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Datasheet for the decision of 24 June 2013

Case Number: T 2121/10 - 3.5.03

Application Number: 05255901.0

Publication Number: 1641232

IPC: H04M 7/00, H04L 12/56

Language of the proceedings: EN

Title of invention:
Call admission control in a VoIP network

Applicant:
Alcatel-Lucent USA Inc.

Headword:
Call admission control/ALCATEL-LUCENT

Relevant legal provisions:
EPC Art. 56, 111(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step - yes"
"Remittal"

Decisions cited:
-

Catchword:
-

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Case Number: T 2121/10 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 24 June 2013

Appellant: (Applicant)
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Decision under appeal:
Decision of the examining division of the European Patent Office posted 30 April 2010 refusing European patent application No. 05255901.0 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: F. van der Voort
Members: T. Snell
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 05255901.0, with publication number EP 1641232 A1.

The refusal was based on the ground that the subject-matter of claims 1 to 9 of the only request did not meet the requirement of inventive step pursuant to Article 52(1) in combination with Article 56 EPC with respect to the disclosure of the document:

D1: Houck et al: "Call admission control and load balancing for voice over IP", Performance Evaluation Vol. 47, 2002, pages 243-253,

and taking into account common general knowledge in the field of telecommunications.

II. The following document cited in the European Search Report is also referred to in this decision:

D2: EP 1347603 A.

III. The appellant filed a notice of appeal against the above decision. In the statement of grounds of appeal, the appellant requested that the decision be set aside and a patent granted on the basis of the claims filed on 18 February 2010, ie those refused by the examining division. Oral proceedings were conditionally requested.

IV. In the statement of grounds of appeal, the appellant set out the reasons as to why, in its view, the

subject-matter of the independent claims, ie claims 1 and 8, involved an inventive step.

V. Independent claim 1 reads as follows:

"A method of voice over IP call admission in a network (100, 200), comprising:
receiving (304) a first parameter indicative of a level of link utilization in said network;
comparing (304, 308) said first parameter to a first threshold parameter indicative of link utilization capacity and a second threshold parameter indicative of link utilization capacity;
when the first parameter exceeds at least the first threshold parameter, comparing (314) said first parameter to a second parameter indicative of a previous level of link utilization in the network to determine thereby if the level of link utilization is decreasing or increasing; and
determining (312, 316, 318) an allowable call value in response to said parameter comparisons, wherein when the first parameter does not exceed the second threshold parameter and the level of link utilization is decreasing then the allowable call value is increased, wherein when the first parameter exceeds the second threshold parameter and the level of link utilization is increasing then the allowable call value is decreased."

Independent claim 8 reads as follows:

"An apparatus for facilitating voice over IP call admission in a network (100, 200), comprising:

means for receiving (124) a first parameter indicative of a level of link utilization in said network;
means for comparing (126) said first parameter to a first threshold parameter indicative of link utilization capacity and a second threshold parameter indicative of link utilization capacity;
means for comparing said first parameter to a second parameter indicative of a previous level of link utilization in the network, when the first parameter exceeds at least the first threshold parameter, to determine thereby if the level of link utilization is decreasing or increasing; and
means for determining (126) an allowable call value in response to said parameter comparisons, wherein when the first parameter does not exceed the second threshold parameter and the level of link utilization is decreasing then the allowable call value is increased, wherein when the first parameter exceeds the second threshold parameter and the level of link utilization is increasing then the allowable call value is decreased."

Reasons for the decision

1. *Articles 84 and 123(2) EPC*

1.1 When referring to the description of the application in suit, the board makes reference to the application as published.

1.2 Present claim 1 is based on claim 1 as filed, the description on page 2, lines 39 to 51, and Figs. 3 and 5. Claim 1 is indeed mainly based on Fig. 3,

although Fig. 3 is more limited than the scope of present claim 1 in that it refers to "Allowed_Frac" (allowed fraction) instead of "allowed call value", and to particular formulae for calculating the amount of the increase and decrease. However, the generality of present claim 1, which uses the term "allowed call value", is considered to be supported by claim 1 as filed and by the fact that this value may generally be increased or decreased by other amounts than shown in Fig. 3 as disclosed in Fig. 5.

These comments apply, *mutatis mutandis*, to independent claim 8.

1.3 Dependent claims 2 to 7 and 9 are based on claims 3-8 and 10 as filed.

1.4 Claims 1 to 9 therefore comply with Article 123(2) EPC.

1.5 The board also considers claims 1 and 8 to be clear within the meaning of Article 84 EPC.

2. *Inventive step (Articles 52(1) and 56 EPC)*

2.1 The examining division considered that D1 represents the closest prior art. The board agrees and notes that D1 has as its co-author one of the inventors of the present application.

2.2 Using the wording of claim 1, document D1 discloses (cf. page 250, lines 5-9):

a method of voice over IP call admission in a network, comprising:

receiving a first parameter ("measured occupancy") indicative of a level of link utilization in said network; and
comparing said first parameter to a first threshold parameter ("90%") indicative of link utilization capacity and a second threshold parameter ("98%") indicative of link utilization capacity (cf. page 250, lines 6-9).

More specifically, what is disclosed in D1 in the aforementioned passage is to "admit all calls if the measured occupancy is less than 90%, block 50% if the measured occupancy is between 90 and 98%, and block all calls if the measured occupancy exceeds 98%".

2.3 The subject-matter of claim 1 differs from the method disclosed in D1 in the following steps:

when the first parameter exceeds at least the first threshold parameter, comparing said first parameter to a second parameter indicative of a previous level of link utilization in the network to determine thereby if the level of link utilization is decreasing or increasing; and

determining an allowable call value in response to said parameter comparisons, wherein when the first parameter does not exceed the second threshold parameter and the level of link utilization is decreasing then the allowable call value is increased, wherein when the first parameter exceeds the second threshold parameter and the level of link utilization is increasing then the allowable call value is decreased.

2.4 These features relate to forming an "allowable call value", ie a value used in determining whether calls are allowed. In accordance with the invention, this value adapts to an increasing or decreasing level of link utilisation. Document D1 gives some hint to adaptation in that it discloses (cf. page 252, lines 3-6): "Possible [call admission] policies include static policies as presented above with fixed thresholds and corresponding blocking percentages, [and] adaptive policies that react to (at least) the current policy and the change in load measurements over the past two periods". However, no further details are given.

2.5 The problem to be solved starting out from D1 may therefore be regarded as how to implement such an adaptive policy which reacts to the change in load measurements.

2.6 The examining division argued that "even if there is a wide degree of variability in the way this teaching [an adaptive policy] could be implemented, common sense dictates that, **at least**, a serious situation (second threshold exceeded) which is worsening (level of link utilisation increasing) should be subjected to a negative reaction (admit less calls) and a less serious situation (second threshold not exceeded, but first is exceeded) which is improving (level of link utilisation decreasing) should be subject to a positive reaction (admit more calls)" (cf. the "Grounds for the decision", point 12.8).

2.7 However, the board considers that to conclude on this basis that the skilled person would arrive in an obvious way at the claimed subject-matter relies on an

ex-post facto analysis. As admitted by the examining division, many possibilities for introducing adaptation could be envisaged, and D1 gives no guidance in this respect. As pointed out by the appellant in the statement of grounds, the person skilled in the art could adapt the first, the second, or both of the thresholds and keep the fixed percentages. Furthermore, starting out from the static method of D1 there would be no possibility of reacting to the second threshold being exceeded by admitting fewer calls, since in accordance with the example given in D1, when the second threshold of 90% is exceeded, all calls are blocked anyway.

2.8 Consequently, the board considers that the skilled person starting out from D1 and taking into account common general knowledge would not have arrived at the subject-matter of claim 1 in an obvious manner.

2.9 No other document cited in the European Search Report, considered either alone or in combination with D1, renders the claimed subject-matter obvious either. The board notes that in particular Document D2 discloses a call admission method which takes a weighted previous link $load_{i-1}$ into account to calculate a new link $load_i$ (cf. paragraph [0034]). However the method is clearly different to the presently claimed method since there is no comparison of new and old link loads used to alter the value of an allowable call value. The board can find no other reference to an algorithm which takes the change in load into account.

2.10 The board concludes that the subject-matter of claim 1 involves an inventive step having regard to the

disclosure of each of or any combination of the above-mentioned prior art documents and taking into account the common general knowledge of the person skilled in the art (Articles 52(1) and 56 EPC).

2.11 These comments apply, *mutatis mutandis*, to independent claim 8, and in view of their dependency, to the remaining claims.

3. *Conclusion*

3.1 In view of the above, the decision under appeal is to be set aside. Accordingly, there is no need to hold oral proceedings as conditionally requested by the appellant.

3.2 However, this decision deals only with inventive step of the claimed subject-matter, as well as with the compliance of independent claims 1 and 8 with Articles 84 and 123(2) EPC. It is therefore considered appropriate, in accordance with Article 111(1) EPC, to remit the case to the department of first instance for further prosecution.

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 claims 1 to 9 of the request filed with the letter dated 18 February 2010.

The Registrar: The Chairman:

G. Rauh F. van der Voort