

Software Patents
How to achieve the aims of the
“Common Position”
Options and Compromise Potential

FFII proposals to EPP

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1. Why do we want to exclude patents on software and business methods?

Most of us will agree that creative people, including programmers and designers of business methods, should be able to reap rewards from their activity and that intellectual property law should be used where it is helpful for that aim.

It should be remembered that patents are a rather special kind of “intellectual property”. A patent is a monopoly on a new concept. The range of monopolised actions can be very broad. It can become quite difficult to reconcile this kind of monopoly with the freedom of action and freedom of competition, which are at the heart of modern democracy and market economy.

Thus when allowing patentability of any kind of subject matter, special care must be taken.

The tradition of the patent system has been that it is limited to the field of applied natural science. The solution must not just be new, it must also be concrete and physical. This has helped to limit the scope of patent claims.

The European Patent Convention of 1973 excludes software, mathematics and business methods from patentability. In the Examination Guidelines of 1978, it is said that the excluded subject matter is of “abstract” nature. Indeed data processing is a field in which ingenuity lies in abstraction. If there is anything “technical” (i.e. concrete and physical, related to forces of nature) in data processing, then it is at best some trivial, already well-known aspect, such as e.g. the fact that it uses a computer.

The European Patent Office has tinkered with granting software patents since 1986 (Vicom decision) and gradually enlarged the scope of patent granting through subsequent decisions, especially those of 1998, which brought program claims, and those of 2000 and later, which essentially removed the test of patentable subject matter and transferred its remnants into the non-obviousness (inventive step) test.

The result of this practise has been the granting of more than 30000 incredibly broad and trivial patents. Experience has proven once more what was already known: opening the patent system toward abstract subject matter leads to undesirable results. Innovation in this sphere should be rewarded by narrower property rights, such as copyright, and by the informal mechanisms that are already functioning well in the software industry. Usually it is possible for software creators to reap benefits from their work. Imitation is not easy at all. It is not prohibited, but it is very costly under the existing regime of copyright and source code secret.

Today, after nearly 10 years of public discussion of the directive project, there seems to be a large consensus that patents in the “pure software” sector (e.g. the one where Microsoft and SAP are active) and on business methods are undesirable.

2. What's wrong with the "Common Position" ?

The "Common Position" of May 2004 is often presented as a way to prevent patents on "software as such" and business methods.

We agree with this stated aim of the "Common Position", but it is clear to us that the content is radically different from the packaging. With Microsoft and SAP lobbying for the "Common Position", this should not really need much further explanation, but since Mr. Lehne, in his closing speech at the meeting of 2nd of June, cited some reassuring statements about "software as such" from the "Common Position" and challenged people to explain to him why these are not good enough for excluding pure software, let us try to go into a bit more detail on this point.

The directive project started in 1997 with the Commission's "Greenpaper", which explicitly stated harmonisation of European practise with that of the USA as its aim. The European Patent Office has since then adopted basically the same reasoning for software patentability as the USA. The Trilateral Project (a joint initiative of the US, Japanese and European patent offices) of 2000 makes this very clear in its reports, and it introduced the term "computer-implemented invention" in order to justify the patenting of "computer-implemented business methods", as it is practised today by the European Patent Office and sanctioned by the "Common Position".

The "Common Position" contains some reassuring statements like

Art 4.1

A computer program as such can not constitute a patentable invention.

which seem to go against this intention. However the above statement, in combination with the subsequent clause, is really equivalent to saying:

The thoughts as such are free. We just imprison the thinkers.

This kind of statement serves no discernible regulatory purpose, it seems to be little more than an attempt to fool the legislator.

At the hearing of the Polish Information Ministry of Nov 2004 all speakers, including those from Microsoft and the patent lawyer association, agreed that "computer-implemented inventions" are really just software solutions in the context of patent claims. Even the European Patent Office acknowledges this in its Examination Guidelines of 2001, where it explains Art 52 EPC as follows:

Programs for computers are a form of “computer-implemented invention”, an expression intended to cover claims which involve computers, computer networks or other conventional programmable apparatus whereby prima facie the novel features of the claimed invention are realised by means of a program or programs. Such claims may e.g. take the form of a method of operating said conventional apparatus, the apparatus set up to execute the method, or, following T 1173/97, the program itself.

The Commission and Council have in fact used very similar language in their proposed definition for “computer-implemented invention”, except that they pretend that a “program for computers” is something radically different from a “computer-implemented invention”.

Art 5.2 is typical of the style in which the “Common Position” is written:

A claim to a program on its own or on a carrier shall not be allowed unless [long and complicated requirement which, upon closer scrutiny, turns out to be always met].

Such attempts at fooling the legislator are in themselves a scandal. And the way in which this position was pushed through the Council against the will of national parliaments, against the renegotiation requests of three countries and against the Council’s own procedural rules, was another scandal, not to mention the flat rejection of the Parliament’s restart request of February by the Commission and the unreasoned bulldozer-type lobbying by big industry groups posing as SMEs. We are dealing here with an attempt to impose the EPO’s regime on Europe with all means, exploiting the weaknesses of the European Union’s democracy deficits to the fullest, so as to avoid a fair discussions of the interests at stake.

It is clear that if we want to create opportunities for the stated aims of the “Common Position” to be achieved, we need to strongly amend the “Common Position”.

The final result should be a clear set of rules that excludes data processing patents while allowing patents on inventions in the automotive or applied medical field, household appliances etc, regardless of whether data processing means are used in their implementation.

These rules should be as simple as possible, and they should make good sense of Art 52 EPC and Art 27 TRIPs.

The rules do not need to regulate every detail of patent law. Some parts will inevitably left to the judiciary. But terms such as “technology”, which are used by TRIPs, need to be concretised, if any “harmonisation and clarification” is to be achieved.

Below we explain some basic steps that are needed to achieve these aims.

Failure of the Parliament to vote for a set of amendments roughly in line with the principles outlined below will mean that a dark age of US-style software patent enforcement will begin in Europe in July 2005.

3. The basic choice: Natural Science vs Exact Science

In the general discussion there are two ways of defining “technology”.

- applied exact science
- applied natural science

These two can be further explained, but there does not seem to be any third option. Either you count applied mathematics as a “field of technology” or you do not. If you have found a new way to optimise the calculation for the shortest possible route of the travelling salesman, is that a technical invention? It is an innovation in an exact science, for sure. EICTA has been proposing “exact science” in their comments on the JURI amendments. An interesting article written by an influential EPO judge on the issue can be found at <http://swpat.ffii.org/papers/jwip-schar98/>. The author opts for exact science and correctly infers from his choice that “all practical solutions are technical inventions”.

If we agree that technology is to be “applied natural science”, then questions of whether to use the wording of “controllable forces of nature” or whether to explicitly state that data processing is not one of the natural sciences and how exactly to state that are a matter of detail on which compromises will be found sooner or later. If not within the Parliament’s 2nd reading then in the Conciliation negotiations with the Council.

The German caselaw (including “Kommunikationslösung” and other cases of 2004) uses the “controllable forces of nature” definitions of “technology” and the presiding judge of the highest court, Dr. Klaus-Jürgen Melullis, has recently once more stressed that without this definition the courts have no reliable way to exclude patents on abstract concepts and business methods these days. At the same time, Melullis stressed that the definition alone does not exclude much. It is just a basis. On this basis, almost any patent can be granted. To really exclude software and business methods, additional elements need to come in, namely the concept of “invention” or “contribution”.

4. Patenting computer tomography inventions under the “Ten Clarifications”

If we can reach consensus on our intentions, then we will also be able to resolve most of the other issues. The legal principles needed to exclude software and business methods from patentability are quite clear. The FFII has attempted to summarise them¹.

These principles are basically the same as those used in the famous anti-lock-braking system (ABS) decision of the German Federal Court of Justice (BGH) in 1980, where they were used to justify the granting of a patent on a computer-aided anti-lock-braking system, and they are approximately the same which the BGH and the Polish patent authorities use today.

Let me shortly just explain here how an anti-lock-braking system or a computer tomography solution is granted a patent under these rules.

Automotive braking and computer tomography are fields of technology.

A patent claim such as

Claim 1 process running on a computer tomography apparatus, characterised by that

- the human liver is scanned for pattern X,
- this pattern is analysed according to rule Y,
- the result is output to a display device.

is prima facie a claim to an object which lies in the field of tomography, not in the field of data processing. This becomes clear from the proposed definitions of “computer program” and “data processing”.

However it is not enough to find that the process as a whole is in the field of tomography. It must also be examined whether there is a “contribution” in the field of computer tomography, i.e. whether the new knowledge which is embodied in this solution is knowledge in the medical/biological field or just data processing knowledge. The question to be asked would be: did the alleged “inventor” find out anything new about how the liver works? Was the “inventor” a specialist in biology/medicine? Or was he a programmer who merely used medical schoolbook knowledge as a basis for writing a more effective program with better memory management, so that processing speed would increase?

¹see A “Ten Core Clarifications” page 9

In some cases this question might not be easy to answer. There is moreover some room for judges to find appropriate rules.

Assuming the above claim was found to embody a technical invention, the next question might be about a program claim, such as

claim 20 computer program on a carrier which, when loaded into memory and executed on a computer, puts the process according to claim 1 into effect.

This kind of claim would be rejected under the Ten Core Clarifications. Moreover, the freedom to distribute programs which execute the patented process would be guaranteed in the same way as the freedom to publish instruction manuals for the operation of the computer tomography machine. However, in order to execute the process which is described in the manual or on the diskette, the operator of the computer tomography machine would have to obtain a license from the patentee. Therefore, in practise, the software vendor would want to inform his customers about the need to obtain a license, and might even be induced to cooperate with the patentee in selling the license to the customer.

This choice is justified both for economic reasons (competition) and for reasons of clarity of the law.

economic reasons : The software market is an independent downstream market. Similar to the case of vehicle spare parts, there is no good reason for giving hardware makers too much control over this independent market. The software producers, like the manual publishers, are best served with the existing intellectual property regime for software.

legal reasons : when the innovation embodied in a computer program is in a field such as biology/medicine (outside data processing), then the invention does not lie in the programming work. Only what was invented should be claimed. Breaking this principle moreover leads to a clash with other important legal values, such as freedom of publication, which serve as one of the few reliable boundaries to the patent system.

If the above is the result that we have in mind, then I am sure we can reach a compromise on the wording.

A. Ten Core Clarifications for the Software Patent Directive

The first steps are, as outlined above: definition of “technology” (7) as “applied natural science”, exclusion of program claims (4) and correction of “computer-implemented” to “computer-aided” (1).

- 1. Definition of “Computer-Aided Invention”:** A “Computer-aided invention”[, also inappropriately called “computer-implemented invention”.] is an invention in the sense of patent law the performance of which involves the use of a programmable apparatus.
- 2. Definition of “computer program”:** A “computer” is a materialisation of an abstract machine consisting of entities such as input/output, processor, memory, storage space and interfaces for information exchange with external systems and human users. A “data processing system” is a computer or a network of computers. A “computer program” is a solution of a problem by calculation with component entities of a data processing system. A computer program may take various forms, e.g. a computing process, an algorithm, or a text recorded on a medium.
- 3. Objects of Product and Process Claims:** A computer-aided invention may be claimed as a product, that is as a programmed apparatus, or as a process carried out by such an apparatus.
- 4. Exclusion of Program Claims:** A patent claim to a computer program, either on its own or on a carrier, shall not be allowed.
- 5. Freedom of Publication:** The publication or distribution of information can never constitute a patent infringement.
- 6. Negative Definition of “Field of Technology”:** Data processing is not a field of technology.
- 7. Positive Definition of “Technical” and “Field of Technology”:** “Technology” is applied natural science. A field of technology is a discipline of applied science in which knowledge is gained by experimentation with controllable forces of nature. “Technical” means “belonging to a field of technology”.
- 8. Negative Definition of “Contribution”:** An improvement in data processing efficiency is not a technical contribution.

- 9. Positive Definition of “Contribution” and “Invention”:** An “invention” is a contribution to the state of the art in a field of technology. The contribution is the set of features by which the scope of the patent claim as a whole is presumed to differ from the prior art. The contribution must be a technical one, i.e. it must comprise technical features and belong to a field of technology. Without a technical contribution, there is no patentable subject matter and no invention. The technical contribution must fulfill the conditions for patentability. In particular, the technical contribution must be novel and not obvious to a person skilled in the art.
- 10. Freedom of Interoperation:** Wherever the use of a patented technique is necessary in order to ensure interoperability, such use is not considered to be a patent infringement.