



Patentability of software and business methods in Germany and Europe – An introduction for the practitioner

Dr. Hans Wegner, Martin Hohgardt, patent attorneys

The patentability of inventions related to software and business methods is presently the subject matter of a controversial debate in Germany and throughout Europe. Due to the complicated and often contradicting case law, it is difficult for applicants to assess the chances for obtaining patent protection for an invention in this field. Rather than arguing novelty and non-obviousness, many discussions focus on the issue of a “technical character“ or a “technical contribution” of an invention to be eligible for patent protection.

This article provides an overview of the present legal situation as well as some practical guidelines for the practitioner seeking protection for software or business method related inventions either nationally in Germany or at the EPO.

1. General Background

Initially, software in Germany was to be protected by copyright. The German copyright statute was amended in 1993 to include specific provisions for software. According to § 69a of the copyright statute, any piece of software is protected against copying, independently of the form of its presentation (program language, flow chart, program listing etc.). The only requirement is that the software is "individually created" (meaning in essence not being copied itself), regardless of any qualitative or other criteria.



However, the great deficiency of copyright protection for software is that the concepts and fundamental ideas underlying the programmed software code cannot be protected by copyright, which protects the form, not the idea. This is the reason why patents are more attractive for protecting the intellectual property embodied in the software.

The basic provisions which govern the access to patent protection are identical in the European Patent Convention (EPC) and the German Patent statute (PatG). Art. 52 EPC corresponding to § 1 PatG reads as follows:

- (1) (European) patents shall be granted for any **inventions** which are susceptible of industrial application, which are new and which involve an inventive step.*
- (2) The following in particular shall **not** be regarded as inventions within the meaning of paragraph 1:
 - (a) discoveries, scientific theories and mathematical methods;*
 - (b) aesthetic creations;*
 - (c) schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers**;*
 - (d) presentations of information.**
- (3) The provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject-matter or activities **as such**.*

(Highlighting added)

There are two points in this article, which present hurdles for patents on software and business method related inventions:



- a. In contrast to the interpretation of many of the well-known *State Street* decision¹ in the US, there always has been and most likely will also be in the future a consensus in both German and European case law, that the term “invention” of the above provision implicitly requires that the invention contains a technical aspect in order to be eligible for patent protection. Unfortunately, the term “technical” has until now never been exactly defined by the European Patent Office. The German Supreme Court has for many years used a definition according to which an invention has a technical character, if it teaches “*the controlled use of natural forces in order to obtain a predetermined result*”².
- b. The second hurdle is the explicit exception of computer programs and algorithms from patentability. The exception is, however, restricted to computer programs and algorithms “as such”. This point is somewhat similar to the question in the US, whether the claimed invention relates to a disembodied algorithm, i.e. an algorithm per se, or provides and claims a tangible, concrete and useful result.

Thus, the EPO as well as the German Patent and Trademark Office (GPTO) examine as a preliminary question during the prosecution of a patent application (and, if the argument is made by an opponent or plaintiff also during opposition or nullity proceedings against a patent), whether the two above additional requirements (technical character and not a program as such) are met.

Although the two points seem at first to be different issues, German as well as European case law has frequently made a connection between the requirement of a technical char-

¹ U.S. Court of Appeals of the Federal Circuit: *State Street Bank & Trust, Inc. vs. Signature Financial Group, Inc.* Decided: July 23, 1998.

² „Rote Taube“ (red dove) BGH GRUR 1969 S. 672; in English: IIC 01/1970, p.136



acter and the exclusion of a program as such. As can be seen below, the first objection is the only relevant one.

2. Current Situation

Although the provisions in the German and European patent law are literally identical, their interpretation has been sometimes quite different. Further, whereas the German Supreme Court is a last instance for patent proceedings in Germany, there is a multitude of different and often contradicting decisions from the Boards of Appeal of the European Patent Office. Only the Guidelines for the Examination of the EPO (see below) provide some hint as to which of the decisions of the Boards of Appeal are considered by the EPO to be the relevant ones for the future interpretation of the terms of the above cited article of the EPC for the examination of a patent application or a granted patent.

a. Germany

For a long time (starting from the first software applications in the 70's) the jurisdiction of the Federal Supreme Court and the lower instances such as the Federal Patent court followed the so-called „core theory“: In order to decide whether a claim of a software related application had the required technical character, the claim was not assessed in general. On the contrary, exclusively the novel features compared to the closest prior art were investigated for a technical character and with respect to the exclusion of a program as such. This led, for example, to the rejection of a novel software program for the control of an anti-skid system of a car, since there were no additional structural features compared to known anti-skid systems³.

This approach is no longer used by the Federal Supreme Court. In particular, three recent decisions have lead to a considerable change. For assessing the technical character

³ "Antiblockiersystem" BPatG GRUR 1979 S. 111



of an invention, all features of the claim are now to be taken into account. Further, the above definition of a technical character requiring the “controlled use of natural forces”, although still considered to be valid in general, is no longer strictly applied:

In the decision “*logic verification*”⁴, the Federal Supreme Court made the important statement that the definition of the term “technical character” is not static but may have to be adapted in the course of time. At present it is sufficient, if the invention is based on technical considerations of the person skilled in the art, even if it does not explicitly teach the use of natural forces, to obtain a certain objective. The decided case related to an improved software for the verification of a chip layout, wherein the improvement was based on the realisation that due to the specific physical properties of the transistors of the chip, the overall layout could be split into several sub-layouts to accelerate the processing of the verification algorithm.

In the decision “*speech analyzing system*”⁵, the Federal Supreme Court made the further important statement that an apparatus, in particular a computer system, has always a technical character and, therefore, cannot fall under the above exceptions of the patent law. However, Judge Scharen of the Federal Supreme Court clearly expressed at a recent conference that a claim which was actually a method claim and simply redrafted as an apparatus claim, might still be questioned as to its technical character.

However, even if the general objection of a lack of a technical character can be overcome by drafting a claim as an apparatus claim, there is still the problem of the inventive step. At present, it has not been decided yet by the Federal Supreme Court, whether a non-technical feature can contribute to an inventive step over the prior art. The present tendency clearly seems to be against such a contribution. As a result, a claim which, due to its general technical character, is not considered to fall under the above exclusion,

⁴ BGH GRUR 2000, 498; in English: IIC 2/2002, p. 231



will nevertheless not be allowed, if it distinguishes itself over the prior art only by non-technical features.

The decision “*search for faulty strings*”⁶ has substantially clarified the interpretation of the words “as such” . The result is surprisingly easy: If a computer program is considered to be of technical character, for example, the above mentioned control program for the logic verification of a chip layout, the exclusion of the program “as such” does not apply at all. This has considerable consequences. A claim for protecting a technical computer program can actually be written and granted as “computer program comprising”. Accordingly, it is not even necessary to draft a claim as a "Beauregard"-claim with explicit reference to a data carrier or to use an artificial construction like a “computer program product”. In terms of a scope of protection it is advantageous to draft a claim as a computer program, since the mere offer of a protected program for downloading via the internet (without the participation of any data carrier like a CD-ROM) will directly infringe such a claim. It remains to be seen, whether the examiners of the GPTO will, in spite of the novel jurisdiction of the BGH, not object against a computer program claim which is seemingly in clear contradiction to the above cited wording of the patent statute.

However, there is a drawback (from an innovator's standpoint) about the decision “*search for faulty strings*”: The Federal Supreme Court has stated that the influence of the different features on the general teaching provided by a claim should be evaluated for assessing its technical character. It should be investigated which features dominate the teaching provided by the claim. This sounds again a bit like the old “core theory” mentioned above. As a result, it will now be more difficult than it seemed immediately after the decision “*logic verification*” to bring a claim across the hurdle which is at first considered not to have a technical character by the additions of further technical fea-

⁵ X ZB 15/98; BGH Mitt. 2000, p. 359; in English: IIC 3/2002 p. 343



tures. The reason is that there may often be the argument that the additional features do not dominate the subject matter of the claim.

b. Europe

The present approach of the EPO with respect to software-related inventions or computer-implemented inventions, as they are called, is summarized in the recently updated Guidelines for the Examination of European patent applications:

*“Programs for computers are a form of “computer-implemented invention”, which expression is 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**.”*

(C IV. 2.3, highlighting added)

Thus, similar to the case law of the Federal Supreme Court in Germany, the exclusion of a program “as such” is no longer an issue, if the program has a technical character. The technical character depends on a “further technical effect”:

*“While “programs for computers” are included among the items listed in Art. 52(2), if the claimed subject-matter has a technical character, it is not excluded from patentability by the provisions of Art. 52(2) and (3). However, a data-processing operation controlled by a computer program can equally, in theory, be implemented by means of special circuits, and the execution of a program always involves physical effects, e.g. electrical currents. According to T 1173/97 such normal physical effects are not in themselves sufficient to lend a computer program technical character. But if a computer program is capable of bringing about, when running on a computer, a **further technical effect** going beyond these normal physical effects, it is not excluded from patentability, irrespective of whether it is claimed by itself or as a record on a carrier. This further technical effect may be known in the prior art. A further technical effect which lends technical character to*

⁶ X ZB 16/00 BGH CR 2002, 88; “Suche fehlerhafter Zeichenketten”, GRUR int. 2002/4, p. 323



a computer program may be found e.g. in the control of an industrial process or in processing data which represent physical entities or in the internal functioning of the computer itself or its interfaces under the influence of the program and could, for example, affect the efficiency or security of a process, the management of computer resources required or the rate of data transfer in a communication link.”

(C IV. 2.3, highlighting added)

As can be seen, there is no definition in the Guidelines of the term “technical character”. However, the statement that technical considerations indicate a technical character can also be found in the updated Guidelines:

*“Moreover, following T 769/92, the requirement for technical character is satisfied if **technical considerations** are required to carry out the invention. Such technical considerations must be reflected in the claimed subject-matter.*

*When considering whether a claimed computer-implemented invention is patentable, the following is to be borne in mind. In the case of a method, specifying technical means for a purely non-technical purpose and/or for processing purely non-technical information does not necessarily confer technical character on any such individual step of use or on the method as a whole. On the other hand **a computer system** suitably programmed for use in a particular field, even if that is, for example, the field of business and economy, has the character of a concrete apparatus, in the sense of a physical entity or product, and **thus is an invention within the meaning of Art. 52(1)** (see T 931/95).”*

(C IV. 2.3, highlighting added)

Thus, the EPO distinguishes similarly to the German Federal Supreme Court between apparatus claims and method claims, with an apparatus claim being per se technical. Again, in such a case the issue of the required technical character is only postponed to the examination for an inventive step.

In the words of the Guidelines this is expressed as follows:



*“In assessing whether there is an inventive step, the examiner must establish an **objective technical problem** which has been overcome. The solution of that problem constitutes the invention's technical contribution to the art. The presence of such a technical contribution establishes that the claimed subject-matter has a technical character and therefore is indeed an invention within the meaning of Art. 52(1). If no such objective technical problem is found, the claimed subject-matter does not satisfy at least the requirement for an inventive step because there can be no technical contribution to the art, and the claim is to be rejected on this ground”.*

As can be seen, a technical character of the claimed invention alone is not sufficient for patentability. In addition the invention must solve an objective technical problem for a positive assessment of the required inventive step.

3. Practical considerations

In view of the above, when drafting a patent application in this field (which approximately corresponds to class 705 applications at the USPTO) with potential of being filed in Germany or with the EPO, the following points should be observed:

- a. The technical means used for the realisation of a novel business method and / or the technical relevance of the claimed software should be clearly indicated. These aspects should be reflected in both the specification and the claims intended for prosecution in Germany or at the EPO. In this context, it has to be kept in mind that a mere automation of manual procedures of the prior art will not be sufficient as a basis for an inventive step.
- b. As many “buzz words” as possible should be added to the specification, like “digital” or “control signals” or a frequent reference to the used computer hardware or the specific interfaces of a system. When the different modules of the program are claimed or described, they should be designated as “functional units”



in order to sound more technical. In the specification, a certain task, for example of a software module, should not only be stated. Rather, a detailed description is necessary, how this task is performed.

- c. If possible, the claims should be correspondingly drafted before the application is filed at the respective patent office and not only during the prosecution, since it will be difficult to overcome any objections in this field by later claim amendments.
- d. For the broadest scope of protection, claims should be directed at all relevant categories, i.e. apparatus claims, method claims, computer program product claims and even computer program claims (see above). This task can be simplified by providing dependencies between the claims of different categories (*“apparatus for performing a method according to any of the claims 1 – 4”*). If the invention relates to a network, claims should be drafted for the server side as well as for the client side of the network, so that an infringer can be attacked, even if only one of the two sides of the network is realised.

4. Future developments

For the practitioner, the following point is very important, in particular for US-applicants:

a. “No search” policy of the EPO

From March 1, 2002, on, the EPO has stopped to perform searches for PCT-applications of US-applicants in the field of biotechnology and business methods⁷. These International applications can for US-applicants only be searched by the USPTO.

⁷ OJ 01/2002, p. 52



Further, the EPO has issued a notification⁸ informing all applicants that for PCT-applications and for EP-applications relating “to no more than a method of doing business in the absence of any apparent technical character”, **it will not carry out a search**. In the case of a PCT-application, this will lead to a corresponding declaration according to Article 17 (2)a PCT. According to the provisions of the PCT, it is impossible to appeal the decision of the EPO not to search.

With respect to EP-applications, the EPO will issue a so-called “No search”-notification. This notification is according to Rule 45 EPC considered to be a search report for the further procedure. Accordingly, applicant can file a request for examination after the receipt of such a notification and try to convince the examiner of the technical character of his invention. If this is not successful, a subsequent rejection of the application can (in contrast to the parallel situation of a PCT application) be appealed.

b. Changes in the Patent law

The European Commission has presented on February 20, 2002 a proposal for a directive on patent protection of computer-implemented inventions. The proposed Directive is necessary in order to harmonize the way in which the respective national patent law deals with inventions relating to software, since the detailed conditions for patentability may vary.

The proposed Directive should provide this certainty by making the conditions for patentability of computer-implemented invention clear and uniform. Therefore, the proposed Directive defines in Article 2 the terms ‘computer-implemented invention’ and ‘technical contribution’ and in Article 4 the ‘conditions for patentability’, following mainly the case law of the EPO.

⁸ OJ 05/2002, p. 260



BARDEHLE
PAGENBERG
DOST
ALTENBURG
GEISSLER
ISENBRUCK

The directive is now being discussed and attacked from all sides, from the Open Source community as well as from strong supporters of software patents. One reason is the definition of the new term "technical contribution". At present it is difficult to forecast how the proposed Directive will be modified, when it will be issued or whether it may not be issued at all.

© by Hans Wegner and Martin Hohgardt, 2003. Dr. Hans Wegner and Martin Hohgardt are patent attorneys with the Intellectual Property Law Firm Bardehle Pagenberg et al. in Munich, Germany. www.bardehle.com contact: wegner@bardehle.de; hohgardt@bardehle.de

This article was published in BNA International World e-commerce & IP report, February 2003