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Datasheet for the decision
of 2 October 2017

Case Number: T 0575/15 - 3.5.06
Application Number: 10186143.3
Publication Number: 2369469
IPC: G06F9/44, G06F9/445
Language of the proceedings: EN

Title of invention:
Supervisory process control and manufacturing information
system application having a layered architecture

Applicant:
 Wonderware Corporation

Headword:
Process control configuration/WONDERWARE

Relevant legal provisions:
EPC Art. 56, 84, 111(2), 113(1)
EPC R. 137(3)

Keyword:
Inventive step (no) - all requests

Decisions cited:
T 0049/99, T 1630/11, T 1205/12, T 0820/14
Catchword:
Case Number: T 0575/15 - 3.5.06

DECISION
of Technical Board of Appeal 3.5.06
of 2 October 2017

Appellant: Wonderware Corporation
(Applicant)
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Representative: Friese Goeden Patentanwälte PartGmbH
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Decision under appeal: Decision of the Examining Division of the European Patent Office posted on 26 November 2014 refusing European patent application No. 10186143.3 pursuant to Article 97(2) EPC.

Composition of the Board:
Chairman: W. Sekretaruk
Members: M. Müller
S. Krischer
Summary of Facts and Submissions

I. The appeal lies against the decision of the examining division, with reasons dispatched on 26 November 2014, to refuse European patent application No. 10186143.3 because claim 1 of the main request did not comply with the requirements of Article 84 and 123(2) EPC. Auxiliary requests 1-3 were not admitted pursuant to Rule 137(3) EPC because the said objections prima facie also applied to them. Auxiliary requests 4 and 5 were not admitted either, also under Rule 137(3) EPC, because prima facie they went beyond the contents of the application as originally filed. In a section entitled "FURTHER REMARKS", it was stated that claim 1 of the main request lacked novelty over a document labelled D1, and inventive step over common general knowledge because its subject-matter did not solve a technical problem.

II. Notice of appeal was filed on 26 January 2015, the appeal fee being paid on the same day. A statement of grounds of appeal was received on 9 February 2015. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1-6 according to a main request or auxiliary requests 1 or 2, claims 1-5 according to auxiliary request 3 or claims 1-4 according to auxiliary request 4, all as filed with the grounds of appeal, apparently in combination with the following application documents:

description, pages
2-33 as originally filed
1, 2a, 34 as received on 9 August 2012
drawings, sheets
1/11-11/11 as originally filed
The appellant also requested that the appeal fee be reimbursed because the examining division had infringed its right to be heard, Article 113(1) EPC.

III. The sole independent claim 1 of the main request reads as follows:

"A configuration facility for specifying a deployment model for supervisory process control and manufacturing information applications for associating application objects (105, 107) to particular physical computing devices (100, 102) and providing a view of the distribution of the objects (105, 107) upon the physical computing devices (100, 102), the configuration facility comprising:

platform definitions (204) specifying one or more physical computing device types (100, 102);

engine definitions (206) specifying engines that execute upon the physical computing systems (100, 102) and thereby define types of services supported by the physical computing devices (100, 102);

area definitions specifying areas comprising logical groupings of application objects (210);

a set of hierarchical relationships specifying assignments of the engines (206) to particular ones of the physical computing systems (100, 102), and assignments of the areas to particular ones of the engines (206); and

a deployment view generator depicting, in accordance with the set of hierarchical relationships, a hierarchy of physical computing devices (100, 102), engines (206), and areas."

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the "engine definitions" now read as follows:
"... engine definitions (206) specifying engines that
execute upon the physical computing systems (100, 102)
and thereby hosting execution of application objects
(210) in a run-time environment; ..."

Claim 1 of auxiliary request 2 differs from claim 1 of
auxiliary request 1 in that the preamble now reads as
follows (emphasis by the appellant):

"A system for configuring supervisory process control
and manufacturing information applications for
associating application objects to particular physical
computing devices (100, 102) and providing a view of
the distribution of the objects (206) upon the physical
computing devices (100, 102), characterized by the
system comprising: ..."

and that the reference to the application objects in
the "area definitions" has been amended to refer to
"said application objects".

Claim 1 of auxiliary request 3 reads as follows:

"A process control network comprising a plurality of
PCs (100, 102, 130, 132, 134), said PCs executing a set
of layered objects in a hierarchical arrangement
comprising an operating system, a bootstrap object, a
platform class object hosting an engine object, said
engine object hosting a set of application objects that
implement supervisory process control and/or
manufacturing information acquisition functions,
wherein said application objects are logically grouped
by area definitions, characterized by

a deployment view generator being configured to
create a hierarchical view of the PCs, engines (206),
and areas in accordance with the set of hierarchical relationships."

Claim 1 of auxiliary request 4 is identical to that of auxiliary request 3, with the addition of the following phrase at the end:

"... and the engine objects maintain a name binding service that bind attribute references to a proper one of the application objects."

IV. In an annex to a summons to oral proceedings, the board informed the appellant of its decision not to remit, under Article 11 RPBA, the case immediately to the examining division for further prosecution, and of its preliminary opinion that claim 1 of all requests lacked clarity, Article 84 EPC, and technical character or inventive step, Articles 52 and 56 EPC.

V. In response to the summons, the appellant did not file either amendments or arguments. Instead, it indicated in a letter of 13 September 2017 that neither the appellant nor the representative would attend the oral proceedings in Munich (Haar). On 25 September 2017, in response to the board's request for clarification, the appellant withdrew its request for oral proceedings, which were then cancelled.

Reasons for the Decision

The alleged substantial procedural violation
Article 11 RPBA and Rule 103(1)(a) EPC

1. The appellant argued that the examining division had rushed through the oral proceedings in an attempt to finish them before noon. As a consequence, the
appellant had been unable to explain in detail its auxiliary requests 4 and 5 before the examining division decided not to admit them. The statement cited in the minutes (see point 36), namely that the appellant did not have any further comments on the issue, was incorrect. The appellant also complained that the examining division had cited T 49/99 "without prior notice" and without giving it an "opportunity to get knowledge of its content".

2. According to the minutes (see points 32 to 38), the auxiliary requests 4 and 5 were filed between 10:58 and 11:05 hours and considered by the examining division between 11:05 and 11:09 hours. The board accepts that this left little time for the appellant to explain the new requests. During its deliberation, however, the examining division had at its disposal a copy of the application with underlined passages meant to indicate the basis for the amendments (see the minutes, point 33). Hence, the board considers that the time frame was not a priori inappropriate, and the appellant has not convinced the board that it was not appropriate in the case to hand. Moreover, the examining division did not take its decision immediately after the deliberation from 11:05 to 11:09 hours (see points 34, 35 and 38). The minutes report (see point 36) that, at that point, the representative was given an opportunity to provide further comments but did not use it. The appellant challenged the accuracy of the minutes in this regard (see the grounds of appeal, page 2, paragraph 2) but the file contains no indication that it had raised its concern vis-à-vis the examining division, let alone that it had requested that the minutes be corrected. Therefore, the board must treat the minutes as an accurate description of what happened.
3. As regards decision T 49/99, it must first be noted that neither the reasons nor the further remarks in the decision under appeal mention or depend on it.

3.1 In the oral proceedings, the examining division expressed its opinion that a model could not, per se, provide a technical effect or solve a technical problem, even if the system being modelled was itself technical, and referred to T 49/99 (see the minutes point 32). This objection had already been raised in the communication annexed to the summons to oral proceedings, although without reference to T 49/99 (see point 3.2).

3.2 The examining division had thus raised its objection in clear terms and early enough for the appellant to consider and comment on it, Article 113(1) EPC. Even though the examining division may, in the summons, already have endorsed considerations from T 49/99, it was not required to mention the decision itself. In fact, as an examining division is not bound by decisions issued on appeal in different cases (see Article 111(2) EPC) it cannot replace its own reasoning with a reference to earlier board of appeal decisions. Rather, it must endorse any reasoning that it wants to rely on (see also T 1205/12, catchword). In the present case, therefore, the examining division was not required to provide a copy of the decision mentioned, or give the appellant time to study it.

4. The board concluded in the annex to its summons that no fundamental procedural deficiency was apparent which would have justified an immediate remittal of the case to the examining division under Article 11 RPBA. Although the board, by the same token, has no reason to believe that a substantial procedural violation has
occurred, this issue need not be decided because the appeal is not allowed and a reimbursement of the appeal fee is therefore not possible, see Rule 103(1)(a) EPC.

**Article 123(2) EPC**

5. In the decision, several objections under Article 123(2) were raised against the main request. In the annex to its summons, the board expressed doubt regarding these objections. Although the board has no reason to deviate from its preliminary assessment, it is not relevant for the present decision and will therefore not be reproduced here.

**The examining division's non-admission of auxiliary requests**

6. The then auxiliary requests 4 and 5 were not admitted by the examining division for two reasons: because their claim 1 *prima facie* violated Article 123(2) EPC and because they were "full[y] rewor[d]" and "completely different from the previous requests" and went "into a technically completely different direction" (see the decision, reasons 5).

7. As regards the Article 123(2) EPC objection, the examining division merely argued that "The specific combination of different features extracted from different passages of the description, partly in a generalised way, can in no way be derived from the application as filed directly and unambiguously".

7.1 The board agrees with the appellant (see the grounds of appeal, page 4, central paragraph beginning with "However") that an amended claim may well comprise "a combination of different features extracted from
different passages of the description, partly in a
generalised way" without violating Article 123(2) EPC,
even if it has been substantially reworded.

7.2 Moreover, the examining division's finding that the
claimed combination of features can "in no way be
derived from the application as filed directly and
unambiguously" is a mere assertion, because the
examining division did not indicate which specific
feature or feature combination it considered prima
facie not to be originally disclosed and why. Moreover,
the examining division made no reference at all to the
annotated copy of the application which the the
applicant had filed in order to argue why the
amendments had to be considered as originally disclosed
(see the minutes, point 33).

7.3 The board thus considers that the Article 123(2) EPC
objection against claim 1 of auxiliary requests 4 and 5
was insufficiently reasoned.

8. Also the statement that the amended claims went "into a
technically completely different direction" was made
without any explanation as to what that "different
direction" was or why it had to be considered as
"completely different", and is therefore questionable.

9. However, it is undisputable that auxiliary requests 4
and 5 were filed at a very late stage and substantially
reworded, and it was plausible to assume at that point
that assessing their patentability could have required
substantially different considerations than those that
had been discussed up to that point.

10. The board concludes that the last reason for the non-
admission of auxiliary requests 4 and 5 was correct and
that, hence, the examining division exercised its discretion correctly.

The board's admission of auxiliary requests 3 and 4

11. Notwithstanding this conclusion, the board is of the opinion that it has discretion of its own to admit present auxiliary requests 3 and 4 (see T 820/14, reasons 10). Since at least some of the fundamental objections against the higher-ranking requests apply to these dependent claims as well, the board sees no reason not to admit them and hence takes them into account in the following.

The invention

12. The application relates to the configuration and reconfiguration - and eventual "deployment" - of software for computerised industrial process control systems. The industrial processes of interest are only mentioned briefly and in little detail.

12.1 It is explained that the process control devices and processes may change during operation and require changes to the process control systems. In such situations, the configuration and reconfiguration of the system must be quick so as to limit disruption to the system as a whole (see page 2, lines 10 to 15).

12.2 Therefore a "supervisory process control and manufacturing information system application architecture" is proposed that is said to "offer[] users the freedom to re-architect" supervisory process control "applications, with minimal impact on the existing, underlying, process control system engineering" (see page 5, lines
19 to 23). The proposed architecture comprises three layers, an "application" layer, an "engine" layer and a "platform" layer (see page 6, lines 1-16). An application layer comprises "application objects" which are free of "constraints associated with the computing system hardware" (see page 6, lines 1-6) and which are "hosted by an engine object" (lines 6-7), engine objects in turn being "hosted by a platform object" (lines 7-8). The platform object "corresponds" to a "physical computing system (including an operating system) upon which application and engine objects execute" (lines 9-11). The concept of an "area" is introduced as a logical group of application objects which must be deployed on the same application engine; which one is up to the developer (page 6, lines 26-32).

12.3 It is further disclosed that the system may rely on several "models": A "security model" stated to be independent of the employed hardware (page 7, lines 1-8), an "application model" introduced as a "logical build of the plant relative to the physical areas of the plant ..." which is configured before deployment (page 7, lines 17-22), and a "deployment model" comprising a "system view", i.e. reflecting the physical components of the system on which the application is to run (paragraph bridging pages 7 and 8). A variety of further "views" is also provided, including a "model view", a "deployment view" and a "derivation view" (see page 3, line 25, to page 4, line 5, page 23, lines 20-23, and page 24, lines 21-27).

Article 84 EPC

13. The appellant argues that the claimed "facility" (see the main request and auxiliary request 1) must,
according to Merriam-Webster, be construed as a "large piece of equipment". The board is not convinced that the definition of "facility" in the Merriam-Webster dictionary is crucial to the construction of the present claims, and rather considers that the term can, in the computing field, also refer to a piece of software. The board thus considers that the term "facility" as used in the main request and auxiliary request 1 does not unambiguously imply any physical (i.e. "hardware") components. The same must however also be said for the term "system" which, in the computing context, can refer exclusively to software.

14. The term "configuration" - used in claim 1 of the main request and auxiliary requests 1 and 2 but not in claim 1 of auxiliary requests 3 and 4 - is vague.

14.1 When a system is configured, its components and properties are determined. The aim may be to set the system up to match the specified configuration, but the board considers that the term "configuration" does not imply the actual modification of the configured system. Rather, the board takes it to be common in the art to refer as system "configuration" to the specification phase which precedes the actual system modification. The description appears to support that view, e.g. where it says that "views facilitate configuring and deploying [...] software" (see page 3, lines 27-28) and thus suggests that the configuration precedes deployment. In the annex to its summons, the board put this interpretation to the appellant, who has not challenged it.

14.2 From this perspective, both the "configuration facility" of the main request and auxiliary request 1 and the "system for configuring" of auxiliary request 2
merely support the user in specifying software intended for eventual deployment (i.e. upload) on a physical computing system. Notably, the deployment itself is not claimed in claim 1 of any request. Therefore, the facility/system according to the main request and auxiliary requests 1 and 2 must be construed as a programming facility/system for the physical computing devices mentioned.

14.3 The examining division considered that it was not clear "what [was] actually configured by the facility/system" because "nothing [was] actually configured in a technical sense" (see the decision, reasons 2.1). As explained, however, the board interprets the term "configuration" broadly as not implying any "physical" operations, so it is not a deficiency of the claims that they do not specify any.

15. In view of the board's findings on inventive step, the board leaves open the question of whether the claims are unclear or merely broad.

*Inventive step, Article 56 EPC*

16. The central question to be decided in the present case is whether the claimed subject-matter has any technical effect and, if it does, what technical problem it solves.

17. In the board's understanding, the facility or system according to the main request and auxiliary requests 1 and 2 is one of producing and viewing a model comprising several kinds of "objects" which are meant for eventual deployment to and execution on a "physical computing system". No actual deployment or execution is
claimed or implied. Therefore, as already stated, the board interprets the claimed system as a programming system for developing and viewing the "configuration" of the physical computing system or process control network in question.

17.1 In the board's view, the activities of programming or modelling do not per se make a technical contribution to the art, and simplifying the mental effort of programming is not a technical problem (see e.g. T 1630/11 and the decisions cited in point 6; see esp. T 49/99 as referred to in the grounds of appeal).

17.2 Intrinsic to the development of a program or software-based model is that the data representing the program or the model are stored on a physical device, typically some sort of computer memory. This also applies to the claimed invention (see also the grounds of appeal, paragraph bridging pages 12 and 13). However, storing a model in a file or in a database does not confer technical character on the model itself or help to clarify what technical effect the model has. It is thus insufficient to establish an inventive step.

17.3 The description states that the invention "offers users the freedom to re-architect [...] applications with minimal impact on the existing, underlying, process control system engineering". The board is not convinced that the claimed facility or system, as it stands, can be said to have any impact on the underlying process control system, as long as the associations, definitions, specifications and views are not deployed or used for deployment. In contrast to the appellant's assertion, the board does not consider the claimed
invention to "influence[] directly a physical system" (see page 13, paragraph 3).

17.4 This would remain the case even if it was assumed, for the sake of argument, that a deployment took place, because, in the board's understanding, the invention is concerned with simplifying the process of configuring a system without however changing the configuration results themselves.

17.5 The appellant argues that the information presented by the various views according to the claimed invention should be considered technical because it relates to the "technical state of a machine" or an "application executed on a computer" (see grounds of appeal, page 13, paragraph 2). As regards the former, the board takes the view that the generated model may be construed as prescriptive rather than descriptive, i.e. the information being displayed might relate to how the system should be (or: should be configured) rather than how it actually looks, and thus does not necessarily relate to the technical state of a machine. The board also disputes that an invention has to be considered to be technical merely because it "relates", in some unspecified way, "to some technical application executed on a computer", and also that such a sweeping statement can be derived from the board of appeal decisions cited by the appellant (see the grounds of appeal, page 13).

17.6 The board thus concludes that claim 1 of the main request and of auxiliary requests 1 and 2 lacks inventive step, Article 56 EPC, because it does not solve a technical problem.
18. Claim 1 of auxiliary requests 3 and 4 does not refer to the specification (programming) of a configuration to be deployed but, in the board's understanding, to the visualisation of a model of an existing system.

18.1 No feature is claimed which would make the view generator specific to the physical system being viewed. Nor is any feature claimed that would imply that the "deployment view" was produced from and in interaction with the underlying physical system. Alternatively, a deployment view could be generated from a system model which exists separately from the physical system to which said model may have been deployed; the resulting view would still be "in accordance with" the existing "hierarchical relationships". In this generality, the board considers that creating - and possibly displaying - a "view" of an existing physical computing system does not solve a technical problem.

18.2 Beyond that, the board considers it to be obviously desirable for the system architect or administrator to have a "view" of a given software architecture. It would further be evident that this view had to refer to the "objects" that happened to constitute that software architecture.

18.3 Furthermore, the board is unable to determine, due to the vague and broad language of claim 1, any property of the claimed "process control network" or the way it is viewed which could give rise to an inventive step, Article 56 EPC.
Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos  W. Sekretaruk

Decision electronically authenticated