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Datasheet for the decision of 30 September 2009

Case Number: T 1025/06 - 3.5.05

Application Number: 00302358.7

Publication Number: 1041792

IPC: H04L 12/28

Language of the proceedings: EN

Title of invention:
Providing quality of service in layer two tunneling protocol networks

Applicant:
LUCENT TECHNOLOGIES INC.

Headword:
Different classes of QoS in L2TP/LUCENT

Relevant legal provisions:
EPC Art. 52(1), 54(1) and (2), 56, 114(1), 123(2)
RPBA Art. 15(3)

Relevant legal provisions (EPC 1973):
EPC Art. 106, 107, 108

Keyword:
"First auxiliary request - inventive step (yes)"

Decisions cited:
J 0010/07

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1025/06 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 30 September 2009

Appellant: LUCENT TECHNOLOGIES INC.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 14 February 2006 refusing European application No. 00302358.7 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chair: A. Ritzka
Members: M. Höhn
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division dispatched 14 February 2006, refusing European patent application No. 00302358.7 for lack of inventive step (Article 52(1) EPC and Article 56 EPC 1973) over prior art document:

D1: CALHOUN P. R., PEIRCE K.: "Layer Two Tunneling Protocol 'L2TP' IP Differential Services Extension" IETF, [Online] February 1999 (1999-02), pages 1-5, Retrieved from the Internet: <URL:http://www.ietf.org/proceedings/99mar/I-D/draft-ietf-pppext-l2tp-ds-03.txt>[retrieved on 2004-05-12].

II. The notice of appeal was filed with letter received on 12 April 2006. The appeal fee was paid on the same day. It was requested that the decision under appeal be set aside and a patent be granted. The statement setting out the grounds of appeal was received on 7 June 2006.

III. A summons to oral proceedings to be held on 30 September 2009 was issued on 2 July 2009. In an annex accompanying the summons the board expressed the preliminary opinion that the subject-matter of independent claim 1 did not appear to fulfil the requirements of Article 56 EPC 1973 in the light of D1 when combined with the skilled person's common general knowledge. The publication

D2: C. Bormann, "The Multi-Class Extension to Multi-Link PPP," IETF standard-working-draft August 1998,

which was cited at the end of paragraph [0003] of the application as published was introduced into the proceedings by the board of its own motion according to Article 114(1) EPC. The board presented arguments on which its objection was based and commented on the appellant's submissions, which were not considered to be convincing.

IV. With a letter dated 28 August 2009 the appellant withdrew the main request and filed two amended sets of claims named first and second auxiliary requests. The appellant submitted arguments in favour of these auxiliary requests and further submitted that the appellant did not intend to attend the oral proceedings set for 30 September 2009.

V. The appellant was informed that the date for oral proceedings was maintained, with a facsimile communication dated 9 September 2009.

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

"1. A method for use in a packet server, the method CHARACTERIZED BY the steps of:
determining that a call needs to be established with another packet server using a packet tunnel;
establishing the call through the packet tunnel by first negotiating multiple classes of service for the call,
the establishment step comprising the steps of,
sending, to the other packet server, a quality-of-service, Layer Two Tunneling Protocol, L2TP, QoS signaling request message comprising a number of

classes field whose value is equal to the number of different classes of service associated with the call in a multilink, point-to-point protocol connection; and communicating data to the other packet server in multiple packet payloads using sequence numbers taken from a single set of sequence numbers, wherein the single set of sequence numbers is associated with all of the different classes of service associated with the multiple payloads in the call."

VII. The appellant requested in writing that the decision under appeal be set aside and that a patent be granted on the basis of the first auxiliary request, or, subsidiarily, on the basis of the second auxiliary request, both requests as filed with letter dated 28 August 2009.

VIII. Oral proceedings were held on 30 September 2009 in the absence of the appellant. After due deliberation on the basis of the written submissions and 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 of oral proceedings

In its letter of 28 August 2009 the appellant announced that it would not be represented at the oral proceedings. The board considered it to be expedient to maintain the set date 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 hearing.

Main request

3. Since the main request on file was withdrawn by the appellant (see letter dated 28 August 2009) but not replaced, the board does not need to deal with this request anymore and the first auxiliary request is considered to be the primary request.

First auxiliary request

4. Amendments (Article 123(2) EPC)

4.1 Amended independent claim 1 is directly and unambiguously disclosed in original claims 1, 15 and 17 and on page 12, lines 3 to 6 and lines 10 to 13 of the description as well as in figure 8 as originally filed.

The dependent claims correspond, apart from modifications relating to amended claim 1, to the dependent claims as filed. Original dependent claim 3 has been deleted, to which original dependent claims 4 to 9 referred. Corresponding present dependent claims 3 to 8 instead refer, directly or indirectly, to the subject-matter of original dependent claim 15 now incorporated into present independent claim 1.

In the light of the disclosure of the description (see in particular original page 9, lines 1 to 4) and of the fact that the wording of present claim 1 corresponding to original claim 15 (see in particular formulation "is equal to the number of different classes") is narrower in scope than the wording of original claim 3 (see the formulation "represents the number of classes of service"), the amended references of the dependent claims 3 to 8 are considered to be directly and unambiguously disclosed.

The requirements of Article 123(2) EPC are therefore fulfilled.

5. Novelty and Inventive Step (Articles 52(1) EPC, 54(1) and (2) and 56 EPC)

5.1 The appellant essentially argued that D1 failed to disclose the negotiation of multiple classes of service and the use of a number of classes field whose value is equal to the number of classes of service requested, and to communicate data to the other packet server in multiple packet payloads using sequence numbers taken from a single set of sequence numbers, wherein the single set of sequence numbers is associated with all

of the different classes of service associated with the multiple payloads in the call.

5.2 The board considers D1 to be the most relevant prior art document. D1 discloses a modification of L2TP which supports quality-of-service QoS (see D1, section 2.0 "Quality of Service extension of the L2TP protocol"). According to D1 two L2TP peers can negotiate one service indicator value and, hence, a single service level. A differential service indicator value AVP is negotiated for all packets related to a specific channel associated with the L2TP data tunnel. The service level is negotiated between the two peers using a field in the header of the ICRQ or OCRQ message comprising a value which represents the requested service level (see sections 1.0 and 2.1 of D1).

The subject-matter of claim 1 differs from the disclosure of D1 in that multiple classes of service are negotiated for a call using a quality-of-service, Layer Two Tunneling Protocol, L2TP, QoS signaling request message comprising a number of classes field whose value is equal to the number of different classes of service associated with the call in a multilink, point-to-point protocol connection, and in communicating data to the other packet server in multiple packet payloads using sequence numbers taken from a single set of sequence numbers, wherein the single set of sequence numbers is associated with all of the different classes of service associated with the multiple payloads in the call. Thus, it is novel.

5.3 The board considers the objective technical problem to be the differentiation between data traffic using a

(multilink) protocol with multiple classes at the receiver side of the data tunnel in L2TP for the purpose of having multiple quality or type of service levels, avoiding the need to have complex mapping/demapping operations at the receiver (in accordance with the appellant, see the letter dated 28 August 2009, page 2, third and fourth paragraphs from the bottom).

5.4 The board considers that starting from the disclosure of D1, the skilled person would understand that L2TP has to be further modified to support multiple classes of service. Using an appropriate field in the header for a service level request message was disclosed in D1 (see section 2.1). It was further known by the skilled person that a multiclass extension can be realized by using a field of unused bits as a class number as is disclosed in section 4 of the publication D2 which is cited in the present application as prior art and which the board also regards as evidence for the skilled person's common general knowledge in the field. D2 discloses a modified point-to-point Multilink protocol PPPMP in which a field of unused bits is used as a class number. Since the point-to-point PPP Multilink protocol was a standard protocol used before the priority date of the present application, the skilled person would have considered technical solutions of such a standard also when trying to solve the objective technical problem.

5.5 Even if L2TP was modified by the use of a quality-of-service (QoS) request message comprising a number of classes field whose value is equal to the number of classes of service requested as disclosed in D2, the

skilled person would not come to a solution of the problem that the complexity of the mapping/demapping at the receiver caused by the use of different data sessions for data packets of different classes of service can be reduced, underlying claim 1.

In the method of claim 1 this problem is solved by using sequence numbers taken from a single set of sequence numbers, in communicating data to the other packet server in multiple packet payloads, wherein the single set of sequence numbers is associated with all of the different classes of service associated with the multiple payloads in the call.

Neither D1 nor D2 provide a motivation for this solution. D1 does not address a Multilink protocol. D2 explicitly teaches that for each class a separate sequence number set and reassembly buffer are necessary (see the paragraph following figure 2 of D2). This is in contrast to the last feature of claim 1 and, hence, D2 teaches away from the claimed subject-matter. Even when combining the teachings of prior art documents D1 and D2, the skilled person would therefore end up with a solution requiring different data sessions for different classes of service and, hence, the use of different sets of sequence numbers requiring complex mapping/demapping at the receiver side. While the skilled person would come up with a multiclass extension for the L2TP protocol, neither D1, nor D2 teach or hint at using a single set of sequence numbers for multiple classes of service associated with the same data packet payload according to the last feature of claim 1.

The subject-matter of claim 1 therefore involves an inventive step.

Dependent claims 2 to 16, which are directed to specific implementations, equally involve an inventive step.

Second auxiliary request

6. Since the first auxiliary request is allowable, the board does not need to deal with the second auxiliary request.

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 with the order to grant a patent on the basis of the first auxiliary request (i.e. claims 1-16) as filed with letter of 28 August 2009 and a description to be adapted thereto.

The Registrar The Chair

K. Götz A. Ritzka