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**Datasheet for the decision
of 8 November 2011**

Case Number: T 1804/08 - 3.5.02

Application Number: 05013981.5

Publication Number: 1591978

IPC: G08B 25/08

Language of the proceedings: EN

Title of invention:

Electronic message delivery system utilizable in the monitoring of equipment and method of same

Applicant:

Heat Timer Corporation

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 54, 123(2), 76(1)

Relevant legal provisions (EPC 1973):

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Keyword:

"Novelty (no - main request, first and second auxiliary requests)"

"Added subject-matter (yes - third auxiliary request)"

Decisions cited:

-

Catchword:

-



Case Number: T 1804/08 - 3.5.02

D E C I S I O N
of the Technical Board of Appeal 3.5.02
of 8 November 2011

Appellant:
(Applicant)

Heat Timer Corporation
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Representative:

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted 17 April 2008
refusing European application No. 05013981.5
pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: M. Ruggiu
Members: M. Rognoni
P. Mühlens

Summary of Facts and Submissions

I. The appellant (applicant) appealed against the decision of the examining division refusing European patent application No. 05 013 981.5 which was filed as a divisional application of the earlier application No. 00 908 229.8.

II. In the contested decision, the examination division held, *inter alia*, that the subject-matter of the claims 1 and 11 then on file was not new within the meaning of Article 54 EPC with respect to the following document:

D1: WO-A-98/37704.

III. With the statement of grounds of appeal, the appellant filed three sets of claims by way of main request and first and second auxiliary requests, respectively.

IV. In a communication dated 19 May 2011 summoning the appellant to oral proceedings, the Board referred additionally to the following prior art:

D2: US-A-5 650 940.

V. Oral proceedings were held before the Board on 8 November 2011.

VI. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 20 of the main request or on the basis of claims 1 and 11 of the first, second or third

auxiliary request, all filed at the oral proceedings of 8 November 2011.

VII. Claim 1 of the main request reads as follows:

"A method adapted to control operation associated with a plurality of remote devices (2, 3, 4, 5), the method comprising the steps of:

automatically generating at least one informational message at a central server (1) responsive to one or more of resource-consumption by and resource-production by at least one device (2, 3, 4, 5) of the plurality of remote devices; and

transmitting the at least one informational message to at least one communication device (10), where the at least one communication device enables the taking of at least one action having the effect of providing a change of one or more of resource-consumption by and resource production by one or more of the following: a) the at least one device of the plurality of remote devices, b) one or more second devices of the plurality of remote devices, wherein the one or more second devices is different from the at least one device and c) one or more devices of a second plurality of remote devices, wherein the second plurality of remote devices is different from the plurality of remote devices."

Claims 2 to 10 are directly or indirectly dependent on claim 1.

Claim 11 of the main request reads as follows:

"A system adapted to control operation associated with a plurality of remote devices, the system comprising:

a central server (1) that automatically generates at least one informational message responsive to one or more of resource-consumption by and resource-production by at least one device of the plurality of remote devices (2, 3, 4, 5); and

a communication link (11) that transmits the at least one informational message to at least one communication device (10), where the at least one communication device enables the taking of at least one action having the effect of providing a change of one or more of resource-consumption by and resource-production by one or more of the following: a) the at least one device of the plurality of remote devices, b) one or more second devices of the plurality of remote devices, wherein the one or more devices is different from the at least one device and c) one or more devices of a second plurality of remote devices, wherein the second plurality of remote devices is different from the plurality of remote devices."

Claims 12 to 20 are directly or indirectly dependent on claim 11.

Claims 1 and 11 according to the first auxiliary request differ from the corresponding claims of the main request in that the expression "one or more of the following" in the latter (see third paragraph of the claims) has been replaced by "a combination of the following".

Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the first step has been amended as follows (addition underlined):

"automatically generating at least one informational message at a central server (1) in an iterative manner responsive to one or more of..."

Claim 11 of the second auxiliary request differs from the corresponding claim of the main request in that the first feature has been amended as follows (addition underlined):

"a central server (1) that automatically generates at least one informational message in an iterative manner responsive to one or more of..."

Claim 1 of the third auxiliary request reads as follows:

" A method adapted to control operation associated with a plurality of remote devices (2, 3, 4, 5) of a heating, ventilating and cooling system, the method comprising the steps of:

automatically generating at least one informational message at a central server (1) responsive to one or more of energy-consumption by and energy-production by at least one device (2, 3, 4, 5) of the plurality of remote devices; and

transmitting the at least one informational message to at least one communication device (10), where the at least one communication device enables the taking of at least one action having the effect of providing a change of one or more of energy-consumption

by and energy production by one or more of the following: a) the at least one device of the plurality of remote devices, b) one or more second devices of the plurality of remote devices, wherein the one or more second devices is different from the at least one device and c) one or more devices of a second plurality of remote devices, wherein the second plurality of remote devices is different from the plurality of remote devices."

Claim 11 of the third auxiliary request reads as follows:

"A system adapted to control operation associated with a plurality of remote devices (2, 3, 4, 5) of a heating, ventilating and cooling system, the system comprising:

a central server (1) that automatically generates at least one informational message responsive to one or more of energy-consumption by and energy-production by at least one device of the plurality of remote devices (2, 3, 4, 5); and

a communication link (11) that transmits the at least one informational message to at least one communication device (10), where the at least one communication device enables the taking of at least one action having the effect of providing a change of one or more of energy-consumption by and energy-production by one or more of the following: a) the at least one device of the plurality of remote devices, b) one or more second devices of the plurality of remote devices, wherein the one or more second devices is different from the at least one device and c) one or more devices of a second plurality of remote devices, wherein the

second plurality of remote devices is different from the plurality of remote devices."

VIII. The appellant's arguments relevant to the decision can be summarized as follows:

An essential aspect of the present invention was the remote resource management of a plurality of devices such as those employed in heating, ventilating and cooling (HVAC) systems. This was expressed in the method claim 1 and in the system claim 11 by the features that at least one informational message was generated at a central server responsive to the resource consumption and/or resource production by the remote devices, and that an action effecting a change of resource consumption and/or production was taken in response to such message. In contrast, the cited prior art documents D1 and D2 were merely concerned with monitoring a plurality of devices and transmitting a message to a user in a remote location when an abnormality in the operation of a device was detected. There was no suggestion in D1 or D2 that the known monitoring methods and systems could also be used for resource management. In particular, D2 failed to disclose, or even suggest that the detected abnormality included "one or more of resource-consumption by and resource-production by at least one device of the plurality of remote devices".

Hence, the subject-matter of claims 1 and 11 according to the main request was both new and inventive.

The independent claims 1 and 11 according to the first auxiliary request specified that the taking of at least one action had the effect of providing a change in one

or more of resource consumption by and resource production by a combination of two or more remote devices. As specified above, D2 only disclosed a central monitoring device that collected various data in the process to be monitored in order to detect the occurrence of an abnormality in the process. Hence, D2 failed to show the combination recited in the amended claims 1 and 11.

Claims 1 and 11 according to the second auxiliary request specified that the generating of at least one informational message at a central server occurred in an iterative manner. This amendment clarified that the purpose of the present invention was not merely to detect an occasional abnormality but involved a number of steps performed cyclically and periodically, such as sending daily status messages from the devices to a central server, taking information concerning the remote devices at a central service and providing user information and other information to an interface unit in order to allow the user to control the devices remotely.

The independent claims according to the third auxiliary request specified that the plurality of devices belonged to ventilation and heating and cooling systems and clarified that resource management according to the invention was specifically concerned with energy management. This feature was inherent in the application as originally filed because any change in the operation of a device involving its activation, deactivation and otherwise control, as specified in the description, had a direct impact on the energy consumption or energy production of the device. The

third auxiliary request did not contain any subject-matter which extended beyond the content of the application as originally filed and was therefore admissible under Article 123(2) EPC.

Reasons for the Decision

1. The appeal is admissible.

Main request

2.1 Claim 1 of the main request relates to a "method adapted to control operation associated with a plurality of remote devices" which comprises the following steps:

- (A) automatically generating at least one informational message at a central server responsive to one or more of
 - (i) resource-consumption by and
 - (ii) resource-production byat least one device of the plurality of remote devices; and
- (B) transmitting the at least one informational message to at least one communication device,
- (C) where the at least one communication device enables the taking of at least one action having the effect of providing a change of one or more of
 - (i) resource-consumption by and
 - (ii) resource-production byone or more of the following:

- a) the at least one device of the plurality of remote devices,
- b) one or more second devices of the plurality of remote devices, wherein the one or more second devices is different from the at least one device and
- c) one or more devices of a second plurality of remote devices, wherein the second plurality of remote devices is different from the plurality of remote devices.

2.2 According to the appellant, a fundamental aspect of the present invention concerned the resource management of a plurality of remote devices, as expressed by features (A)(i), (A)(ii), (C)(i) and (C)(ii) of claim 1 and, in particular, by the terms "*resource-consumption*" and "*resource-production*".

3.1 It is undisputed that the terms "*resource-consumption*" and "*resource-production*" do not occur in the description of the present application or in the corresponding earlier application. Given the importance attributed by the appellant to these terms for defining the subject-matter covered by the independent claims, it is necessary to investigate their actual meaning within the context of the invention as originally disclosed.

3.2 According to the appellant, the terms "*resource-consumption*" and "*resource-production*" essentially referred to the fact that the operation of a remote device had a direct impact on the "resources" (e.g. on the energy) which the device consumed and/or produced. As any modification in the operation of a device

resulted in a modification of the device's resource consumption and resource production, the present invention, by enabling the remote control of a plurality of devices, was effectively directed to the resource management of such devices.

3.3 In order to support the above arguments, the appellant relied essentially on the following passages of the description (all citations of the application in the decision refer to the originally filed application documents):

- *"It is another object of the invention to provide a system for remotely monitoring electrical and/or mechanical equipment in which a user may interactively alter the operation of a piece of equipment remotely" (page 3, lines 10 to 12 - emphasis added).*
- *"An existing piece of equipment may be monitored, for example; an air-conditioner 2, boiler 3, motor starter 4, heater 5, or any other piece of equipment they may be desired to be monitored. The existing piece of equipment is fitted with an interface unit 10" (page 8, lines 16 to 19 - emphasis added).*
- *"Such command messages allow the user to activate, deactivate, and otherwise control the appliance" (page 11, lines 21 to 22 - emphasis added).*

3.4 In summary, the appellant essentially argued that the declared object of the present invention was to give a user the possibility of altering the operation of a

piece of equipment remotely by sending command messages which could activate, deactivate or otherwise control the appliance and that resource management of remote devices was an inherent feature of the method and system disclosed the present application.

- 4.1 According to page 1, lines 5 to 8 of the application (emphasis added), the "*invention relates to monitoring systems, and more specifically to networks for remotely monitoring the condition of devices such as those employed in heating, ventilating, and cooling (HVAC) systems"*.

As acknowledged on page 1, lines 9 to 19 (emphasis added), it "*is desirable to be able to monitor remotely equipment that may require periodic preventive maintenance and/or that may require rapid response time should a catastrophic failure occur. For example, the components of a building's HVAC system must be monitored or checked frequently. Preventive maintenance must be performed on a constant basis, particularly with larger systems. Fault or failure conditions may vary in degrees of severity, however the contractor responsible for maintaining the HVAC equipment should be made aware of each failure in due course. Since a contractor, in all likelihood, is responsible for the care and maintenance of the installations of multiple clients, and since fault conditions may occur at any time of day or night, it is not practical for a contractor to remain on-site all the time. Remote detection at a central location (for example, the contractor's office) of fault conditions is desirable and often crucial"*.

According to the present application (page 2, lines 9 to 13), prior art systems "are limited in scope because they do not allow for sufficient flexibility in routing fault messages to a variety of different potential recipients of such messages via a variety of different media, depending on the urgency or nature of the fault. Also, the above systems and the prior art do not enable customers and contractors to enter or modify such information easily".

4.2 Consequently, the gist of the invention, as presented in the description, consists essentially in providing a method for monitoring remote equipment which includes the steps of "determining a state of at least one parameter of at least one piece of remote equipment, communicating messages regarding the state to a central location as incoming messages, and forwarding exception messages based on the incoming messages to at least one user-defined end device" (see application page 3, lines 16 to 20).

4.3 The exception condition to be detected is specified as follows:

- *Equipment that needs to be monitored frequently, such as HVAC equipment, preferably operates within certain acceptable parameters. Some of these parameters are more crucial to the operation and/or life span of the equipment than are other parameters. For example, a low battery condition might be a lot less serious than a low coolant level condition. Whenever a piece of equipment operates outside its preferred parameters, an "exception" condition is created or said to exist.*

An exception condition can also be indicative of a regularly scheduled event occurring too often, too infrequently, or not at all. An exception condition could also be indicative of a measured value being beyond the design specification for the equipment. When a monitored piece of equipment detects an exception condition, it activates its interface to the cellular phone network" (page 5, line 31 to page 6, line 2 - emphasis added).

Apart from generating "exception messages" the method and system according to the present application allow a user to "control the functioning of a remote device in this way, via the Internet. The user can enter commands at the website or other Internet interface, and those commands are forwarded to the server 1. In accordance with the user profile, for example, in the same way that exception messages are sent out via links 12a-d, a command message may be sent to the remote device through interface unit 10. Such command messages allow the user to activate, deactivate, and otherwise control the appliance. The interface unit 10 can receive these command messages because the means by which the unit 10 communicates with the server, e.g., the cellular telephone network, is bidirectional. As a result of this bi-directionality, incoming links 1 1a-d may also be used to communicate with the devices through their respective interface units 10" (page 11, lines 17 to 26 - emphasis added).

In other words, the remote management of HVAC systems foreseen by the present invention relates essentially to the activation, deactivation and generally control of devices employed in such systems.

4.4 Thus, seen in the context of the description, the features of the independent claims that refer to actions providing a change of resource-consumption and/or resource-production can only relate to the remote activation, deactivation or otherwise control of a device in response to a message indicative of its status. Any interpretation implying an active and direct management of the "resources" consumed and/or produced by a device in response to messages indicative of the device's resource consumption and/or production would extend the subject-matter of the claim beyond the content of the description as originally filed and of the earlier application and thus violate Article 123(2) and Article 76 EPC.

5.1 In view of the interpretation to be given to the wording of claim 1 of the main request and, in particular, to "*resource-consumption*" and "*resource-production*", it remains to be considered whether the subject-matter of this claim is distinguishable from the prior art.

5.2 D2 relates to a process monitoring system comprising a central monitoring device with a process monitor unit 122 for detecting the occurrence of an abnormality in the process to be monitored. Monitoring a process implies monitoring the states of a plurality of remote devices required to carry out the process (cf. D2, Figure 9 and column 6, lines 57 to column 7, line 5). On the other hand, an abnormal operational state of at least one of the devices responsible for carrying out the process can be taken as indicative of the occurrence of an abnormality in the process.

As pointed out in column 4, lines 13 to 18, the process monitor unit 122 carries out a monitoring operation by collecting various data on the process to be monitored.

When the occurrence of an abnormality in the process to be monitored 110 is detected by the process monitor unit 122, the information concerning the occurrence of the abnormality in the process to be monitored 110 is displayed on a CRT display of the central monitoring device 120. *"Meanwhile, the same information concerning the occurrence of the abnormality is also given from the process monitor unit 122 to the data transmission unit 123, where the information is temporarily stored until an access is made from the portable monitoring device 170 through the data transmission line 160"* (D2 column 5, lines 27 to 32).

The functionality of the *"portable monitoring device"* is explained, for instance, in column 5, line 50 to column 6, line 11:

"At the portable monitoring device 170, the information received from the central monitoring device 120 by the MODEM device 150 through the data transmission line 160 is inputted into the portable monitoring device 170 at the data transmission unit 171, and is then appropriately processed at the data processing unit 172 to determine the information to be given to the supervising personnel using the portable monitoring device 170, such that the information to be given to the supervising personnel is displayed on the display unit 174 under the control by the display control unit 173, so as to notify the occurrence of the abnormality

in the process to be monitored 110 to the supervising personnel using the portable monitoring device 170. The supervising personnel using the portable monitoring device 170 then enters the desired commands necessary for the recovery from the abnormality at the command input unit 175, such that these commands are transmitted to the central monitoring device 120 through the data processing unit 172, the data transmission unit 171, the MODEM devices 140 and 150, and the data transmission line 160. In response, at the central monitoring device 120, the necessary recovery operations are carried out according to the commands given from the supervising personnel using the portable monitoring device 170, so that even the supervising personnel located at a remote location from the central monitoring room can also take care of the abnormality in the process to be monitored 110 appropriately and quickly, according to the information displayed on the display unit 174 of the portable monitoring unit 170" (emphasis added).

It goes without saying that commands required to take care of an abnormality in a monitored process necessarily include the activation, deactivation or otherwise the control of the appliance and thus the control of its "resource production" and/or "resource-consumption" within the meaning of claim 1 of the main request.

- 5.3 In summary, the system disclosed in D2 involves a method for controlling operation associated with a plurality of remote devices which comprises the following steps worded in the language of claim 1 of the main request:

- automatically generating one informational message at a central server ("central monitoring device 120") responsive to the operational state of, and thus to the resource consumption and/or resource production by at least one device of the plurality of remote devices [used for carrying out the monitored process],
- transmitting the informational message to at least one communication device 170,
- where the at least one communication device enables the taking of at least one action having the effect of providing a change, as recited in paragraph (C) of claim 1 (see item 2.1 of the decision), on one or more devices [responsible for the monitored process].

5.4 As D2 discloses a method falling within the terms of claim 1 of the main request, the subject-matter of this claim is not new within the meaning of Article 54 EPC.

5.5 The same objection applies to claim 11 which relates to a system essentially corresponding to the method of claim 1.

First auxiliary request

6.1 Claim 1 according to the first auxiliary request differs from claim 1 of the main request only in that feature (C) above refers to:

- "... a change of one or more of resource consumption by and resource production by a combination of the following ..." (underlining added).

6.2 Figure 9 of D2 shows an "exemplary step execution display screen" presented at the portable monitoring device and comprising a number of steps to be performed in order to recover from an abnormality. As Figure 9 shows, these steps involve operating on a combination of sub-devices. Thus, D2 discloses also feature (C) as amended in accordance with the first auxiliary request.

6.3 Consequently, the method known from D2 falls also within the terms of claim 1 of the appellant's first auxiliary request (Article 54 EPC).

Second auxiliary request

7.1 Claim 1 of the second auxiliary request differs from claim 1 of the main request in that feature (A) reads as follows:

- "automatically generating at least one informational message at a central server (1) in an iterative manner responsive to one or more of..." (emphasis added).

The wording "in an iterative manner" does not occur in the application as originally filed or in the earlier application.

7.2 The appellant has essentially argued that, as specified in the application on page 7, lines 14 and 15, "the

interface may be programmed to check in once a day with an "all systems okay" message". However, the periodic "okay" or status message was not merely limited to providing a status "heartbeat" for the equipment but might also be employed to transmit information about the monitored piece of equipment, as specified on page 7, lines 25 to 27.

In view of the fact that the method of the invention involved three essential steps performed cyclically, *i.e.* sending information concerning the state of devices to a central server, forwarding a corresponding message to a user and, in response to such message, effecting a change in the operation of at least a device, and that such steps were performed periodically at least when the daily status message was generated, the description of the present invention necessarily implied the "iterative manner" now recited in the claim.

7.3 Hence, in the light of the appellant's arguments and of the cited passages of the description, the expression "*in an iterative manner*" relates essentially to the cyclic and repetitive nature of the generation of the information messages.

8.1 It is specified in D2, column 14, line 63 to column 15, line 3, that "*in addition to the data transmission between the central monitoring device and the portable monitoring device at a time of the occurrence of the abnormality in the process to be monitored, the further data transmission between the central monitoring device and the portable monitoring device may be made at*

regular intervals, regardless of the state of the process to be monitored" (emphasis added).

D2 therefore also discloses the step of *"automatically generating at least one informational message at a central server in an iterative manner"*, as recited in claim 1 of the second auxiliary request.

- 8.2 For the same reasons given above (see item 5.2 and 5.3 of the decision), the subject-matter of claim 1 of the second auxiliary request is not new within the meaning of Article 54 EPC.

Third auxiliary request

- 9.1 Claim 1 according to the third auxiliary request differs from claim 1 of the main request in that the devices are *"of a heating, ventilating and cooling system"* and in that the expression *"resource-consumption by and resource-production by"* has been replaced by *"energy-consumption by and energy-production by"*.
- 9.2 The appellant has essentially argued that the third auxiliary request clarified an essential aspect of the invention which concerned the energy management of a heating, ventilating and cooling system.
- 9.3 The method of claim 1 comprises the step of *"automatically generating at least one informational message at a central server (1) responsive to one or more of energy-consumption and energy-production by at least one device (2, 3, 4, 5) of the plurality of remote devices"*.

As pointed out above (see item 4.3), the method disclosed in the description generates messages at a central server in response to an "exception condition", i.e. whenever "a piece of equipment operates outside its preferred parameters" or to "check in once a day with an 'all systems okay' message" (application as filed, page 5, lines 35 and 36). However, there is no indication in the application as filed or in the earlier application that the generation of such messages is also responsive to the energy consumption and/or the energy production of such devices, in the sense that these parameters are directly monitored.

9.4 Thus, as far as it defines a method that generates messages at a central server responsive to the energy consumption and/or energy production of the monitored devices, claim 1 contains subject-matter which extends beyond the content of the application as originally filed and thus infringes Article 123(2) EPC.

10. In the result, the Board comes to the conclusion that none of the appellant's requests is allowable. Consequently, the application has to be refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

C. Moser

M. Ruggiu