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**Datasheet for the decision  
of 12 December 2012**

**Case Number:** T 1992/07 - 3.5.01

**Application Number:** 02026392.7

**Publication Number:** 1422641

**IPC:** G06F17/60, H04L12/18

**Language of the proceedings:** EN

**Title of invention:**

Market data filtering and processing system and method

**Applicant:**

DEUTSCHE BÖRSE AG

**Headword:**

Market data filtering/DEUTSCHE BÖRSE

**Relevant legal provisions:**

EPC 1973 Art. 56

**Keyword:**

Inventive step - filtering of market data (No - not technical and obvious)

**Decisions cited:**

T 641/00

**Catchword:**



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Case Number: T 1992/07 - 3.5.01

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.01**  
**of 12 December 2012**

**Appellant:** DEUTSCHE BÖRSE AG  
(Applicant) Neue Börsenstrasse 1  
60487 Frankfurt am Main (DE)

**Representative:** Grünecker, Kinkeldey,  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted 9 July 2007  
refusing European patent application No.  
02026392.7 pursuant to Article 97(1) EPC 1973.**

**Composition of the Board:**

**Chairman:** S. Wibergh  
**Members:** W. Chandler  
P. Schmitz

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse the European patent application No. 02026392.7. It concerns determining in real time whether trading has been suspended or resumed on a stock market exchange.

II. The examining division decided that claim 1 filed on 8 August 2005 did not involve an inventive step (Article 56 EPC 1973).

III. Claim 1 read as follows:

"A processor-implemented method of filtering market data generated at a market place, for providing real-time trading status information, the method comprising:  
providing (620) a plurality of listings (222), each listing associated with a corresponding market place and traded at the associated market place;  
providing (640) a set of filter criteria (224) suitable for filtering market data to determine the trading status information;  
receiving (650) market data for at least one listing of the plurality of listings associated with a specific market place;  
filtering (660) the received market data in accordance with the set of filter criteria to determine in real-time, whether trading of the at least one listing has been suspended or resumed at the specific market place; and  
providing (680), in real-time, the status information (226) indicating whether trading of the at least one listing has been suspended or resumed at the specific market place."

IV. The division argued:

2.1 As defined by the claims, the system in use is composed of a computer, connected to a data network for receiving and providing market data in real time.

Such a computer is well-known in the art, as can be seen in any of the documents cited in the search report.

Document D1, US-A-S 987 432 (VERBECK STEPHEN L ET AL) 16 November 1999 (1999-11-16) is considered to be the closest prior art document.

2.2 The data processed are non-technical data. The independent claims define that the following data are processed:

- a plurality of listings,
- a set of filter criteria (not further defined, but related to business data according to the description),
- market data,
- status information, i.e. market data indicating whether trade is suspended or not.

2.3 The processing is essentially non-technical. Data are "filtered" according to criteria (neither the filtering operations nor the criteria are well-defined in the claims), and as a consequence of the processing the received market data is broadcasted, but with supplemental information. This processing cannot be deducted alone from the wording of the claims, but corresponds to the description, p 4, penultimate para.. As the result of the processing is the provision/broadcasting of modified market data, this

processing is considered essentially non-technical.

3. The skilled person would find in D1 a document describing a system and the technical infrastructure for disseminating market information.
  - 3.1 ...D1 (Abstract, Fig 1, col 7, l 59-63) discloses a computer that receives market data through "feeds", processes the data feed in order to "enhance" market data pertaining to listings with "derivative", i.e. supplemental, data (see also col 14, l 66- col 15, l 10).  
That is, the technical infrastructure in D1 is the same as the one as defined by the claims.
  - 3.2 D1 discloses as a solution to enhance a market data stream by:
    - using a market data file for storing information already known,
    - upon reception of market data, finding the relevant line/record in the market data file,
    - processing the received market data by enhancing it with the relevant data found in the market data file and
    - broadcasting, i.e. providing, in real time the market data together with the enhanced content.

It has to be noted that the market data received in D1 can be any kind of market data, that is it can in particular be market data for a listing associated with a market place.

4. The difference between the claimed subject-matter and D1 lies neither in the technical

infrastructure, nor in the kind of the information processed, but solely in the manner the information is processed.

The processing as claimed has an essentially non-technical aim, namely to assess and disseminate information about the trading status at market places of a plurality of listings.

Following T 641/00, the objective technical problem can be formulated as finding a technical implementation of a system that achieves the non technical purpose (task) of assessing and disseminating information about trading statuses of a plurality of listings at market places.

4.1 Starting from D1 and trying to solve the objective technical problem, it is self-evident for the skilled person to process only market data relevant to the listings for which status information has to be provided and not for all market data: there are a couple of thousand of different market data subjects and only some tens of listings that need status information. Because the system works in "real-time", the skilled person would only process further market data corresponding to the "plurality of listings" : in this manner, the system would act as a "filter" for a "plurality of listings", arriving at the step as defined in claim 1, 1 1-4.

4.2 Because the system's aim is to determine trading status information, the skilled person would provide the system with a "set of criteria suitable to determine the trading status information from market data", as defined in claim 1, 1 5-6.

- 4.3 The system of D1 receives any kind of market data, and would also receive market data for one listing, as defined in claim 1, l 7-8.
- 4.4 When solving the objective technical problem, the skilled person would modify D1 in order to determine in real-time whether the trading has been suspended or resumed or is still suspended or resumed at a market place. This is technically equivalent to the "filtering" as defined in claim 1, l 9-11.

In more details, following the teachings of D1, the skilled person would implement a market data file for the plurality of listings containing inter alia information pertaining to their trading status. When receiving market data for at least one listing, the modified system of D1 would refer to the relevant parts of the market data file and compare the information received with the relevant trading status information in the market data file, and would enhance the received market data with the information stored in the market data file.

- 4.5 In the system of D1, the information stored in the market data file and/or the market data can be modified. The market data is "enhanced" and then broadcasted in realtime. This process is in any point similar to the one used for the derivative information "day high, day low and net change from previous close" (see D1, col 15, l 1-2). Hence the skilled person would "enhance" market data by providing and broadcasting in real-time information pertaining to the trading status of a

listing, arriving at the means defined in claim 1,  
l 12-14

4.6 In conclusion, having the knowledge of D1 and trying to solve the objective technical problem of implementing a system for assessing and disseminating information about the trading status at a market place of a plurality of listings, the skilled person would arrive at the solution as defined in independent claim 1.

- V. In the statement of grounds of appeal, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the refused claims filed on 8 August 2005 (and re-filed with the statement setting out the grounds of appeal).
- VI. The Board summonsed the appellant to oral proceedings. In the accompanying annex, the Board summarised the issues to be discussed at the oral proceedings and tended to agree with the examining division's findings. In a response, the appellant stated that he would not be attending oral proceedings.
- VII. The oral proceedings were held on 12 December 2012 in the appellant's absence.

### **Reasons for the Decision**

1. Stock exchanges send out real time feeds of market data containing information about the companies listed with them [2-3] (paragraph numbers of the published application). The data includes price information and the actual trading situation [6]. Some companies are listed on more than one exchange (second exchange) [4]. If trading is suspended on the main exchange, it should



- also be suspended on the second exchange [9]. This might be done via a telephone call, or a request for information (pull technology) [10]. This involves delay.
2. Basically, the invention is to filter the trading status information to determine in real time whether trading of any listing has been suspended or resumed ([68-69]/Figure 2). This is done by looking for codes ("filtering" according to "filter criteria") in the status data that indicate the relevant conditions. Different exchanges may have different codes for these actions (Table 2).
  3. The Board cannot see any prejudicial error in the examining division's reasoning and conclusion (see point III, above) that the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC 1973).
  4. In the Board's view, the division was correct in concluding at point 2 that the invention carries out non-technical (financial/administrative) processing on non-technical (financial) data. Since, according to the established jurisprudence of the Boards of Appeal, these features cannot contribute to inventive step, the problem boils down to how to implement these aspects. As effectively established by the division, the implementation specified in the claim amounts to no more than the use of a conventional computer system, such as used in D1, to receive, process and generate the desired data. This cannot involve an inventive step either.
  5. The appellant argues that the step of filtering is technical because it is carried out by a processor.

However, in the Board's view this only establishes that the processor is a technical implementation, not that the filtering relates to any technical process. Similarly, the appellant discusses the technicality of a memory device and storing filter criteria. However, as the appellant admits these features are not claimed. The appellant also discusses the features of providing data, receiving data and providing real time status information. However, as with the filtering feature, this discussion attempts to establish an overall technical effect by virtue of the intrinsic technical nature of the implementation. As stated above, the only technical features of the solution are the use of a processor to receive, process and generate data. D1 shows that these are conventional.

6. The above is already enough to decide the case. Nevertheless, the division went on to establish at point 4 that the overall effect of the distinguishing features was to assess and disseminate information about the trading status at market places of a plurality of listings. Since this was not technical, they formulated the problem, invoking the approach set out in T 641/00 - Two identities/COMVIK (OJ 2003, 352) as how to implement this non-technical task. However, the division's formulation includes neither filtering of the data nor indicating whether trading has been suspended. According to T 641/00 (supra, point 7), this would have been possible if they were not technical as the division had already established, with which the Board agrees. Thus the division had, unnecessarily in the Board's view, to provide further analysis of D1 and argue why these ideas themselves were obvious. Nevertheless, given the division's formulation of the problem, the Board also agrees with the argument at points 4.1 to 4.6 that the claimed solution is obvious.

7. The appellant argues that the correct formulation of the problem is "providing an improved processor-implemented method of providing status update of a plurality of listings with respect to the listing's status at a corresponding data source, in particular a corresponding market place". However, the Board cannot see that the appellant's formulation is substantially different from the division's, both basically relating to providing information about the trading status. The appellant also argues that D1 does not disclose a filtering of the data. However, the examining division did not actually say that the filtering operation was known from D1, but merely stated that it was "self-evident for the skilled person to process only market data relevant to the listings...and not for all market data". The Board agrees this would result in a "filtering" operation.
  
8. Accordingly the Board judges that claim 1 does not involve an inventive step (Article 56 EPC 1973) so that the appeal must be dismissed.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



T. Buschek

S. Wibergh

Decision electronically authenticated