grounds that the invention may be implemented by means of a computer program.



ii The complementary nature of patent and copyright protection

Patent protection for a computer-implemented invention does not extend to the expression of a computer program based on that invention, in source code or object code or in any other form.

This provision is at least ambiguous. It could be understood such that producing, offering, processing or importing a computer program expressed in any form, for example as object code on a CD ROM cannot be prohibited by the owner of a patent for a method implemented by running this computer program on a computer. Interpreted in such a way a patent on a software-implemented invention would be of no value at all. FICPI therefore proposes an alternative formulation :

"The rights of the patentee of a patented invention do not extend to acts of producing, offering, amending, possessing or importing the expression of a computer program as source code or the compilation or execution on a computer of the program solely for the purpose of further development and test of the program."

iii The requirement of a non-obvious contribution

A computer-implemented invention, to involve an inventive step, must make a technical contribution to the state of the art which, having regard to the state of the art, is not obvious to a person skilled in the art.



iv The "technical considerations" criterion

A technical contribution may be implied, for instance, by the need for technical considerations to arrive at the computer-implemented invention as claimed. The claimed invention must relate to the features resulting from those technical considerations.

*v The assessment of technical and non-technical features
- consequences for business methods*

In determining a technical contribution, the invention must be assessed as a whole. It may consist of a mix of technical and non-technical features but in determining the technical contribution only the technical features are taken into account. Where the contribution lies merely in non-technical features, the invention will not be considered as involving an inventive step.

These provisions iii to v reflect the current case law of the European Patent Office. In view of FICPI it is not advisable to include such detailed provisions reflecting the case law at a certain moment in time into an EU Directive which should be applicable for a longer period of time. The above provisions iii to v leave only very few room for future development of the case law. The provisions are therefore too inflexible.

Like the exclusion list of Art. 52 EPC these provisions prevent the adaption of the patent law to technological development and progress.

FICPI therefore proposes to combine provisions iii and iv into one provision and to cancel provision v and to leave the details of judging inventive step to the EPO.



vi The possible claims

A computer-implemented invention may be claimed as a product, namely as the programmed computer, or as a process, namely as the process carried out by the programmed computer.

The EPO Board of Appeal decisions "Computer Program Product I & II" have only been cited as footnotes. The possibility of claiming a computer program by itself or as a record on a carrier is not reflected in the above provision vi. These types of claims, in addition to, if appropriate, data structure claims and carrier signal claims, may be necessary to achieve an adequate protection, in particular against infringement by download from an extraterritorial server through the Internet. The programmed computer claim is in many cases useless. FICPI therefore proposes the following alternative wording :

"A computer-implemented invention may be claimed as a product, as for example the programmed computer, a data structure, or the computer program by itself or recorded on a data carrier, or as a process, for example the process carried out by a programmed computer or computer network."

In conclusion, FICPI recognises the considerable commitment of the Commission in the present context, and hopes that the foregoing comments, which show aspects which are of concern from the practitioner's point of view, are worthy of further considerations. FICPI remains fully at disposal for any further discussions.



FICPI herewith confirms and agrees to the publication of this position paper on the Commission's respective website as it is.

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*(ELECTRONIC SUBMISSION;
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