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**Datasheet for the decision  
of 6 March 2012**

**Case Number:** T 1806/07 - 3.5.01

**Application Number:** 04104737.4

**Publication Number:** 1530143

**IPC:** G06F 17/60

**Language of the proceedings:** EN

**Title of invention:**

Determination of best transportation guidelines

**Applicant:**

SAP AG

**Opponent:**

-

**Headword:**

Supply management/SAP

**Relevant legal provisions:**

EPC Art. 52(1)(2)(3)

RPBA Art. 13(1)(3)

**Relevant legal provisions (EPC 1973):**

EPC Art. 56, 111(1)

**Keyword:**

"Adequately defined technical purpose - no"

"Technical contribution by simulation - no"

"Inventive technical contribution - no (all requests)"

**Decisions cited:**

G 0003/08, T 0641/00, T 0258/03, T 0424/03, T 1242/04,  
T 1227/05

**Catchword:**

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Case Number: T 1806/07 - 3.5.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.01  
of 6 March 2012

**Appellant:**  
(Applicant)

SAP AG  
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**Representative:**

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**Decision under appeal:**

Decision of the Examining Division of the  
European Patent Office posted 6 June 2007  
refusing European patent application  
No. 04104737.4 pursuant to Article 97(1) EPC  
1973.

**Composition of the Board:**

**Chairman:** S. Wibergh  
**Members:** K. Bumés  
P. Schmitz

## Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division to refuse European patent application No. 04104737.4 for lack of inventive step (Article 56 EPC 1973).
- II. The examining division introduced *inter alia*  
D1: WO-A-03/012602  
to exemplify general-purpose computers which formed a technical infrastructure for automatically performing administrative and mathematical (combinatorial) tasks. The examining division argued that administrative, mathematical, mental and economic aspects did not contribute to the technical character of the claimed method. The optimisation criteria defined in the claims were based on considerations of a business analyst rather than a technically skilled person. "Simulation" only meant cost evaluation. The application left technical implementation details to the reader.
- III. The Board issued summons to oral proceedings as requested on an auxiliary basis. In an annex to the summons, the Board expressed doubts about whether the independent claims related to a technical problem and, if so, whether they provided any inventive technical contribution to solve such a problem.
- IV. By a letter dated 20 February 2012, the appellant filed a further auxiliary request which *inter alia* addressed lack-of-clarity objections raised in the annex to summons.

V. At the oral proceedings held on 6 March 2012, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or first auxiliary request filed with the statement setting out the grounds of appeal (dated 15 October 2007) or the second auxiliary request filed with the letter dated 20 February 2012.

(a) Independent method claim 5 according to the main and first auxiliary requests reads:

"5. A computer implemented method comprising:  
identifying (405) a set of source locations having a set of desired resources for a target location;  
prioritizing (407) a set of shipping rule groups based on a cost factor associated with the set of source locations and the target location; and  
selecting a subset of the set of source locations and a subset of the shipping rule groups based on the cost factor and a utilization of a capacity of a set of transports, whereby selecting comprises  
searching iteratively through the set of shipping rule groups in order of priority for a shipping solution and  
simulating iteratively the fulfillment of each group of the set of shipping rules in priority order until the set of desired resources is loaded into the set of transportation units;  
generating (415) a formatted set of loading configurations or instructions; and  
outputting the loading configurations and instructions to source locations."

(b) Independent method claim 4 according to the second auxiliary request reads:

"4. A computer implemented method comprising:  
identifying (405) a set of source locations having a set of desired products for a target location;  
prioritizing (407) a set of transportation guideline groups based on a cost factor associated with the set of source locations and the target location;  
and  
selecting a subset of the set of source locations and a subset of the transportation guideline groups based on the cost factor and a utilization of a capacity of a set of transports, whereby selecting comprises  
searching iteratively through the set of transportation guideline groups in order of priority for a shipping solution and  
simulating iteratively the fulfillment of each group of the set of transportation guidelines in priority order until the set of desired products is loaded into the set of transportation units, wherein the transportation guideline includes limitations on weight, volume, a set of transportation method constraints and minimum order increment constraints,  
wherein building of a load involves a analysis [sic] of the size, weight and product types of a shipment;  
generating (415) a formatted set of loading configurations or instructions; and  
outputting the loading configurations and instructions to source locations."

VI. According to the appellant, the invention as claimed solves a technical problem, the means proposed for solving the technical problem have technical character, and the claimed solution involves an inventive step. Transporting physical products achieves technical effects, and a method for optimising the transport is a step immediately preceding the loading of a transport unit. Therefore, the computer-implemented optimisation method provides a technical contribution over D1 by simulating shipments from a plurality of source locations. According to decision T 1227/05-*Circuit simulation/INFINEON*, the simulation of a technical process is not a mathematical method as such.

## **Reasons for the decision**

### 1. *The application*

The application is entitled "Determination of best transportation guidelines" and was published as

A2: EP-A2-1 530 143.

It relates to "supply chain management" (A2, paragraph 0001) which is defined as the process of coordinating the movement of a product or service and information/money related to the product/service, among the constituent parts of a supply chain (column 1, lines 17 to 20), logistics being a subset of those activities (paragraph 0003). Supply chain management strategies often involve the use of software (column 1, lines 22/23).

The application mentions various problems associated with the movement of goods and services (A2, paragraph

0004). According to a summary of embodiments (A2, paragraph 0005), best transportation guidelines for shipping resources from a source location to a target location may be determined by sorting a set of transportation guidelines based on the cost of shipping or on a combination of the best cost and best utilization of transport capacity. According to the original version of apparatus claim 1 (A2, column 9), a route determination module selects source locations based on a cost factor and a transport capacity utilization. Original claim 3 recites a module arranged to "simulate" a loading of products into transportation units. An iterative simulation searches for an optimum transport solution minimising product cost and maximising transport utilisation (e.g. original claims 5, 6, 8, 9).

**Main Request and Auxiliary Request I**

2. *Article 52(1)(2)(3) EPC - Technical character*

As the method defined in independent claim 5 makes use of technical (computer) means for carrying out at least some of its steps, the Board accepts that the method as a whole has technical character and is an invention in a field of technology (see Article 52(1) EPC and decision T 258/03-*Auction method/HITACHI*, Headnote I, OJ EPO 2004, 575). Further, a method is not a program and, thus, cannot fall under the exclusion of computer programs as such (T 424/03-*Clipboard formats I/MICROSOFT*, Headnote I, as confirmed by G 3/08, points 11.2.1 to 11.2.7).



3. *Article 56 EPC 1973 - Inventive step*

3.1 The Board concurs with the examining division in considering a notorious general-purpose computer as the closest prior art. While the existence of notorious prior art does not have to be proven by documentary evidence (see e.g. decision T 1242/04-*Bereitstellung produktspezifischer Daten/MAN*, point 9.2), the examining division referred *inter alia* to D1 which discloses a generic computing platform for use in optimising the transport of goods by modelling routes that a product might be shipped over (D1, page 10, from line 16).

3.2 An inventive step presupposes the existence of a non-obvious technical contribution (see e.g. T 641/00-*Two identities/COMVIK*, Headnote I, OJ EPO 2003, 352). Non-technical aspects, such as cost considerations, cannot meet that requirement and, thus, need not be examined any further when assessing inventive step.

3.3 A mathematical algorithm, such as an iterative search and simulation, contributes to the technical character of a computer-implemented method only in so far as the method serves an adequately defined technical purpose (T 1227/05-*Circuit simulation/INFINEON*, point 3.1, OJ EPO 2007, 574).

*Arguendo*, it might be assumed in the appellant's favour that the general term "transport utilisation" implies activities and effects which are so familiar that their technical character tends to be overlooked (cf. the act of writing with pen and paper referred to in T 258/03 (*supra*), point 4.6).

However, in any event, a general reference to "transport utilisation" is not an adequate definition of a specific technical purpose which could confer a technical character onto any of the mathematical, administrative and commercial rules and steps of claim 5. That finding is underpinned by the failure of the application to focus on any explicit technical effect.

- 3.4 It is true that a complex situation (comprising a plurality of source locations, for example) may require a complex choice of product orders and transport allocations to arrive at an optimum of product cost and transport utilisation. However, the application does not provide any specific support tailored to a complex situation or to a specific computing platform; it generally tells the reader to search for a solution by means of virtual trials ("iterative simulation") based on generic software modules automating the search.

A generic computer-implementation of an organisational and mathematical algorithm is not sufficient on its own to render the algorithm technical. (Otherwise, any computer-implemented commercial or mathematical algorithm would qualify as technical.)

- 3.5 Therefore, the Board does not take the claimed organisational rules (e.g. transporting a plurality of products from a plurality of source locations to a target location) and mathematical steps (e.g. iterative simulations) into account when assessing whether the method of claim 5 involves an inventive step.

- 3.6 On the other hand, the technical implementation aspects that have to be taken into account are a matter of routine for the skilled person. The generic steps of formatting and outputting the results of the data processing exercise (to a human observer) reflect a commonplace approach.
- 3.7 The Board concludes that the method of claim 5 (main request, first auxiliary request) does not involve an inventive step (Article 56 EPC 1973).

#### **Auxiliary Request II**

4. *Article 13(1)(3) RPBA - Admission of the late-filed auxiliary request*
- 4.1 The amended independent method claim, claim 4, has been filed after the appellant filed its grounds of appeal and after oral proceedings were arranged. Hence, the Board has a discretion to admit or reject the second auxiliary request applying in particular the criteria laid down in the Rules of Procedure of the Boards of Appeal (complexity of the amendment, state of the proceedings, procedural economy).
- 4.2 Some of the amendments (consistency of terminology) have been made in response to the Board's lack-of-clarity objection in its annex to summons. Regarding the other amendments, the Board was also in a position to deal with them without adjourning the oral proceedings.

Therefore, the Board admitted the second auxiliary request into the proceedings.

5. *Article 56 EPC 1973 - Inventive step*

5.1 At the oral proceedings before the Board, the appellant applied the same substantive argumentation to all three requests without relying on any specific feature in independent method claim 4 of the second auxiliary request.

5.2 In the Board's judgement, claim 4 only adds an explicit definition of the inherent meaning of a transportation guideline or load analysis and, thus, fails to provide any non-obvious technical contribution.

5.3 Therefore, the Board assesses the second auxiliary request in the same negative manner as the preceding requests and concludes that the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC 1973).

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

T. Buschek

S. Wibergh