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# Datasheet for the decision of 9 December 2011

**Case Number:** T 1815/07 - 3.5.06

**Application Number:** 01952438.8

**Publication Number:** 1311928

**IPC:** G06F 1/00

**Language of the proceedings:** EN

**Title of invention:**
System, method and computer program product for mapping data of multi-database origins

**Applicant:**
Aegis Analytical Corporation

**Headword:**
Analysis data grouping/AEGIS

**Relevant legal provisions:**
RPBA Art. 13(1)(3)

**Relevant legal provisions (EPC 1973):**
EPC Art. 52, 54, 56, 84

**Keyword:**
"Novelty - yes"
"Inventive step (main request and auxiliary request 1) - no"
"Clarity (auxiliary requests 2 and 3) - no"
"Admissibility (auxiliary request 4) - no"

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**Case Number:** T 1815/07 - 3.5.06

# D E C I S I O N
**of the Technical Board of Appeal 3.5.06**
**of 9 December 2011**

**Appellant**: (Applicant)
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**Representative**:
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**Decision under appeal:**
**Decision of the Examining Division of the European Patent Office posted 4 April 2007 refusing European patent application No. 01952438.8 pursuant to Article 97(1) EPC 1973.**

**Composition of the Board:**

**Chairman:** M.-B. Tardo-Dino
**Members:** G. Zucka
M. Müller

## Summary of Facts and Submissions

I. The appeal is against the decision by the examining division dispatched on 4 April 2007 to refuse European patent application 01952438.8 on the basis that the subject-matter of claims 1 and 2 was not inventive, Article 56 EPC 1973, in view of the following document:

D1: Neway J.O.: "The Application of Manufacturing Informatics to Bioprocess Yield Improvement", Society for Industrial Microbiology News, vol. 49, no. 2, March 1999 - April 1999, pages 61-68.

II. A notice of appeal was received on 12 June 2007, the appeal fee being paid on the same day. A statement of the grounds of the appeal was received on 9 August 2007.

III. The appellant's main request was for the board to "cancel the decision dated April 4, 2007" and to grant a patent on the basis of the claims entitled "Claims of Main Request" submitted with the grounds of the appeal. The appellant's first and second auxiliary request were identical to the main request, except for the first two claims, entitled, respectively "Claims 1 and 2 of First Auxiliary Request" and "Claims 1 and 2 of Second Auxiliary Request". The appellant made a conditional request for oral proceedings.

IV. The board issued a summons to oral proceedings. In an annex to the summons, the board set out its preliminary opinion on the appeal, *viz.* that the main request infringed Article 123(2) EPC and none of the requests satisfied the requirements of Article 84 EPC. Preliminary remarks on inventive step were also made.

V. In his reply on 9 November 2011, the appellant filed a new main request and new auxiliary requests 1-3, with amended claims, replacing all previously filed requests. He also filed new drawing sheets on 8 December 2011.

VI. During the oral proceedings on 9 December 2011, the appellant filed a new auxiliary request 4, with amended claims. He also filed new description pages 1 and 37 for all requests.

VII. The appellant's main request is that the decision under appeal be set aside and that a patent be granted on the basis of claims 1-45 filed on 9 November 2011 and entitled "MAIN REQUEST"; description pages 5-36 filed with entry into the regional phase before the EPO, pages 2, 2a, 3, 4 filed on 11 December 2005 and pages 1 and 37 filed during the oral proceedings; drawing sheets 1/27-12/27, 20/27, 22/27-27/27 as filed with entry into the regional phase before the EPO and sheets 13/27-19/27, 21/27 filed on 8 December 2011.

The appellant's auxiliary requests 1-3 are that a patent be granted on the basis of, respectively, claims 1-44 entitled "FIRST AUXILIARY REQUEST", claims 1-41 entitled "SECOND AUXILIARY REQUEST" and claims 1-39 entitled "THIRD AUXILIARY REQUEST", all of these claim sets having been filed on 9 November 2011, as well as the same description and figures as for the main request.

The appellant's auxiliary request 4 is that a patent be granted on the basis of claims 1-43 entitled "FOURTH AUXILIARY REQUEST", filed during the oral proceedings,

as well as the same description and figures as for the main request.

VIII. The independent claims of the main request read as follows:

Claim 1

"A method for analyzing a manufacturing process, synthesis process and/or inventory tracking process comprising;

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data,

wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value; and

displaying displayed data on the visual display device about said process based on said analysis group data"

Claim 5

"A machine readable medium having stored thereon sequences of instructions, which when executed by one or more processors, cause one or more electronic

devices to perform a set of operations for analyzing a manufacturing process, synthesis process and/or inventory tracking process, the [*sic*] comprising:

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data,

wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value; and

displaying displayed data on the visual display device about said process based on said analysis group data"

IX. The independent claims of auxiliary request 1 read as follows:

Claim 1

"A method for analyzing a manufacturing process, synthesis process and/or inventory tracking process comprising;

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

creating an analysis group using names of specific parameters that a user has selected for inclusion in the analysis group and specifying restrictions on that data, wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value such that a user-defined data hierarchy provides the links between how a user wants to see the relationship between parameters and the data source from which data values must be retrieved;

grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data; and

displaying displayed data on a visual display device about said process based on said analysis group data, wherein said displayed data is based on original data from at least two different data sources"

Claim 4

"A machine readable medium having stored thereon sequences of instructions, which when executed by one or more processors, cause one or more electronic devices to perform a set of operations for analyzing a manufacturing process, synthesis process and/or inventory tracking process, the [*sic*] comprising:

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

creating an analysis group using names of specific parameters that a user has selected for inclusion in the analysis group and specifying restrictions on that data, wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value such that a user-defined data hierarchy provides the links between how a user wants to see the relationship between parameters and the data source from which data values must be retrieved;

grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data; and

displaying displayed data on a visual display device about said process based on said analysis group data"

X. The independent claims of auxiliary request 2 read as follows:

Claim 1

"A method for analyzing a manufacturing process, synthesis process and/or inventory tracking process comprising;

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

grouping said discrete data and said continuous data into the analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data, wherein data from multiple sources that is taxonomically related is combined across those sources to provide single access to a combined, or joined, data set; and

displaying displayed data on a visual display device about said process based on said analysis group data, wherein said displayed data is based on original data from at least two different data sources"

Claim 3

"A machine readable medium having stored thereon sequences of instructions, which when executed by one or more processors, cause one or more electronic devices to perform a set of operations for analyzing a manufacturing process, synthesis process and/or inventory tracking process, the [*sic*] comprising:

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

grouping said discrete data and said continuous data into the analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data, wherein data from multiple sources that is taxonomically

related is combined across those sources to provide single access to a combined, or joined, data set; and

displaying displayed data on a visual display device about said process based on said analysis group data, wherein said displayed data is based on original data from at least two different data sources"

XI. The independent claims of auxiliary request 3 read as follows:

Claim 1

"A method for analyzing a manufacturing process, synthesis process and/or inventory tracking process comprising;

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

creating an analysis group using names of specific parameters that a user has selected for inclusion in the analysis group and specifying restrictions on that data, wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value such that a user-defined data hierarchy provides the links between how a user wants to see the relationship between parameters and the data source from which data values must be retrieved;

grouping said discrete data and said continuous data into the analysis group data based on at least one identification code and at least one parameter value of

said discrete data and said continuous data, wherein data from multiple sources that is taxonomically related may be combined across those sources to provide single access to a combined, or joined, data set; and

displaying displayed data on a visual display device about said process based on said analysis group data, wherein said displayed data is based on original data from at least two different data sources"

Claim 2

"A machine readable medium having stored thereon sequences of instructions, which when executed by one or more processors, cause one or more electronic devices to perform a set of operations for analyzing a manufacturing process, synthesis process and/or inventory tracking process, the [*sic*] comprising:

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

c [*sic*] creating an analysis group using names of specific parameters that a user has selected for inclusion in the analysis group and specifying restrictions on that data, wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value such that a user-defined data hierarchy provides the links between how a user wants to see the relationship between parameters and the data source from which data values must be retrieved;

grouping said discrete data and said continuous data into the analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data, wherein data from multiple sources that is taxonomically related may be combined across those sources to provide single access to a combined, or joined, data set; and

displaying displayed data on a visual display device about said process based on said analysis group data, wherein said displayed data is based on original data from at least two different data sources"

XII. Claims 1-6 of auxiliary request 4 read as follows:

Claim 1

"A method for analyzing a manufacturing process, synthesis process or inventory tracking process comprising;

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

receiving a user selection of data sets to be analysed,

classifying the data set based on a data model recieving [*sic*] a user defined hierarchical view of data sets created by a user,

wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value,

mapping the data sets selected, according to the hierarchy defined,

creating an analysis group of the data from the selected data sets, which includes grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data; and

displaying displayed data on the visual display device about said process based on said analysis group data"

Claim 2

"A method according to claim 1, wherein said displayed data is based on original data from at least two different data sources"

Claim 3

"A method according to claim 1 or 2, wherein the method formulates SQL queries to extract data from the appropriate database, using information from the hierarchy"

Claim 4

"A machine readable medium having stored thereon sequences of instructions, which when executed by one or more processors, cause one or more electronic devices to perform a set of operations for analyzing a manufacturing process, synthesis process and/or inventory tracking process, the [*sic*] comprising:

retrieving at least one discrete data set comprising discrete data about at least one first step of said process;

retrieving at least one continuous data set comprising continuous data about at least one second step of said process;

receiving a user selection of data sets to be analysed,

classifying the data set based on a data model recieving [*sic*] a user defined hierarchical view of data sets created by a user,

wherein selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value,

mapping the data sets selected, according to the hierarchy defined,

creating an analysis group of the data from the selected data sets, which includes grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter value of said discrete data and said continuous data; and

displaying displayed data on the visual display device about said process based on said analysis group data"

Claim 5

"A machine readable medium according to claim 4, wherein said displayed data is based on original data from at least two different data sources"

Claim 6

"A machine readable medium according to claim 4, wherein the method [*sic*] formulates SQL queries to extract data from the appropriate database, using information from the hierarchy"

XIII. At the end of the oral proceedings, the chairwoman announced the board's decision.

## Reasons for the decision

1. Reference is made to the transitional provisions in Article 1 of the Decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the European Patent Convention of 29 November 2000, for the amended and new provisions of the EPC, from which it may be derived which Articles of the EPC 1973 are still applicable to the present application and which Articles of the EPC 2000 shall apply.

2. *Admissibility of the appeal*

In view of the facts set out at points I and II above, the appeal is admissible, since it complies with the EPC formal admissibility requirements.

3. *Main request*

3.1 *Interpretation of claim 1*

During the oral proceedings, the appellant was asked to describe the actual technical context in which the claimed invention would be applied. He explained that the invention would typically be applied in a laboratory where data about a complex process, *e.g.* a manufacturing process, are collected continuously. It is generally difficult for a user to access and analyse this data, which is collected throughout various process steps and at various times and is stored in various databases or throughout various locations. What sets the invention apart from the prior art is the possibility for the user to select parameters displayed in a hierarchical structure on a display, on the basis of which parameters "analysis groups" are created, the associations between all the requested data being preserved in a manner that reflects the hierarchical structure.

The wording of claim 1, arguably, leaves room for interpretation. In order to assess inventive step, the following interpretations are given to some of the expressions used in that claim:

- *discrete vs. continuous data*:
  data that is obtained only once *vs.* several times during the process (see page 12, last two paragraphs of the description)
- *grouping said discrete data and said continuous data into analysis group data based on at least one identification code and at least one parameter*

*value of said discrete data and said continuous data*:
discrete and continuous data are assembled, taking into account some first value ("identification code") and some second value ("parameter value") that characterises or is related to the discrete and the continuous data

- *displaying displayed data on the visual display device about said process based on said analysis group data*:
data related to the process is displayed on the visual display device, the data being somehow derived from the analysis group data

3.2 *Closest prior art*

According to the board, the closest prior art is given by D1. It discloses a method for analysing a manufacturing process (page 61, column 1, paragraph 1) comprising:

retrieving at least one discrete data set and one continuous data set comprising, respectively, discrete and continuous data about, respectively, one first and one second step of said process (page 63, "The nature of bioprocess data");

grouping said discrete and said continuous data into analysis group data (page 64, column 1, paragraph 3: the data is assembled) based on at least one identification code (*e.g.* the name of a relevant "process variable"; see page 63, column 1, last paragraph and page 66, paragraph bridging columns 2 and 3) and at least one parameter value (*e.g.* a specific temperature value; see page 62, column 3, paragraph 2) of said discrete and said continuous data; and

displaying displayed data on the visual display device about said process based on said analysis group data (pages 65-66, "Visualization: Seeing is believing").

3.3 *Novelty; Article 54(1,2) EPC 1973*

D1 does not disclose the display of selection parameters in an organised hierarchical structure. This is also not disclosed by the other documents cited in the search report. The board, therefore, concludes that the subject-matter of the independent claim 1 is novel. For the same reason, the subject-matter of the independent claim 5 is also novel.

3.4 *Inventive step; Article 56 EPC 1973*

3.4.1 The subject-matter of claim 1 distinguishes itself from the disclosure of D1 in that selection parameters are displayed on a visual display device in an organised hierarchical structure for being selected as at least one parameter value. This solves the objective problem of facilitating the selection of parameter values from a large number of such values.

3.4.2 Given that the teaching of D1 is explicitly intended to apply to situations where the number of parameters is large (see, for example, page 63, column 1, paragraph 3), some of these being selected for analysis (*e.g.* the temperature; see page 62, column 3, paragraph 2), a standard approach of the skilled person would be to introduce some structure that enables the user easily to select parameters from this large number. And since D1 states (at the end of page 65, column 1,

paragraph 2) that the analysis capabilities of the disclosed system must be made available to users with a point-and-click interface, *i.e.* a graphical user interface (GUI), the skilled person would preferably look for a solution that can be implemented within the context of a GUI. It is typical, in a GUI, for a large number of parameters to be organised in a hierarchical structure, *e.g.* a structure with menus, sub-menus, sub-sub-menus *etc.* It would, therefore, be entirely natural for the skilled person to display selection parameters in an organised hierarchical structure. In so doing, he would arrive at the subject-matter of claim 1.

3.4.3 The appellant argues that D1 does not disclose a relationship between the user's selection of parameter values and the resulting analysis group data, such as is allegedly visible in figure 3, steps 306 and 308, or in the description on page 31, lines 6-25 of the present application. However, these parts of the application do not show any *relationship*; they merely specify that the user selects some data sets or parameters and then, somehow, an analysis group is created on the basis of that selection (page 31, lines 6-19). More importantly, the board fails to see any relationship between the user's selection of parameter values and the resulting analysis group data *in claim 1.* Also, the claim contains no features which would imply that the hierarchy from which parameters are selected is maintained in the analysis group data, as was further argued by the appellant and is hinted at in the description on page 19, lines 11-14. The appellant's arguments, therefore, do not warrant a more limited interpretation of the term "analysis group" than the one given in 3.1 above and do not support the

presence of an inventive step in the subject-matter of claim 1.

3.4.4 The subject-matter of claim 1 is, consequently, not considered inventive and, for this reason, the main request does not satisfy the requirements of Article 52(1) EPC and Article 56 EPC 1973.

3.5 It follows that the main request is not allowable.

4. *Auxiliary request 1*

Compared to the main request, claim 1 of the auxiliary request 1 has the following additional features:

1. *The analysis group is created using names of specific parameters that a user has selected for inclusion in the analysis group and specifying restrictions on that data*: this is disclosed by D1; see page 63, column 1, paragraph 3: a subset of the data is used; page 62, column 3, paragraph 2: relevant parameters, such as temperature, are (implicitly) selected by the user
2. *...such that a user-defined data hierarchy provides the links between how a user wants to see the relationship between parameters and the data source from which data values must be retrieved*: this feature introduces no technical limitation on the hierarchy; it is left up to the user to determine its structure
3. *the displayed data is based on original data from at least two different data sources*: D1 deals with data from separate databases, *i.e.* data from at

least two different data sources (see page 64, column 1, last paragraph)

It follows that the technical limitation introduced by the above features is disclosed by D1. The subject-matter of claim 1 of the auxiliary request 1 is, therefore, also not inventive (Article 52(1) EPC and Article 56 EPC 1973) and the request is not allowable.

5. *Auxiliary request 2*

The wording "taxonomically related [data]" in claim 1 of the auxiliary request 2 is not in general use in the technical field of the application. The board acknowledges that in the description, page 15, lines 1-3 and in figure 8, the term "taxonomically related data" is explained at least more precisely. However, the claims should be clear by themselves and it is not clear *from the wording of claim 1* which criteria should be used to determine which data belongs to which class. Claim 1 is, therefore, not clear (Article 84 EPC 1973) and the auxiliary request 2 is not allowable.

6. *Auxiliary request 3*

The same objection as given for auxiliary request 2 applies to auxiliary request 3, which is, therefore, also not allowable.

7. *Auxiliary request 4*

7.1.1 The appellant filed auxiliary request 4 during the oral proceedings, without a specific reason for its late filing. Pursuant to Article 13(3) RPBA, amendments

sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the board cannot reasonably be expected to deal with without adjournment of the oral proceedings.

7.1.2 In claims 1 and 4 of the request, the expressions "classifying the data set based on a data model" and "mapping the data sets selected, according to the hierarchy defined" are not clear, not even if one, as did the appellant, makes reference to figure 3 and the corresponding passage in the description, *i.e.* page 21, lines 5-24.

7.1.3 As to dependent claims 3 and 6, these now explicitly refer to a feature, *viz.* the formulation of SQL queries, that was apparently not the subject of the search report. In accordance with the criteria referred to in Article 13(1) RPBA as they are generally applied by the boards of appeal, such late requests, in the absence of a specific reason justifying their late filing, are only admitted if they are obviously clearly allowable. This means, in other words, that it is immediately apparent to the board that the amendments successfully address the outstanding issues without giving rise to new ones and that it is possible to deal with the amendments without delaying the appeal procedure.

7.1.4 The board notes that the appellant offered to abandon the new claims 3 and 6 if the presence of those claims were the only obstacle for the board to allow the auxiliary request 4. As set out above, however, the lack of clarity of the new claims 1 and 4 forms an additional obstacle. Therefore, auxiliary request 4 is

not clearly allowable and, for this reason, the board does not admit it at this late stage of the procedure.

8. *Conclusion*

None of the appellant's requests are allowable.

## Order

**For this reason it is decided that:**

The appeal is dismissed.

The Registrar: The Chairwoman:

B. Atienza Vivancos M.-B. Tardo-Dino