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**Datasheet for the decision
of 5 October 2018**

Case Number: T 0875/12 - 3.5.02

Application Number: 03703673.8

Publication Number: 1470517

IPC: G06F19/00

Language of the proceedings: EN

Title of invention:

Method and apparatus for preventing overloads of power
distribution networks

Applicant:

Schneider Electric IT Corporation

Relevant legal provisions:

EPC Art. 56, 123(2)

RPBA Art. 13(1)

Keyword:

Inventive step - main request (no)

Amendments - auxiliary request 2a - allowable (no)

Late-filed auxiliary requests 1, 2b, 3a, 3b - admitted (no)



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Case Number: T 0875/12 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 5 October 2018

Appellant: Schneider Electric IT Corporation
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 22 November
2011 refusing European patent application No.
03703673.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman R. Lord
Members: H. Bronold
R. Cramer

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 03 703 673.8 for lack of inventive step of the subject-matter of the then main request and for lack of clarity of the claims of the then sole auxiliary request.
- II. The appellant (patent applicant) initially requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of their main request or on the basis of the claims of their first and second auxiliary requests, all filed together with the statement setting out the grounds of appeal.
- III. The following documents cited by the examining division are relevant for this decision:
- D1 : JP 2000-267766
D1t: English translation of D1
D2 : L. Norford et. al.; "Electricity Use in Information Technologies", Annual Review of Energy, vol. 15, pages 423-453, November 1990
- IV. In a communication under Article 15(1) RPBA the board informed the appellant that it considered the subject-matter of the main request not to involve an inventive step. The board also informed the appellant about its concerns that auxiliary request 1 contravened Article 123(2) EPC, since it comprised features relating to an estimation of maximum power taken out of their context as originally disclosed on page 18, lines 11 to 15 of the description. Beyond that, the board informed the

appellant that it was inclined not to admit auxiliary request 2 into the proceedings.

- V. With their reply filed with letter of 5 September 2018, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims and amended description pages according to the main request, or according to one of the auxiliary requests 1, 2a, 2b, 3a and 3b, all as filed with that letter.
- VI. With letter dated 3 October 2018 the appellant informed the board that they would not attend the oral proceedings.
- VII. Oral proceedings before the board were held on 5 October 2018 in the absence of the appellant.
- VIII. Claim 1 according to the main request reads:

"A system for monitoring power in a power distribution system, the system comprising:
a power monitoring device adapted to be located in the power distribution system to measure a value of at least one characteristic of power provided to a branch (110,112,114) of the power distribution system, the power monitoring device (202A, 202B) having an output for providing the value measured; and
a controller (201) having an input for receiving the value measured and an output for coupling to a first device powered by the branch of the power distribution system to send a power signal to the first device to command the first device (208) to operate at a predetermined percentage of maximum power."

Independent method claim 20 reads:

"A method for monitoring and controlling a power distribution system that has a plurality of circuit branches (210) for providing power to a plurality of devices, the method comprising:
controlling a first device (208) on a first circuit branch to operate at a predetermined percentage of maximum power;
detecting a first value for a characteristic of power provided to the first circuit branch;
controlling a second device on a second circuit branch to operate at a predetermined percentage of maximum power;
detecting a second value for a characteristic of power provided to the second circuit branch;
adding the first value to the second value to obtain a total value;
comparing the total value to an overload value to detect an overload condition;
indicating an alarm condition when the total value exceeds the overload value."

Independent claim 32 relates to a computer program product based on method claim 20.

IX. Independent apparatus claim 1 according to auxiliary request 1 combines the features of claim 1 according to the main request with those of independent method claim 20. However, some of the apparatus features as originally disclosed were omitted.

Independent method claim 18 according to auxiliary request 1 is identical to claim 20 according to the main request.

Independent claim 30 relates to a computer program product based on method claim 18.

X. Claim 1 according to each of the auxiliary request 2a, 2b, 3a and 3b differs from claim 1 according to the main request *inter alia* in the following additional features:

- "[a predetermined percentage of maximum power] that is less than maximum power, and wherein", and
- "[the controller (201) is] arranged to apply a scale factor".

The independent method claim 20 according to each of the auxiliary requests 2a and 3a and independent method claim 18 according to each of the auxiliary requests 2b and 3b includes corresponding amendments related to scale factors.

XI. The arguments of the appellant, as far as they are relevant for this decision, can be summarised as follows:

Document D1 merely disclosed normal power saving modes. Commanding a computer to operate at a predetermined percentage of maximum power was not disclosed in D1. In all of the operating states of D1, the actual power consumption was unknown and depended on what processes actually ran on the computer whereas according to the invention the power consumption was predetermined. Moreover a combination of document D1 with D2 did not lead to the invention since measuring the power levels according to the invention also required instructing the devices to operate at a predetermined percentage of maximum power. Therefore, the subject-matter according

to the main request was not rendered obvious by a combination of documents D1 and D2.

Claim 1 according to auxiliary request 1 had been amended to bring it into line with pending independent method claim 20. Therefore, no matter had been added.

The claims of auxiliary request 2a corresponded to those of auxiliary request 1 as filed with the appeal. The amendments were disclosed on page 18, lines 6 to 17 of the description. Thus, the claims of auxiliary request 2a did not present new information.

The claims of auxiliary requests 2b, 3a and 3b each contained the amendments of auxiliary request 2a and diverse other amendments. No arguments were presented as to why the claims of auxiliary requests 2b, 3a and 3b should be considered admissible. Moreover, no arguments were presented as to why auxiliary requests 2b, 3a and 3b were suitable to overcome the objections raised in the contested decision or in the board's communication under Article 15 RPBA.

Reasons for the Decision

1. The appeal fulfils the requirements of Rule 101 EPC and is therefore is admissible.

2. Main request (Article 56 EPC)

It is undisputed that the subject-matter of claim 1 and 20 is new over the disclosure of document D1.

Document D1 (see in particular figure 1 and accompanying text; see also D1t for a translated version of the same document) discloses a power consumption management system for managing the total power consumption of a system constituted of a plurality of computers (work stations 13) in a facility. Said plurality of computers are connected to different electrical branches to obtain their electrical supply and they are further connected to a power management controller (11) and some agents (12) via a communication network. Each computer is allowed to be in four states (state 0 to state 3) according to its power management policy (see paragraphs 0015 to 0016), wherein state 0 corresponds to the maximum power consumption and state 3 to the minimum power consumption. Each computer keeps a table with its power consumption in each state, and it sends the table to the controller via the agents. Then, periodically the controller receives the working state of the computers and computes the overall power consumption (see paragraph 0021). If the overall power consumption is greater than a predetermined threshold, the controller

sends a message to some of the computers to change their working state and thus, the amount of power at which they are operating (see paragraphs 0022 to 0023).

According to the disclosure of D1, paragraph [0011], the system and method for monitoring power is implemented in software.

According to the contested decision, the above cited disclosure of document D1 anticipates all features of claims 1 and 20 other than that the maximum power consumption is measured whereas according to D1 it is read from a table.

The appellant argued that the identified difference is not the only one. According to the appellant, the interpretation placed on document D1 by the examining division is not correct and in contradiction with what is described in document D1 itself.

In particular, the appellant argued that power state 0 according to document D1 does not mean operation at full load. The device according to document D1 was not operated at a predefined percentage of maximum power but at best put into a power saving mode as in any conventional PC, which meant that the power consumption may be up to 100 percent but is not exactly known.

While this may be one possible interpretation of the disclosure of document D1, the board is not convinced that this is the only interpretation of the expression "maximum power" in D1. In view of the wording of claims 1 and 20, which do not contain a single feature that would inevitably lead to the desired result of a "predetermined percentage" of maximum power in the

sense of the appellant's argument, the board does not find this argument convincing.

First of all, none of the claims according to the main request is restricted to computers. The claims relate to a "first device" and a "second device" only. Therefore, the appellant's arguments regarding power saving modes of computers are irrelevant for this decision.

Moreover, in independent claims 1 and 20 the claimed predetermined percentage is completely left open. Dependent claims 18 and 31 according to the main request define that the predetermined percentage is 100 percent, i.e. maximum power. No other percentages are defined in the claims. Therefore, the only specified predetermined percentage of maximum power, if any, according to the main request can be interpreted to be 100 percent.

This, however, corresponds exactly to what document D1 discloses in the case that a device is set to state 0. This is shown in particular in paragraph [0015] of the English translation D1t of document D1 that states "The power consumption state 0 is the normal operational mode, wherein the power consumption is maximal". The second half of the cited sentence explicitly states "wherein the power consumption is maximal".

The appellant's argument that the computers according to document D1 were merely allowed to operate at maximum power and are not necessarily operating at maximum power is speculative. Since D1 explicitly discloses maximum, i.e. 100%, power consumption, the board does not agree with the appellant's argument that document D1 does not disclose that the device is

operated with a predetermined percentage of maximum power.

Even assuming that the appellant were right that D1 did not disclose operation at maximum power for power state 0, the expression "predetermined percentage of maximum power" in claims 1 and 20 is neither specific nor supported by any apparatus feature. It also encompasses that the first device is a computer that is operated in idle mode, such as state 3 according to paragraph [0015] of document D1, which de facto implies a known percentage of maximum power since in idle mode the power consumption is constant, as according to D1 "almost zero".

Thus, in the absence of any technical apparatus features in claim 1 that might on the one hand specify the percentage other than that it be "predetermined", or might on the other hand realise the desired consumption of the percentage of maximum power, the board could not find any difference compared to the teaching of D1. The same applies to the corresponding method of claim 20.

Consequently, the only remaining difference of the subject-matter of the independent claims 1 and 20 of the main request over the disclosure of document D1 is that the value of the at least one characteristic of power is measured, whereas according to D1 it is read from a table.

This difference provides the technical effect of more accurate power data and solves the problem of increasing the accuracy of the power management system. Increasing system accuracy, however, is a common endeavour of the person skilled in the art in the field

of power management. As evidenced by the disclosure of document D2, in particular page 432, the paragraph denoted "1.", the person skilled in the art was well aware of the benefits of measuring power consumption versus relying on the rated power consumption. Consequently, the identified difference lies within the field of common general knowledge of the person skilled in the art.

Since the subject-matter of independent claim 32 is purely defined by reference to independent method claim 20, the above applies *mutatis mutandis* to the subject-matter of claim 32.

The board has thus arrived at the conclusion that the subject-matter of independent claims 1, 20 and 32 according to the main request does not involve an inventive step in the sense of Article 56 EPC.

3. Auxiliary request 1 (Article 13(1) RPBA)

The subject-matter of auxiliary request 1 results *inter alia* from a combination of the features of independent apparatus claim 1 according to the main request with features of independent method claim 20 of the main request, which were reformulated as apparatus features.

However, when introducing features that correspond to the method steps according to claim 20 into claim 1 of auxiliary request 1, some of the apparatus features disclosed in combination in the originally filed apparatus claims 4 and 6 were omitted. For example, the subject-matter of auxiliary request 1 lacks sending a signal to all devices of a branch at the same time, as well as sending the alarm signal to an operator. Thus,

the subject-matter of auxiliary request 1 *prima facie* contravenes Article 123(2) EPC.

Moreover, the application as a whole does not disclose a corresponding embodiment covering all features of claim 1 according to auxiliary request 1. To the contrary, according to the originally filed description, page 14, lines 19 to 22, detection of an overload condition belongs to "another embodiment". Thus, auxiliary request 1 *prima facie* also does not comply with the provisions of Rule 42(1)(e) EPC and Article 83 EPC.

Auxiliary request 1 therefore *prima facie* gives rise to multiple new issues at a late stage of the appeal proceedings. The board consequently exercised its discretion under Article 13(1) RPBA not to admit auxiliary request 1 into the proceedings.

4. Auxiliary request 2a (Article 123(2) EPC)

Compared to the wording of claim 1 according to the main request, the following features were added to claim 1 according to auxiliary request 2a:

"[a predetermined percentage of maximum power] that is less than maximum power, and wherein", and

"[the controller (201) is] arranged to apply a scale factor",

(context in square brackets added by the board).

Independent method claim 20 was amended correspondingly. Independent computer program product

claim 32 is defined by a reference to the method of claim 20.

In their reply filed with letter of 5 September 2018, the appellant argued that the amendments concerned were disclosed on page 18, lines 6 to 17 of the originally filed description.

According to the appellant "if a computer is set to operate at 50% then the value measured would be scaled by a factor of 2 to extrapolate to a value of the full load of the computer".

However, as already stated above, the independent claims are not restricted to computers. Moreover, the original disclosure on page 18 refers to a different context, namely that "computer systems are controlled to operate at 100% of their maximum power to calculate the maximum power draw on circuit branches" (emphasis added by the board), which was omitted.

As an alternative to this operation at 100%, the paragraph reads on that "computers could be controlled to operate at known percentages of full load (i.e., 50% of full load and 75% of full load) and scaling factors could be used to extrapolate full load values based on measurements at known operating points."

Thus, with respect to "scaling", the context of the original disclosure is clearly limited to the determination of the maximum power draw and to two predetermined percentages, namely 50% and 75%. None of these aspects is reflected in the wording of the independent claims of auxiliary request 2a, which leaves open to which predetermined percentage the scale factor is applied and for what purpose.

Moreover, the board is not convinced that such an "extrapolation" would work in practice. An operation "at 50%" refers to full load and thus implies that the full load of the computer, i.e. 100%, is already known to the system. This however, renders an extrapolation completely superfluous. Thus, the cited passage does not disclose a technical teaching corresponding to the features added to the wording of the independent claims of auxiliary request 2a. Since this is the only part of the specification concerning extrapolation, it follows that the features introduced in the independent claims cannot be deduced by the person skilled in the art directly and unambiguously from the application as originally filed.

Consequently, auxiliary request 2a contravenes Article 123(2) EPC.

5. Auxiliary requests 2b, 3a and 3b (Article 13(1) RPBA)

These requests were filed only with the appellant's letter of 5th September 2018, in response to the board's communication under Article 15(1) RPBA. In that letter the appellant provided no argument as to why auxiliary requests 2b, 3a and 3b might be suitable to overcome the objections raised in the contested decision and in the board's communication.

Moreover, auxiliary requests 2b, 3a and 3b all include the inadmissible amendments as discussed above with respect to auxiliary request 2a. Consequently, auxiliary requests 2b, 3a and 3b *prima facie* contravene Article 123(2) EPC.

Therefore, taking into account these facts in the light of the state of the proceedings and the need for procedural economy, the board exercised its discretion under Article 13(1) RPBA not to admit auxiliary requests 2b, 3a, and 3b into the proceedings.

6. Since, for the reasons indicated above, the only admissible requests, i.e. the main request and auxiliary request 2a, are not allowable, the appeal has to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



U. Bultmann

R. Lord

Decision electronically authenticated