



BOEHMERT & BOEHMERT
ANWALTSSOZIETÄT

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**Patents on Computer Implemented Inventions
- the EPO approach -**

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Legal Principles in Europe

Article 52 EPC - Patentable Inventions

(1) European patents shall be granted for any inventions, *in all fields of technology* (*introduced by EPC2000*), provided that they are new, involve an inventive step and are susceptible of industrial application.

Legal Principles in Europe

Article 52 EPC - Patentable Inventions

(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 (*the latter NOT having been cancelled by EPC2000, although having been in discussion*);
- d) Presentations of information.

Legal Principles in Europe

Article 52 EPC - Patentable Inventions

(3) The provision of paragraph 2 shall exclude patentability of the subject-matter of 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.

Legal Situation Europe/Germany

- Exclusion of computer programs from patent protection, if claimed as such
 - codified law (Art. 52 (2), (3) EPC and corresponding provisions in national law)
- Patents are granted for technical inventions only
 - common opinion, not explicitly codified

Development of Case Law

- 1976 to 1998 - Case law developing
 - from core doctrine to further technical effect
- 1999 - 2001 - The pro-patent years
 - program products and computers statutory
- 2001 - 2004 - The critical years
 - return to pre-1999 standards
- 2004 – 2008 – Consolidation of Case Law
- 2009 - Back to pre-2004 standards?

Present Status of CII Protection

- Legal Criterion
 - solution of a technical problem needed
 - interaction with a device or relation to the operation of a computer
- Practitioner's Criterion
 - difficulties whenever computer performs activities normally performed by humans

EPO Case Law

Ricoh: T0172/03 (Nov. 2003):

Where the claim differs from the closest prior art only in **a mere automation** of constraints imposed by the **purely non-technical aspects**, such automation using conventional hardware and programming methods is considered to be obvious to a skilled person.

EPO Case law (Hitachi T0258/03)

1. An automatic auction method **executed in a server computer** comprising the steps of:
 - a) transmitting information on a product to be auctioned to a plurality of **client computers via a network**, each **client computer** belonging to a bidder;
 - b) receiving a plurality of auction ordering information pieces, each including a desired price and a maximum price in competitive state, for purchase of said product, from the plurality of **client computers** via the network;
 - c) **storing** the received auction ordering information pieces **in the server computer** for respective bidders;
 - d) setting an auction price;
 - e) determining whether there is any bidder who proposes a desired price equal to or higher than the auction price using the auction ordering information pieces stored in the server computer;
 - f) if there is no bidder in the step e), lowering the auction price, and repeating the step e); (...)

EPO Case law (Hitachi T0258/03)

- g) if there is more than one bidder at step e), judging whether there is more than one bidder for whom the auction price is less than or equal to the desired price such that a competitive state occurs using the auction ordering information pieces stored in the server computer;
- h) if the competitive state occurs, increasing the auction price by a predetermined value;
- i) excluding the bidder who proposes acceptable a price lower than the increased auction price and specifying the other bidder or bidders using the auction ordering information;
- j) judging whether the competitive state occurs among the bidder or bidders specified in the step i);
- k) repeating the steps h), i) and j) and determining the remaining bidder as a successful bidder when there is no competitive state at step j; and
- l) if no competitive state occurs in the step g), determining the remaining bidder as a successful bidder.

EPO Case law (Hitachi T0258/03)

Further claim categories:

3. Computerized auction apparatus..

(.....)

4. Computer program for carrying out an auction.

(.....)

EPO Case law

Hitachi: T0258/03 (April 2004):

- Circumventing a technical problem rather than solving it by technical means cannot contribute to the technical character of the subject-matter claimed.
- Technical Problem → delays in propagation of information between bidders and a server
- Solution → adapt auction method such that any data transmission delays become irrelevant
- Not a technical solution since it only concerns modification to the rules of the auction.

General Conclusions from Case Law

- Equal treatment of method and apparatus claims
- (At least one) Feature having technical character is sufficient for non-exclusion from patentability
- Rather broad interpretation of the term (technical) „invention“ in Article 52(1) EPC (act of writing with a pen on paper qualifies as „invention“)
- Examples for non-inventions: purely abstract concepts not containing any technical implications

General Conclusions from Case Law

- BUT: only features which contribute to a technical character are to be considered when assessing inventive step
- Even if modified business steps have implications on the functioning of a system, they cannot be taken into account for assessing inventive step because they do not constitute a **technical solution**
- **Most cases are and will in future be decided on the “inventiveness aspect!”**

Interpretation of technical character

The following is considered to be technical:

- processing **physical data** parameters or control values of an industrial process
- processing which **affects the way a computer operates**
 - such as operating system
 - saving memory and increasing speed
 - security of a process, rate of data transfer etc.
- the **physical features of a computer entity**
 - such as memory, port, etc.
 - If at least one feature has technical character, the invention has technical character

Interpretation of technical character

The following is considered to be non-technical:

- selling, trading, insurance
- choosing amongst candidates for a job
- order placement and management
- Processing **non-physical data** (e.g. monetary values, business data and text are not physical data)
- “functional data” (+) vs. “cognitive data” (-)

Possible Claim Categories

- method claim
- apparatus claim
- program and program product claims
- data structure product claim
- other, e.g.
 - database
 - data format

EPO “Status Quo” – Source: EPO homepage

“Accordingly, CII can be patented if:

They have **technical character** and **solve a technical problem**. They are **new**. They involve an **inventive technical contribution** to the prior art.

With this definition as a basis, the patenting process for CII at the EPO is very restrictive as it puts emphasis on new technical solutions. The most striking consequence of this definition is that computer programs, which do not solve a technical problem, are not patentable in Europe. (...)

On the other hand, a CII (even in the form of a computer program) that can provide this further technical effect can be patentable, subject to the other patentability requirements, such as novelty and inventive step. In this case, it would be recognized as providing a technical solution to a technical problem. “

EU - Software Directive Commission Proposal (2002)

- preservation of status quo
- general principles of patent law shall apply
 - no special rules for business methods
- no protection for abstract algorithms
- report on effect after three years
- promotion of patent protection among small and medium sized companies

Resolution of European Parliament

September 24, 2003

Severe restrictions, especially

- data processing not part of a technical field
- restriction to automated production of goods
- no program or program product claims
- not patentable, if no technical effects beyond the normal physical interactions between program and computer
- improvement in use of resources not patentable
- documented reference implementation required
- use for „significant purpose“ not infringing

Final Decision for EU Software Guideline

A forthcoming directive was likely to comprise:

- codification of the technical content approach
- exclusion of business methods and straightforward implementations thereof
- exceptions for establishing interoperability
- copyright provisions unaffected

BUT: Plenary vote (EU Parliament) on July 5,
2005

- High Majority voted against Guidelines

⇒ EPO will maintain ~~“status quo”~~

EPO – Enlarged Board of Appeal G 3/08

- Oct. 2008: President has referred various questions related to patent protections of CII at the EPO to the Enlarged Board of Appeal (EBoA) for clarification (due to “inconsistent TBA decisions” at the EPO), Art. 112 EPC
 - *Questions, see slides at the end*
- EBoA asked for opinion/amicus curiae briefs
- More than 100 briefs have been filed (!)
 - Private persons
 - UK, Polish Patent Office,
 - Companies, Academics,
 - “Open Source Community”,

EPO – Enlarged Board of Appeal G 3/08

- May 2010: EBoA has decided that
 - There is a “development” of case law
 - But there are no deviating decisions of Technical Boards of Appeal TBA of the EPO
 - Some “comments” to Case Law...
- Referral of the President of EPO has been considered as inadmissible
- “Status Quo” of EPO approach will continue (and develop...)

Further Questions ?

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EPO – Enlarged Board of Appeal G

3/08

~~Questions raised by EPO President~~

1. Can a computer program only be excluded as a computer program as such if it is explicitly claimed as a computer program?
- 2.(a) Can a claim in the area of computer programs avoid exclusion under Art. 52(2)(c) and (3) merely by explicitly mentioning the use of a computer or a computer-readable data storage medium?
- (b) If question 2(a) is answered in the negative, is a further technical effect necessary to avoid exclusion, said effect going beyond those effects inherent in the use of a computer or data storage medium to respectively execute or store a computer program?

EPO – Enlarged Board of Appeal G 3/08

~~Questions raised by EPO President~~

- 3.(a) Must a claimed feature cause a technical effect on a physical entity in the real world in order to contribute to the technical character of the claim?
- (b) If question 3(a) is answered in the positive, is it sufficient that the physical entity be an unspecified computer?
- (c) If question 3(a) is answered in the negative, can features contribute to the technical character of the claim if the only effects to which they contribute are independent of any particular hardware that may be used?

EPO – Enlarged Board of Appeal G 3/08

~~Questions raised by EPO President~~

- 4.(a) Does the activity of programming a computer necessarily involve technical considerations?
- (b) If question 4(a) is answered in the positive, do all features resulting from programming thus contribute to the technical character of a claim?
- (c) If question 4(a) is answered in the negative, can features resulting from programming contribute to the technical character of a claim only when they contribute to a further technical effect when the program is executed?

EPO – Enlarged Board of Appeal G 3/08

EPO homepage comments:

- The questions seek clarification not only on when a claim as a whole falls under the exclusion, but also on the circumstances under which individual features relating to programs for computers can contribute to the technical character of a claim (in which case they are relevant for assessing novelty and inventive step). It is hoped that the answers to these questions will lead to greater clarity concerning the limits of patentability, thereby facilitating application of the EPC by patent examiners and enabling both applicants and the wider public to understand the law regarding the patentability of programs for computers.

EPO – Enlarged Board of Appeal G 3/08

EPO homepage comments:

- Specifically, the questions address four different aspects of patentability in this field. The first question relates to the relevance of the category of the claim. The other three questions ask where the line should be drawn between those aspects excluded from patentability and those contributing to the technical character of the claimed subject-matter: the second question concerns the claim as a whole; the third, individual features of the claim; and the fourth - relevant for defining the skills of the (technically) skilled person - concerns the activity (the programming) underlying the resulting product (the computer program).