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**Datasheet for the decision
of 2 October 2014**

Case Number: T 0357/10 - 3.5.05
Application Number: 04741850.4
Publication Number: 1656764
IPC: H04L12/18, H04L12/56,
H04L12/28, H04M11/06
Language of the proceedings: EN

Title of invention:

METHOD AND DEVICE FOR CONTROLLING DATA LINK LAYER ELEMENTS
WITH NETWORK LAYER ELEMENTS

Applicant:

Siemens Aktiengesellschaft
Juniper Networks, Inc.

Headword:

Multicast elaboration in data link layer/SIEMENS

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - main request (no) - auxiliary request (no)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0357/10 - 3.5.05

**D E C I S I O N
of Technical Board of Appeal 3.5.05
of 2 October 2014**

Appellant: Siemens Aktiengesellschaft
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Appellant: Juniper Networks, Inc.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 3 November 2009
refusing European patent application No.
04741850.4 pursuant to Article 97(2) EPC.

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
D. Prietzel-Funk

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division announced in oral proceedings held on 27 October 2009, with reasons dispatched on 3 November 2009, refusing European patent application No. 04 741 850.4 on the grounds of added-subject matter (Article 123(2) EPC) and lack of inventive step (Article 56 EPC), having regard to the disclosure of

D1: EP 1 134 932.

In comments appended to the decision, objections under Article 56 EPC were raised against the dependent claims, in particular in view of D1,

D2: EP 1 318 628, and

D4: EP 1 296 487.

II. Notice of appeal was received on 11 January 2010 and the appeal fee was paid on the same day. A statement setting out the grounds of appeal was appended to the notice of appeal. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 14 submitted with the statement setting out the grounds of appeal. In addition, oral proceedings were requested as an auxiliary measure.

III. A summons to oral proceedings scheduled for 2 October 2014 was issued on 14 April 2014. In an annex accompanying the summons the board gave its preliminary opinion that the application did not meet the requirements of the EPC. In particular, objections were raised under Article 56 EPC in view of D1 and D2.

- IV. By letter dated 2 September 2014 the appellant maintained its previous request as main request and submitted claims 1 to 11 as an auxiliary request.
- V. Oral proceedings were held as scheduled on 2 October 2014. During them, the appellant withdrew the claims of the main request on file and replaced them by the claims of the auxiliary request on file. It further submitted claims 1 to 9 as a new auxiliary request. The appellant finally requested that the decision under appeal be set aside and that a patent be granted based on the main request comprising claims 1 to 11, submitted with the letter dated 2 September 2014, or on the basis of claims 1 to 9 of the auxiliary request submitted in the oral proceedings. At the end of the oral proceedings, the decision of the board was announced.
- VI. Claim 1 of the main request reads as follows:
- "A method in a network layer device comprising:
- receiving a multicast protocol message from a subscriber device of a subscriber, said multicast protocol message comprising a request for a particular multicast stream and information classifying the requested multicast stream as premium stream or non-premium stream,

 - accessing authentication and authorization information to verify that the subscriber is authenticated and authorized to receive the requested multicast stream,

- if the requested multicast stream is a premium multicast stream, associating the multicast stream with a dedicated virtual circuit, dynamically configuring the data link layer device to receive the multicast stream via a dedicated virtual circuit (VC) and forwarding the multicast stream via said dedicated virtual circuit (VC) to the data link layer device,
- if the requested multicast stream is a non-premium multicast stream, forwarding the multicast stream via a virtual circuit (VC) shared with unicast packet traffic."

Claim 1 of the auxiliary request adds the following feature to claim 1 of the main request:

"- replicating (96) the requested multicast stream at the network layer device (4, 22) on a per data link layer device (6, 24) basis when the requested multicast stream is a premium multicast stream; and replicating (104) the requested multicast stream on [sic] at the network layer device (4, 22) on a per subscriber basis when the requested multicast stream is a non-premium multicast stream."

The main and the auxiliary requests each comprise a further independent claim directed to a corresponding network layer device (claim 8 and claim 7, respectively).

Reasons for the Decision

1. The appeal is admissible.
2. Article 56 EPC
- 2.1 Prior art

D1 discloses a system for transmitting multicast data from a network to subscriber devices (PC1, PC2), as illustrated in Figures 3 and 4. Upon a request for multicast data (M1) received from a subscriber device (PC1), a network layer device (NAS) dynamically controls a data link layer device (CPNT) to provide data link layer functionality in accordance with the request. The network layer device (NAS) controls the data link layer device (CPNT) by returning an associate message (M1). The data link layer device (CPNT) is controlled to insert the data sent via the multicast channel (MVCC) from the network layer device (NAS) into the private channel (VCC1) of the subscriber (PC1), see column 6, lines 17 to 27 and column 7, lines 44 to 53. D1 further discloses in column 9, lines 5 to 8, that checking whether a subscriber is authorized to receive a multicast group is made in the network layer device.

D4 discloses a system for transmission of two types of multicast data, broadcast data (DHE) or video-on-demand data (VOD), from a sender to receivers through a distribution device (DSLAM), which can be considered as a layer-2 device, see paragraphs [0022] and [0023].

- 2.2 Main request

It was common ground during the oral proceedings that D1 represents the closest prior art and discloses,

according to the essential features of claim 1, a method in a network layer device (NAS) comprising:

- receiving a multicast protocol message (M1) from a subscriber device of a subscriber (PC1), said multicast protocol message comprising a request for a particular multicast stream,
- accessing authorisation information to verify that the subscriber is authorised to receive the requested multicast stream ("individual access check", "checking a submitted password"),
- associating the multicast stream with a dedicated virtual circuit (MVCC), dynamically configuring the data link layer device (CPNT) to receive the multicast stream via said dedicated virtual circuit (MVCC) and forwarding the multicast stream via said dedicated virtual circuit (MVCC) to the data link layer device (CPNT).

The differences between the subject-matter of claim 1 and the disclosure of D1 are thus the following:

- a) the multicast protocol message comprises information classifying the requested multicast stream as premium stream or non-premium stream,
- b) accessing authentication information to verify that the subscriber is authenticated,
- c) if the requested multicast stream is a non-premium multicast stream, forwarding the multicast stream via a virtual circuit shared with unicast packet traffic.

The technical effect of features a) and c) is that the multicast system is able to allocate more transmission capacity to a specific kind of multicast stream, the non-premium or premium character of a multicast stream not being a technical feature per se.

The objective technical problem can thus be formulated as how to increase the flexibility of the system of D1 with respect to the handling of different multicast streams. D4 discloses the allocation of unidirectional connections to broadcast television signals and of bi-directional connections to video-on-demand services. The skilled person would thus apply the features of D4 with respect to the differentiated handling of two types of multicast streams to increase the flexibility of the system of D1. Moreover, associating one type of multicast stream with a virtual circuit is already disclosed in D1 and forwarding the other type of multicast stream via a shared virtual circuit lies within the general knowledge of the skilled person. Therefore, features a) and c) do not confer an inventive step on the subject-matter of claim 1.

In respect of feature b), it is well known in the field of communication to authenticate a party in a communication session, for instance by using known RADIUS servers as mentioned in the description of the present application (see page 26, line 1). Therefore feature b) does not confer an inventive step on the subject-matter of claim 1.

Moreover, it is clear that feature b) on the one hand and features a) and c) on the other hand are juxtaposed features.

For these reasons the board judges that the subject-matter of claim 1 does not involve an inventive step, having regard to the disclosure of D1 and D4 (Article 56 EPC).

Independent claim 8 contains the same features as

claim 1 expressed in terms of a claim for a network layer device. Thus, claim 8 does also not meet the requirements of Article 56 EPC.

2.3 Auxiliary request

Claim 1 adds in substance to claim 1 according to the main request that a premium multicast stream is replicated at the network layer device on a per data link layer device basis whereas a non-premium multicast stream is replicated at the network layer device on a per subscriber basis.

D1 discloses (see [0026]) that a multicast stream requested by a first subscriber PC1 is sent by the network layer device NAS via the multicast data channel MVCC to the data link layer device CPNT. The data link layer device CPNT then inserts the multicast data into the private channel of the subscriber PC1. When a second subscriber PC2, connected to the same data link layer device CPNT, requests the same multicast stream as subscriber PC1, the network layer terminal NAS informs the data link layer device CPNT that the subscriber PC2 is to receive the multicast stream via the same channel MVCC as the subscriber PC1. The multicast stream thus does not have to be replicated at the network layer device when the same data link layer device is used by both subscribers. It is thus implicit from D1 that a multicast stream is replicated by the network layer device only once per data link layer device.

The prior art acknowledged by D1 (see paragraph [0023]) provides in the same case that the multicast stream is sent in parallel by the network access device NAS to the data link layer device CPNT via two channels VCC1

and VCC2. D1 therefore also discloses a replication of a multicast stream at the network layer device on a per subscriber basis.

Therefore, the above-mentioned additional features of claim 1 merely amount to a choice between two procedures already known from D1. A replication on a per subscriber basis involves for instance less signalling between the network layer device and the data link layer device but more workload in the data link layer device than a replication on a per data link layer device. The appellant did not present any further advantages or technical effects achieved by this feature. Since the skilled person is well aware of these advantages and drawbacks, he is able to perform a trade-off between them without the exercise of inventive skills.

Thus, the subject-matter of claim 1 does not involve an inventive step, having regard to D1 and D4 (Article 56 EPC).

Independent claim 7 contains the same features as claim 1 expressed in terms of a claim for a network layer device. Thus, claim 7 likewise does not meet the requirements of Article 56 EPC.

3. In conclusion, the main and the auxiliary requests are not allowable under Article 56 EPC. 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 Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated