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**Datasheet for the decision  
of 15 February 2011**

**Case Number:** T 1303/07 - 3.5.05

**Application Number:** 05255905.1

**Publication Number:** 1643699

**IPC:** H04L 12/56

**Language of the proceedings:** EN

**Title of invention:**

Method and device for selecting internet routing paths

**Applicant:**

LUCENT TECHNOLOGIES INC.

**Headword:**

Selection of internet routing paths/LUCENT

**Relevant legal provisions:**

EPC Art. 123(2)

**Relevant legal provisions (EPC 1973):**

EPC Art. 56, 106, 107, 108, 113(2), 114(1)

**Keyword:**

"Inventive step - main request and auxiliary requests (no)"

"Direct and unambiguous disclosure - second auxiliary request  
(no)"

**Decisions cited:**

J 0010/07, T 0138/85

**Catchword:**

Considering a well-known problem as an additional and aggregated criterion in a selection process does not involve an inventive step if the claimed solution merely consists in testing whether this problem occurs. The claimed solution circumvents the known problem, but does not solve it by technical means, and therefore does not require an inventive step (see reasons, point 4.1).



Case Number: T 1303/07 - 3.5.05

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.05  
of 15 February 2011

**Appellant:** LUCENT TECHNOLOGIES INC.  
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**Representative:** Sarup, David Alexander  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 12 February 2007  
refusing European patent application  
No. 05255905.1 pursuant to Article 97(1) EPC  
1973.

**Composition of the Board:**

**Chairman:** A. Ritzka  
**Members:** M. Höhn  
G. Weiss

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, dispatched on 12 February 2007, refusing European patent application No. 05255905.1 because of lack of novelty (Articles 52(1) EPC and 54(2) EPC 1973) having regard to the disclosure of

D1: CHEN J et al: "A new approach to routing with dynamic metrics" INFOCOM 99 EIGHTEENTH ANNUAL JOINT CONFERENCE OF THE IEEE COMPUTER AND COMMUNICATIONS SOCIETIES. PROCEEDINGS. IEEE NEW YORK, NY, USA 21-25 MARCH 1999, PISCATAWAY, NJ, USA, IEEE , US, vol. 2, 21 March 1999, pages 661 -670, ISBN: 0-7803-5417-6.

II. The notice of appeal was submitted on 4 April 2007. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was submitted on 12 June 2007. The appellant requested that a patent be granted on the basis of the set of claims 1 to 10 filed with letter of 11 April 2006 on which the appealed decision is based, or on the basis of the sets of claims 1 to 10 according to the first and second auxiliary requests, both submitted with the statement setting out the grounds of appeal.

III. A summons to oral proceedings to be held on 15 February 2011 was issued on 23 November 2010. In an annex accompanying the summons the board expressed its preliminary opinion that the subject-matter of the independent claims of all requests did not involve an inventive step (Article 56 EPC 1973) having regard to the disclosure of D1 and

D3: US 6704795 B1,  
D4: WO 02/23833 A2 and  
D5: WO 95/18498 A1.

Prior-art publication D5 was introduced into the proceedings of the board's own motion in accordance with Article 114(1) EPC 1973. The board gave its reasons for the objections and stated that the appellant's arguments were not convincing.

IV. By facsimile received on 14 January 2011 the appellant submitted three sets of claims according to a main request, and first and second auxiliary requests together with arguments in favour of an inventive step over the prior art on file. The appellant informed the board that it would not be attending the oral proceedings.

V. Independent claim 1 according to the main request reads as follows:

"1. A method CHARACTERIZED BY the selection of Internet routing paths at least between networks comprising: comparing a next available path (i") for routing a packet to a pre-existing path (i); and selecting either the next available path or the pre-existing path as a best available path based on whether a metric associated with the next available path equals or exceeds a threshold."

Independent claim 1 according to the first auxiliary request reads as follows:

"1. A method CHARACTERIZED BY the selection of Internet routing paths at least between networks comprising: comparing a next available path (i") for routing a packet to a pre-existing path (i); and selecting either the next available path or the pre-existing path as a best available path based on whether a metric associated with the next available path equals or exceeds a threshold and provided the selected path does not cause a packet to be looped back."

Independent claim 1 according to the second auxiliary request reads as follows:

"1. A method CHARACTERIZED BY the selection of Internet routing paths at least between networks comprising: comparing a next available path (i") for routing a packet to a pre-existing path (i) at each BGP edge node; and selecting either the next available path or the pre-existing path as a best available path based on whether a metric associated with the next available path equals or exceeds a threshold and provided the selected path does not cause a packet to be looped back."

Independent claim 7 of all requests is directed to a corresponding device.

VI. The appellant requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of the sets of claims filed as main request and first and second auxiliary requests and submitted with letter dated 14 January 2011.

VII. Oral proceedings were held on 15 February 2011 in the absence of the appellant. After due deliberation on the basis of the written submissions in the statement setting out the grounds of appeal and of the requests, the board announced its decision.

### **Reasons for the Decision**

1. Admissibility

The appeal complies with the provisions of Articles 106 to 108 EPC 1973, which are applicable according to J 10/07, point 1 (see Facts and Submissions, point II above). Therefore the appeal is admissible.

2. Non-attendance at oral proceedings

In its letter of 14 January 2011 the appellant announced that it would not be attending the oral proceedings. The board considered it expedient to maintain the date set for oral proceedings. Nobody attended the hearing on behalf of the appellant.

Article 15(3) RPBA stipulates that the board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case.

Thus, the board was in a position to take a decision at the end of the oral proceedings.

**Main request**

3. Article 56 EPC 1973 - inventive step
  - 3.1 Prior-art publication D3 discloses a BGP route selection process (see column 2, lines 58 to 65 and column 3, line 57 onwards), i.e. a method for selecting an internet routing path at least between networks (see in particular column 3, lines 28 to 35 "Router A compares the two routes according to its local criteria and determines that the route from N2 is no better than the route from N1. Accordingly, router A loads the route from N2 into its routing table, but does not update its forwarding table with that route because the route advertised by N1 is the preferred route. Furthermore, router A does not issue an update to its neighbors for the route from N2."), which corresponds to the embodiments of the present application in paragraphs [0009], [0010], [0012] and in particular in [0017] where it reads "... In a further embodiment of the present invention, BGP router B would not select the next available path i" because it is not substantially better than the pre-existing best available path i. As a result, BGP router B would not need to update its forwarding table, nor would it need to advertise a new path to its neighboring nodes". These embodiments are comprised by the subject-matter of present claim 1.
  - 3.2 The BGP route selection process to determine if the newly received route is preferred to the currently used route disclosed in D3 corresponds to a method for selection of internet routing paths at least between networks comprising the steps of comparing a next available path for routing a packet to a pre-existing



path and selecting either the next available path or the pre-existing path as a best available path. However, the subject-matter of claim 1 differs from the disclosure of D3 in that D3 does not explicitly disclose a threshold to be used for selecting either the next available path or the pre-existing path as a best available path. The objective technical problem underlying this difference is considered to be to set an objective criterion for establishing whether the best available path should be updated, so that updating is avoided when a next available path is only slightly better than a pre-existing, best available path.

3.3 D5 discloses the use of a threshold (see page 10, lines 6 to 9) for updating routing information in networks. A dampening method is disclosed which only involves link-state updates for a link when a significant change appears, e.g. when an amount of its bandwidth has been received which is larger than a certain dampening threshold. It does not use the threshold with regard to a metric. However, the skilled person would understand that the technical problem of setting an objective criterion for updating routing information is independent of the kind of parameters involved and that the concept of a threshold can be used in many situations where a criterion is required. Therefore, the skilled person would consider the use of a threshold in the teaching of D3 without the need of inventive skills, or technical hurdles to be overcome, in order to solve the objective technical problem.

3.4 The subject-matter of claim 1 is therefore rendered obvious by D3 combined with D5.

3.5 The appellant offered to amend claim 1 by adding the words "substantially better" into claim 1 (see page 3, second paragraph of the letter dated 14 January 2011). Apart from the fact that this expression is vague and the board has doubts that the requirements of Article 84 EPC 1973 would be fulfilled, this intention does not present a valid request. The board has to decide on the basis of requests as submitted or agreed by the applicant (Article 113(2) EPC 1973). Therefore, the mere intention to amend cannot be considered a valid request in the absence of the appellant at the oral proceedings.

#### **First auxiliary request**

4. The subject-matter of claim 1 of this request comprises the features of claim 1 of the main request and the additional feature "and provided the selected path does not cause a packet to be looped back". Hence, an additional criterion for the decision for a routing path is introduced.

The objective problem underlying this feature is considered to be to prevent a packet from being transmitted back to the BGP router.

4.1 The problem of looped back packets was well known before the priority date of the present application (see e.g. the disclosure in paragraphs [0006] and [0020] of the published application, in particular column 4, lines 42 to 44 "so called "looping"...). In the board's judgement there is no inventive activity involved in also considering such a well-known problem as an additional and aggregated criterion in the selection

process. If the problem to be solved is to prevent so-called "looping" and the claimed solution amounts to nothing more than testing whether such "looping" happens, i.e. whether a packet is transmitted back to the BGP router, that is not considered to be a solution by technical means for avoiding a retransmission of a packet. The claimed solution circumvents the known problem rather than solves it, and therefore does not require an inventive step in accordance with established case law, see e.g. T 138/85, point 3.9.

4.2 Furthermore, prior-art publication D5 addresses the objective problem by disclosing the issue of "transient loops" (see page 10, line 5) in close relation to the use of a threshold (see page 10, line 9). D5 further discloses that "the widest-path method builds a tree of paths..., so the resulting graph is always loop-free" (see page 8, lines 26 and 27). The skilled person therefore knew that it was worth addressing "looping" as a routine measure. The technical teaching of the added feature amounts to nothing more, than testing for the existence of such "looping". The board does not agree with the appellant's argument with regard to a combination of the selection process based on a threshold and the prevention of loop back (see page 3, section III of the letter dated 14 January 2011), because there is no synergistic or surprising effect caused by a combination of the criteria of a threshold and of the additional feature of claim 1 of this request.

4.3 The subject-matter of claim 1 according to this solution is therefore considered to be obvious in the

light of a combination of D3 and D5, which teaches that it is advantageous to avoid such loops of a packet.

### **Second auxiliary request**

5. Claim 1 of this request further specifies that the step of comparing is performed "at each BPG edge node".

#### 5.1 Article 123(2) EPC

The expression "BPG edge node" is not disclosed in the application. In contrast to the appellant's argument (see section IV of the letter dated 14 January 2011), this expression is technically different from the phrase "BGP router" for which an antecedent basis is found. Therefore, the requirements of Article 123(2) EPC are not fulfilled.

5.2 The appellant offered to amend claim 1 by replacing the expression "BPG edge node" by the expression "BGP router" (see section IV of the letter dated 14 January 2011). For the reasons set out in point 3.5 above, this intention is not a valid request. The board has to decide on the basis of requests as submitted or agreed by the applicant (Article 113(2) EPC 1973). Therefore, the mere intention to amend cannot be considered a valid request in the absence of the appellant at the oral proceedings.

#### 5.3 Inventive step - Article 56 EPC 1973

Even assuming that such an amendment had been made, this subject-matter would still lack an inventive step. According to the disclosure of D3, a BGP route

selection is processed by every BGP router (see column 2, lines 58 to 61). The added feature was therefore known from D3 and the subject-matter of such an amended claim 1 would still be rendered obvious by a combination of D3 with D5.

6. Thus, none of the requests is allowable.

## **Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chair:

K. Götz

A. Ritzka