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**Datasheet for the decision
of 21 May 2019**

Case Number: T 2031/17 - 3.5.05

Application Number: 12792378.7

Publication Number: 2725739

IPC: H04L12/24, H04L29/06,
H04W12/08, H04L29/12

Language of the proceedings: EN

Title of invention:

METHOD, DEVICE, AND EDGE NODE CONTROLLER FOR SELECTING EDGE
NODE

Applicant:

Huawei Technologies Co., Ltd.

Headword:

Selecting Edge Node/HUAWEI

Relevant legal provisions:

EPC Art. 83, 123(2), 111

Keyword:

Sufficiency of disclosure - (yes)
Amendments - allowable (yes)
Appeal decision - remittal to the department of first instance
(yes)

Decisions cited:

T 0890/02



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Case Number: T 2031/17 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 21 May 2019

Appellant:
(Applicant)

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted on 15 March 2017
refusing European patent application No.
12792378.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 15 March 2017, refusing European patent application No. 12792378.7 for not meeting the provisions of Article 83 EPC. In an obiter dictum, objections under Article 123(2) EPC were made.

II. Notice of appeal was received on 11 May 2017, and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 18 July 2017. With the statement setting out the grounds of appeal claims 1 to 6 were submitted. Furthermore, the appellant resubmitted the document

D5: Broadband Forum, draft standard WT-178, Revision 03, "Multi-service Broadband Network Architecture and Nodal Requirements", May 2011, and submitted the document

D9: "Multi-BxG architecture proposal", WT-178, bbf2011.475.00", 18 May 2011.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 6 as submitted with the statement setting out the grounds of appeal.

III. A summons to oral proceedings was issued on 1 March 2019. In a communication pursuant to Article 15(1) RPBA sent on 18 March 2019, the board gave its preliminary view on the case. In its view, claim 1 met the requirements of Article 123(2) EPC. The board indicated that it doubted that D9, on which the appellant relied in its arguments with respect to Article 83 EPC, was available to the public and that,

therefore, the application did not appear to fulfil the provisions of Article 83 EPC. Furthermore, the board noted that the examining division had not discussed or decided on the matter of inventive step and that, should the objection under Article 83 EPC be overcome, the board considered it to be appropriate to remit the case to the examining division for further prosecution.

IV. By letter of response dated 18 April 2019, the appellant provided arguments regarding the objections under Article 83 EPC, on the basis of two documents submitted with the response:

D10: Technical Report DSL Forum TR-059, "DSL Evolution - Architecture Requirements for the Support of QoS-Enabled IP Services", September 2003, and

D11: Technical Report DSL Forum TR-101, "Migration to Ethernet-Based DSL Aggregation, April 2006.

The appellant provided guidance on how D10 and D11 could be retrieved from the Internet and screenshots to demonstrate that D10 and D11 were publicly available for the skilled person before the priority date.

V. Oral proceedings were held on 21 May 2019. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the set of claims filed with the statement setting out the grounds of appeal dated 18 July 2017 (claims 1 to 6). The board's decision was announced at the end of the oral proceedings.

VI. Claim 1 according to the sole request reads as follows:

"A method for allocating a BSG in a network including

Broadband Network Gateways, BNGs, used for subscriber management and Broadband Service Gateways, BSGs, used for service processing, wherein the BSGs and the BNGs are interconnected through an Internet Protocol/Multi-Protocol Label Switching, IP/MPLS, network;

characterized in that, an edge node, EN, controller performs unified control and management on the BSGs and the BNGs, and presents the BSGs and the BNGs as a virtual EN to an authentication, authorization, and accounting, AAA server and a Dynamic Host Configuration Protocol, DHCP, server, and wherein the method comprises:

receiving (101), by the EN controller from a BNG, a service request message comprising a subscriber identifier, wherein the subscriber identifier is a physical access loop identifier, and wherein the BNG is set on an access node, AN, and the physical access loop identifier comprises an identifier of the AN, and one or more of a chassis number, a rack number, a frame number, a slot number, a sub-slot number, and a port number of the AN;

obtaining, by the EN controller, the physical access loop identifier in the service request message;

converting (102), by the EN controller, the physical access loop identifier in the service request message into a logic access loop identifier, such that the identifier of the AN is converted into an identifier of the virtual EN, and the chassis number, the rack number, the frame number, the slot number, the sub-slot number, and the port number of the AN are converted into a chassis number, a rack number, a frame number, a slot number, a sub-slot number, and a port number of the virtual EN;

forwarding (103), by the EN controller, the service request message comprising the logic access loop identifier to the AAA server or the DHCP server, such

that the AAA server or the DHCP server see the virtual EN while not the BNG;
receiving (104), by the EN controller, a service response message from the AAA server or the DHCP server in response to the service request message, wherein the service response message comprises the logic access loop identifier;
converting (105), by the EN controller, the logic access loop identifier in the service response message into the physical access loop identifier;
querying (106), by the EN controller, a first mapping relationship between the physical access loop identifier and an edge node address according to the physical access loop identifier, so as to obtain a first BSG address corresponding to the physical access loop identifier; and
returning (107), by the EN controller to the BNG, the service response message comprising the first BSG address."

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 EPC (see point II above) and is therefore admissible.
2. Article 83 EPC
 - 2.1 The examining division refused the application on the grounds that the skilled person would not be able to implement the functional split of an Edge Node, EN, into Broadband Network Gateways, BNGs, and Broadband Service Gateways, BSGs, connected by an IP/MPLS network, to form a virtual EN or an EN subnet, as illustrated in Figure 4 of the application. In particular the examining division objected to the fact that the application did not define the BSGs used for

service processing or the BNGs used for subscriber management, nor did these have a well-known definition in the art. In that respect, the examining division was of the opinion that document D5, even if it were considered as representing common general knowledge at the priority date of the present application, did not clearly describe a BSG and a BNG used for service processing and subscriber management, respectively, with the significance attributed to these tasks in the application. The examining division further stated that the description contained contradictions, e.g. when it stated on page 6, line 25 of the application as originally filed, that the BNG/BSG might be located on one physical edge node.

- 2.2 The appellant submitted documents D10 and D11 in the appeal proceedings. Unlike documents D5 and D6, which are draft standard proposals of the Broadband Forum corporation which may be not considered as having been made public, D10 and D11 are technical reports of the DSL Forum which are clearly available to the public (see D10, page ii, lines 4 and 5). Moreover, the guidance for retrieving D10 and D11 from the internet, provided by the appellant in its response to the summons, has convinced the board that D10 and D11 were published on the DSL site in September 2003 and April 2006, respectively, i.e. before the priority date of the present application.

D10 and D11 are documents extracted from the data base of technical reports of the DSL Forum, an organisation created to provide guidelines for DSL network development and deployment (see D10, first page, "Notice"). The appellant convincingly argued that D10 and D11 represent the common general knowledge of the

skilled person at their respective publication dates. In that respect, the appellant relied on decision T 890/02 (OJ EPO 2005, 497) identifying the three points that database content has to fulfil in order to be regarded as belonging to the common general knowledge, namely that (a) the database is known to the skilled person as an appropriate source for obtaining the required information, (b) this information may be retrieved from the database without undue burden and (c) the database provides the information in a straightforward and unambiguous manner without any need for supplementary searches (Headnote of T 890/02, see also Case Law of the Boards of Appeal of the EPO, 9th edition 2019, I.C.2.8.4).

As to the first point, it is agreed that, as the predecessor of the Broadband Forum, the DSL Forum represents a known and valuable source of information for the skilled person in the particular technical field of the present application, namely the access network nodes to a broadband network (see paragraphs [0003] to [0005] of the published application).

In respect of the second point, the technical reports TR of the DSL Forum were accessible online without the need for registration or a password.

With respect to the third point, the board agrees with the appellant that the prior art acknowledged in the present application in paragraph [0005] in relation to Figures 1 and 2 is disclosed in a straightforward and unambiguous manner in D10 and D11. Figure 1 of the application shows an EN, e.g. a BRAS or BNG, deployed at a high position in the network. Figure 2 shows the separation of the EN into two different network elements: a BNG used for subscriber management and a

BSG, i.e. a service BNG, used for service processing, the BNG used for subscriber management being moved down to an edge of an aggregation network, e.g. the aggregation node 93 in Figure 1. D10 corresponds to the prior art of Figure 1 (see Figure 20 of D10) whereas D11 corresponds to the prior art of Figure 2 (see D11, sections 1.3 and 2.7).

The board thus considers that D10 and D11 represent the common general knowledge of the skilled person. The skilled person is thus able to perform a functional split of an edge node (e.g. a prior-art BNG) into a BNG for subscriber management and a BSG for service processing, as illustrated in D11 (see sections 1.3 and 2.7: "the video BNG may not implement subscriber management functions... given that these functions are likely to be performed by the other BNG"). Moreover, as argued by the appellant, the skilled person would construe the sentence on page 6, line 25 of the application as originally filed in the context of the whole description, namely mean that each virtual EN is formed by several physical BNGs and BSGs and is allocated a virtual address to be accessed from the external network.

2.3 The board thus holds that the application meets the requirements of Article 83 EPC.

3. Article 123(2) EPC

The decision includes an objection against claim 1 under Article 123(2) EPC in an obiter dictum.

However, the board agrees with the appellant that Figures 3 and 4 and the corresponding passages of the description support the feature of claim 1 specifying

that multiple BSGs and multiple BNGs are presented as a virtual edge node EN.

Furthermore, the feature of claim 1 specifying that the physical access loop identifier comprises one or more of a chassis number, a rack number, a frame number, a slot number, a sub-slot number, and a port number of the AN, this feature having been amended with respect to the corresponding feature of claim 1 on which the decision is based, is supported by the passages from page 9, line 31 to page 11, line 2 of the description as originally filed, as argued by the appellant.

Claim 1 therefore meets the requirements of Article 123(2) EPC.

4. Remittal to the department of first instance

The decision under appeal is based solely on the grounds of Article 83 EPC and does not contain any comment or objection with respect to the requirements of Article 56 EPC. Moreover, there is nothing in the minutes of the oral proceedings before the examining division to indicate that the issue of inventive step has been discussed. Since the claims on which the decision is based were submitted by the appellant (at that time the "applicant") in preparation for oral proceedings and were not examined with respect to inventive step, either in the written or oral proceedings, the board is not in a position to deal with this matter.

For these reasons and as already indicated to the appellant in the communication pursuant to Article 15(1) RPBA, the board does not consider it appropriate to deal with the issue of inventive step.

The board thus decides to remit the case to the examining division for further prosecution (Article 111 EPC), in particular on the issue of inventive step.

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.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated