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**Datasheet for the decision
of 1 March 2011**

Case Number: T 1714/07 - 3.5.05

Application Number: 04253600.3

Publication Number: 1494393

IPC: H04L 12/24

Language of the proceedings: EN

Title of invention:

System and method for providing event hysteresis in network management systems

Applicant:

Tyco Electronics Subsea Communications LLC

Headword:

Toggling alarm management/TYCO ELECTRONICS

Relevant legal provisions:

EPC Art. 111(1), 123(2)

Relevant legal provisions (EPC 1973):

EPC Art. 56, 106, 107, 108

Keyword:

"Extension of subject-matter - no (after amendment)"

"Main request - Inventive step - no"

"Auxiliary request one - Remittal to the first instance for further prosecution"

Decisions cited:

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Catchword:

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Case Number: T 1714/07 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 1 March 2011

Appellant: Tyco Electronics Subsea Communications LLC
412 Mount Kemble Avenue
Morristown NJ 07960 (US)

Representative: Brookes Batchellor LLP
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 16 May 2007
refusing European patent application
No. 04253600.3 pursuant to Article 97(1) EPC
1973.

Composition of the Board:

Chairman: A. Ritzka
Members: P. Cretaine
P. Schmitz

Summary of Facts and Submissions

- I. This appeal is against the decision of the examining division to refuse European patent application No. 04 253 600.3, published as EP 1 494 393. The decision was announced in oral proceedings held on 23 April 2007 and written reasons were dispatched on 16 May 2007.
- II. The decision under appeal was based on the grounds that the independent claims of a main request and of an auxiliary request, both submitted on 22 March 2007, did not meet the requirements of Article 56 EPC 1973, having regard to the disclosure of

D1: US 6 124 790.
- III. The notice of appeal was submitted on 12 July 2007. The appeal fee was paid on the same day. A written statement setting out the grounds of appeal was submitted on 18 September 2007. The appellant requested that the appealed decision be set aside and that a patent be granted based on the claims of a main request, a first auxiliary request, a second auxiliary request, or a third auxiliary request, filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.
- IV. A summons to oral proceedings to be held on 1 March 2011 was issued on 3 December 2010. In an annex accompanying the summons the board expressed the preliminary opinion that the independent claims of the four requests did not fulfil the requirements of

Article 123(2), and of Article 56 EPC 1973 having regard to the disclosure of D1.

- V. With a letter of reply dated 1 February 2011, the appellant filed an amended main request, amended first to third auxiliary requests, and new fourth and fifth auxiliary requests, with arguments in support of these six requests.
- VI. At the oral proceedings scheduled on 1 March 2011, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims filed as third auxiliary request with letter dated 1 February 2011, this request now being the main request, or on the basis of the set of claims filed as fifth auxiliary request with letter dated 1 February 2011, this request now being auxiliary request one. All further previous requests were withdrawn.
- VII. Independent claim 1 according to the main request reads as follows:

"1. A method of managing an event toggling between first and second event states in a network management system, said method comprising:
reporting a first state change as soon as it is received from a network element; then
determining if said event maintains one of said first and second states for a predetermined amount of time;
and
reporting said event as maintaining said one of said first and second states when said one of said first and

second states is maintained for said predetermined amount of time, and reporting the actual time of occurrence of a last state change of said event when that said event maintained said one of said first and second states."

Independent claim 7 according to the main request relates to a machine-readable medium whose contents cause a network management system to perform the method of claim 1.

Independent claim 13 according to the main request relates to a network management system comprising a machine-readable medium whose contents cause said system to perform the method of claim 1.

Independent claim 19 according to the main request relates to an optical communication system comprising a network management system comprising a machine-readable medium whose contents cause said network management system to perform the method of claim 1.

Independent claim 1 according to auxiliary request one reads as follows:

"1. A method of managing an event toggling between first and second event states in a network management system, said method comprising:
listing said event and a last state change time of said event in a hysteresis table, if said event is not already listed in said hysteresis table;
determining if said event maintains one of said first and second states for a predetermined amount of time, wherein:

if said last state change time of said event plus said predetermined amount of time is not less than current time, then said event is deemed unstable and remains listed in said hysteresis table; and
if said last state change time plus said predetermined amount of time is less than the current time, then said event is deemed stable and is removed from said hysteresis table; and
reporting said event as having one of said first and second states;
characterized in that said reporting said event as having said one of said first and second states occurs only when said one of said first and second states is maintained for said predetermined amount of time, and comprises reporting the actual time of occurrence of a last state change of said event when that said event maintained said one of said first and second states."

Independent claim 7 according to auxiliary request one relates to a machine-readable medium whose contents cause a network management system to perform the method of claim 1.

Independent claim 13 according to auxiliary request one relates to a network management system comprising a machine-readable medium whose contents cause said system to perform the method of claim 1.

Independent claim 19 according to auxiliary request one relates to an optical communication system comprising a network management system comprising a machine-readable medium whose contents cause said network management system to perform the method of claim 1.

VIII. At the end of the oral proceedings the chair announced the board's decision.

Reasons for the Decision

1. Admissibility

The appeal complies with the provisions of Article 106 to 108 EPC 1973 (cf. section III above). It is therefore admissible.

2. Article 123(2) EPC

The independent claims of the main request and of auxiliary request one contain the feature that the reporting of an event as having or maintaining one of a first state and a second state occurs **when** said one of said first and second state is maintained for a predetermined amount of time. The board is thus satisfied that the objection under Article 123(2) EPC raised in that respect in its communication dated 3 December 2010 annexed to the summons to oral proceedings has been overcome.

The independent claims 1, 7, 13 and 19 according to auxiliary request one combine features of a hysteresis table updating, as disclosed in paragraphs [0024] to [0026] in relation to figures 4 and 5 of the published application, with, respectively, features of the originally filed independent claims 1, 17, 25 and 33 and of the originally filed description page 7, lines 14-16 and 20-24. It is unambiguously disclosed (see paragraph [0024]) that the hysteresis table is

designed to facilitate the alarm management method previously described in the application. Therefore the board judges that independent claims 1, 7, 13 and 19 according to auxiliary request one are based on the originally filed application and meet the requirements of Article 123(2) EPC. The dependent claims according to auxiliary request one correspond to the dependent claims according to the main request and thus, in the board's judgment, also meet the requirements of Article 123(2) EPC.

3. Inventive step - Article 56 EPC 1973

3.1 Disclosure of D1

D1 relates to filtering an alarm signal toggling between two states, "up" and "down", in a network management system NMS. Prior-art methods for alarm validation are disclosed with reference to figures 3 to 11 and the method claimed in D1 is described with reference to figures 13 and 14. These alarm validation methods consist in filtering the alarm input signal (see part A of the figures), using a different algorithm for each method, to generate an alarm output signal (see part B of the figures) having the state "up" when the alarm is validated and the state "down" when it is not validated. The alarm output signal may thus be seen as a signal reporting some temporal characteristics of the alarm input signal.

D1 discloses a first prior-art approach to alarm validation (see column 5, lines 24 to 31, in relation to figures 4A/4B to 8A/8B) wherein the filtered alarm signal changes from down to up and from up to down when

the alarm signal is maintained for a predetermined amount of time in the up and down state, respectively. The predetermined amount of time being known by the system, the actual time of occurrence of a stable alarm is directly calculable by the network management system using this alarm validation scheme.

D1 discloses a second prior-art approach to alarm validation (see column 6, lines 27 to 58, in relation to figures 9A/9B to 11A/11B) wherein the filtered alarm signal changes from down to up as soon as the alarm signal first changes from down to up.

The claimed invention, according to the main request and auxiliary request one, deals with the managing of an event (e.g. an alarm signal) toggling between two states. The managing consists in reporting different information related to the evolution of the event over time. However the claimed invention does not specify how the reported information is conveyed to, and interpreted by, the person monitoring the NMS.

3.2 Main request:

- 3.2.1 The event toggling between two states defined in claim 1 can be read onto the alarm signal toggling between the states up and down in D1.

The differences between the subject-matter of claim 1 and the first of the above-mentioned approaches disclosed in D1 are thus that according to claim 1 the first change in the event (alarm signal in D1) is reported as soon as it occurs and that according to claim 1 the actual time of occurrence of the last state

change is reported when the event (alarm signal in D1) maintains the state for a predetermined time.

The technical effect of these differences is that the user of the NMS (a network manager for instance) knows exactly when the event first started to change and when a reported stable state of the event actually started.

The objective technical problem may thus be regarded as how to provide more accurate information about the event's state changes to the user of the NMS.

Starting from D1 and trying to solve this problem, the skilled person would immediately notice that the above-mentioned second prior-art approach disclosed in D1 considers the time of first state's change from down to up as an item of information which is worth being reported while filtering the alarm input signal. Moreover the skilled person is aware that the actual time of occurrence of a stable alarm is information which is directly calculable by the NMS using the first prior-art approach of D1. While trying to report more accurate information to the NMS, the skilled person would thus consider the possibility of additionally reporting the said information, e.g. by using further dedicated output signals. The board therefore judges that the subject-matter of claim 1 does not involve an inventive step, having regard to the disclosure of D1.

Independent claims 7 and 13 relate to, respectively, a machine-readable medium whose contents cause an NMS to perform the method of claim 1 and an NMS for performing the method of claim 1, and as such also do not meet the requirements of Article 56 EPC 1973.

Independent claim 19 relates to an optical communication system comprising an NMS for performing the method of claim 1, i.e. an NMS according to claim 13. The features of the optical communication system, namely a transmitter and a receiver coupled through an optical information channel, are well-known features, and the use of an NMS according to claim 13 in such a system does not involve, in the board's judgement, an inventive step.

- 3.2.2 The appellant has submitted that the system according to the main request tracks several events and records characteristics of their temporal behaviour in a table whereas the system of D1 only provides a filtered or integrated signal of an alarm signal, this preventing the skilled person from considering D1 as starting prior art. The board is not convinced by the appellant's assertion, because the claims only define a single event to be managed and the filtered alarm signal of D1 does represent a reporting of the alarm's temporal behaviour.

The appellant argued that the skilled person, unless using hindsight, would not be aware of the necessity for the person monitoring the NMS to know the exact time of the last change of state. In the boards' view, however, the fact that some alarm activation schemes described in D1 do report this specific time for a down to up state change is an indication for the skilled person that the reporting of said time is relevant in certain circumstances for the person monitoring the NMS and may also be considered for schemes using delayed reporting.

The appellant further argued that the skilled person would observe the flaws pointed out in systems of the kind described with reference to figures 3-5 of D1 and therefore provide a system of the type described with reference to figures 13 and 14, which represents the invention in D1. The problem solved by the system described with reference to figures 13 and 14 of D1 is to filter out as many redundant alarm messages as possible while requiring minimal resources (see D1, column 7, lines 2 to 5). In the board's judgement, however, the skilled person would try to solve the problem of providing the user of the NMS with more accurate information, as mentioned in paragraph 3.2.1. He would thus not be inclined to follow the teaching of D1 in respect of the invention defined in the claims of D1 in relation to figures 13 and 14, which is directed to solving a different problem.

The appellant also argued that the combination of features of claim 1 enables the user, based on the state maintained and the time of the last change of state, to distinguish between a toggling and a non-toggling alarm, whereas the methods shown in figures 9 to 11 of D1 do not. The board does not dispute this but is not convinced by the appellant's assertion that the technical problem, based on this technical effect, should be defined as how to avoid validating a fast toggling alarm as a constant fault.

In the board's judgement, claim 1 does not define whether or not an alarm is validated as a fault, but only which characteristics of the temporal behaviour of the event are to be reported by the NMS. Validation of the alarm is a task performed by the user of the NMS

interpreting the reported characteristics. The problem stated by the appellant therefore is not solved by the features of claim 1 itself.

3.3 Auxiliary request one:

The claims according to auxiliary request one were filed in the appeal proceedings and contain features from the description which were not taken into consideration during search and examination. Under the circumstances, the board finds that it would not be appropriate for inventive step to be decided upon in the present appeal proceedings. Accordingly, the board decides to exercise its discretion to remit the case to the department of first instance for further prosecution in accordance with Article 111(1) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution on the basis of the set of claims of auxiliary request one.

The Registrar:

The Chair:

B. Atienza Vivancos

A. Ritzka