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Datasheet for the decision of 5 February 2009

Case Number: T 1256/07 - 3.5.03

Application Number: 01400973.2

Publication Number: 1146769

IPC: H04Q 11/04

Language of the proceedings: EN

Title of invention:
Method and apparatus for congestion avoidance in source signaling protocol communication networks

Applicant:
Alcatel Networks Corporation

Opponent:
-

Headword:
Congestion avoidance/ALCATEL

Relevant legal provisions:
EPC Art. 56, 84

Keyword:
"Clarity (no)"
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1256/07 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 5 February 2009

Appellant: Alcatel Networks Corporation
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Decision under appeal: **Decision of the examining division of the European Patent Office posted 6 February 2007 refusing European application No. 01400973.2 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: A. S. Clelland
Members: F. van der Voort
R. Menapace

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 01400973.2, publication number EP 1 146 769 A.

The reasons given for the refusal were that independent claims 1 and 10 were not clear, Article 84 EPC, and that their subject-matter did not involve an inventive step, Articles 52(1) and 56 EPC.

II. With the statement of grounds of appeal the appellant filed claims of a main request and claims of a first and a second auxiliary request. Arguments in support of these requests were also submitted.

III. The appellant was summoned to oral proceedings. The summons was accompanied by a communication in which the board gave its preliminary opinion and drew the appellant's attention to points which it considered needed to be discussed.

Those parts of the communication which are relevant to the present decision, i.e. points 5 and 6, are reproduced below, in which D1 to D3 refer to the following documents:

Dl: "Signalling connection control part procedures", ITU-T Recommendation Q.714, Series Q: Switching and Signalling, Specifications of Signalling System No. 7 - Signalling connection control part, International Telecommunication Union, July 1996, pages 1 to 17, 49 to 61, and 75;

D2: "Signalling network functions and messages", ITU-T Recommendation Q.704, Series Q: Switching and Signalling, Specifications of Signalling System No. 7 - Message transfer part, International Telecommunication Union, July 1996, pages 1 to 10 and 49 to 69; and

D3: US 6 038 218 A.

Points 5 and 6 of the communication read as follows:

"5. Article 84 EPC

5.1 Claim 10 of the main request refers to a network element, an additional network element, a source routed signalling protocol communication network, and a destination node (see lines 20 and 23 to 27). Since none of these entities appear to be part of the claimed congestion notification processor, it is unclear for which subject-matter the claim seeks protection. A similar objection applies to claims 11 to 15 and 17 to 20 of the main request ("network", "network elements", "source node", utilisation of the congestion notification by the "additional network element", etc.)

5.2 Claim 10 of the main request is also unclear in that there is no antecedent for "the source routed signaling protocol communication network".

5.3 The above clarity objections apply *mutatis mutandis* to the corresponding claims of the auxiliary requests (in which, moreover, reference

is made to "a source", "a path", and "a source network element").

5.4 Claim 1 of the first auxiliary request is unclear in that it is unclear whether or not "a source" and "a source network element" refer to one and the same network element (see lines 6 and 7).

5.5 Further, in claim 1 of the first auxiliary request reference is made to "at least one additional network element" (see line 12). The term "additional" implies that the source network element, which is mentioned earlier, is excluded. The subsequent wording "including the source network element" is therefore contradictory. It appears that "including" should read "and" (cf. the application as published, page 7, lines 27 to 31, and claim 6).

5.6 The claims of the main and auxiliary requests do not therefore comply with the requirements of Article 84 EPC.

6. *Inventive step*

6.1 Although, as set out above, the claims do not meet the requirements of Article 84 EPC, it is considered useful to give a preliminary opinion on the question of inventive step in relation to the claimed subject-matter when read in the context of the application as originally filed.

6.2 The appellant submits that there is no indication in Dl that a signalling point is marked as out of service in the event of congestion and that the prior art fails to give a clear teaching of rerouting of control plane traffic in response to congestion (see the statement of grounds of appeal, e.g. points 16 and 27). In the case of congestion, the SCCP merely initiates a flow control procedure in order to reduce traffic flow to the congested node (point 17).

6.3 The board notes however that in the Signalling System No. 7 as disclosed in the ITU-T specifications, of which Dl and D2 are part, a congested signalling link may be indicated as failed, namely in the case of excessive periods of level 2 congestion, in which case the signalling link status is set to "unavailable" and traffic will be diverted, i.e. rerouted, to one or more other links, see D2, page 2 (point 1.3.1), page 3 (point 1.3.3), page 9 (point 3.1.1), and pages 10 and 11 (points 3.2.1 and 3.2.2).

Further, at page 49, point 11.1, it is described that flow control action is taken when congestion of a signalling link or signalling point has resulted "in a situation where reconfiguration is not appropriate". In the board’s view this implies that a reconfiguration in the case of congestion is not excluded under all circumstances.

6.4 It therefore appears that D2 teaches, or at least suggests, that, dependent on the level of congestion, control traffic to the congested

signalling link may either be reduced and/or rerouted around the congested signalling link.

6.5 The board further notes that also in D3 rerouting and traffic reduction are described in relation to signalling link congestion detection and notification (see D3, col. 2, lines 2 to 16 and 33 to 39, and Fig. 2).

6.6 Hence, it appears that using a congestion notification for reducing traffic flow and/or for rerouting traffic, in particular a call setup message from a source node to a destination node, around the congested network element would have been obvious to the person skilled in the art at the time.

6.7 For the sake of completeness, it is noted that the method described in the present application does not exclude traffic reduction in addition to traffic rerouting either, see, e.g., paragraph [0035] of the description as published and claims 20 and 31 as originally filed (see also dependent claims 20 and 21 of each one of the present main and auxiliary requests).

6.8 For the above reasons and taking into account the reasons as set out by the examining division (see the decision under appeal, point II.1.1), it appears that the subject-matter of claims 1 and 10 of each one of the requests does not involve an inventive step, Articles 52(1) and 56 EPC.

6.9 Further, in view of the above and having regard to the prior art documents on file, the additional features as defined in the dependent claims of each set of claims do not appear to contribute to an inventive step either."

IV. In response to the summons to oral proceedings, the appellant informed the board that it would not attend the oral proceedings. No substantive submissions in reply to the communication were filed.

V. Oral proceedings were held on 5 February 2009 in the absence of the appellant. At the end of the oral proceedings the board's decision was announced.

VI. Claim 1 of the **main** request reads as follows:

"A method for communicating control plane congestion information in a source routed signaling protocol communication network, characterized in that it comprises the steps of:

detecting control plane congestion at a network element (C32);

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element (A30-G36) in the source routed signaling protocol communication network (100), wherein the at least one additional network element utilizes the congestion notification for routing control traffic originating therefrom to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Claim 10 of the **main** request reads as follows:

"A congestion notification processor (138), characterizes *[sic]* in that it comprises:

a processing module (132);

memory (134) operably coupled to the processing module (132), wherein the memory (134) stores operating instructions that, when executed by the processing module (132), cause the processing module (132) to perform the following functions including:

detecting control plane congestion in a network element (C32);

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element (A30-G36) in the source routed signaling protocol communication network (100), wherein the at least one additional network element utilizes the congestion notification for routing control traffic originating therefrom to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Claim 1 of the **first auxiliary** request reads as follows:

"A method for communicating control plane congestion information in a source routed signaling protocol communication network, characterized in that it comprises the steps of:

sending a call setup message from a source toward a destination along a path determined by a source network element;

detecting control plane congestion encountered by the call set up message in a network element (C32) along the path;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element (A30-G36) including the source network element in the source routed signaling protocol communication network (100), wherein the at least one additional network element utilizes the congestion notification for routing control traffic originating therefrom to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Claim 10 of the **first auxiliary** request reads as follows:

"A congestion notification processor (138), characterizes *[sic]* in that it comprises:

a processing module (132);

memory (134) operably coupled to the processing module (132), wherein the memory (134) stores operating instructions that, when executed by the processing module (132), cause the processor to perform the following functions including:

sending a call setup message from a source toward a destination along a path determined by a source network element;

detecting control plane congestion encountered by the call setup message in a network element (C32) along the path;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least one additional network element (A30-G36) including the source network element in the source routed signaling protocol communication network (100), wherein the at least one additional network element utilizes the congestion notification for routing control traffic originating therefrom to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Claim 1 of the **second auxiliary** request reads as follows:

"A method for communicating control plane congestion information in a source routed signaling protocol communication network, characterized in that it comprises the steps of:

sending a call setup message from a source toward a destination along a path determined by a source network element;

detecting control plane congestion experienced by the call setup message in a network element (C32) along the path;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least the source network element in the source routed signaling protocol communication network (100), wherein the source network element uses the congestion notification for re-routing the setup message to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Claim 10 of the **second auxiliary** request reads as follows:

"A congestion notification processor (138), characterizes *[sic]* in that it comprises:

a processing module (132);

memory (134) operably coupled to the processing module (132), wherein the memory (134) stores operating instructions that, when executed by the processing module (132), cause the processor to perform the following functions including:

sending a call setup message from a source toward a destination along a path determined by a source network element;

detecting control plane congestion experienced by the call setup message in a network element (C32) along the path;

generating a congestion notification corresponding to the control plane congestion;

providing the congestion notification to at least the source network element in the source routed signaling protocol communication network (100),

wherein the source network element uses the congestion notification for rerouting the setup message to a destination node (D33) around the network element (C32) at which the control plane congestion has been detected."

Reasons for the Decision

1. *Articles 52(1), 56, and 84 EPC*

After having reconsidered the objections raised in its communication and having noted that the appellant did not file any substantive submissions in reply to the communication, the board confirms the reasoning as expressed in its communication and therefore maintains the objections raised, see point III above.

Accordingly, the board concludes that various claims of each one of the main request and the first and second auxiliary requests do not comply with the requirements of Article 84 EPC and that the subject-matter of claims 1 and 10 of each request, when read in the context of the application as originally filed, does not involve an inventive step, Articles 52(1) and 56 EPC.

2. In the absence of an allowable request the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano A. S. Clelland