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Datasheet for the decision of 22 April 2009

Case Number: T 1342/07 - 3.5.03

Application Number: 04005042.9

Publication Number: 1429578

IPC: H04Q 7/38

Language of the proceedings: EN

Title of invention:
Allocation of a radio access bearer with a lower rate than desired in case of lack of resources, if an indicator in the assignment request indicates that the communication rate is negotiable

Applicant:
NEC CORPORATION

Opponent:
-

Headword:
Allocation of a radio access bearer/NEC

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step - main and auxiliary requests (no)"

Decisions cited:
T 1001/98, T 1554/05

Catchword:
-

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Case Number: T 1342/07 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 22 April 2009

Appellant: NEC CORPORATION
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Decision under appeal: **Decision of the examining division of the European Patent Office posted 20 March 2007 refusing European patent application No. 04005042.9 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: A. S. Clelland
Members: F. van der Voort
R. Moufang

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 04 005 042.9 (publication number EP 1 429 578 A) on the ground that the subject-matter of the independent claims of the main request was not new (Articles 52(1) and 54 EPC) having regard to the disclosure of:

D1: WO 96/10320 A.

II. In the notice of appeal the appellant requested that the decision be set aside and that the application be allowed. Oral proceedings were conditionally requested. With the statement of grounds of appeal the appellant filed a revised set of claims and submitted arguments in support.

III. The appellant was summoned to oral proceedings. In a communication annexed to the summons to oral proceedings the board raised, without prejudice to its final decision, objections under, *inter alia*, Article 52(1) EPC in combination with Article 56 EPC (lack of inventive step).

IV. In preparation for the oral proceedings, the appellant filed with a letter dated 19 March 2009 claims of a main request and three auxiliary requests, replacing the request on file, and presented arguments in support of these requests.

V. Oral proceedings were held on 22 April 2009. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of

claims 1 to 12 of the main request as filed with the letter dated 19 March 2009 or, in the alternative, of claims 1 to 12 of the first, second or third auxiliary request as filed with the same letter. At the end of the oral proceedings the board's decision was announced.

VI. Claim 1 of the main request reads as follows:

"A W-CDMA (Wide band Code Division Multiple Access) communication system including a user terminal (4), a plurality of base stations (3-1 to 3-4) having cells (A1 to A4) serving as radio service areas, respectively, base station control stations (2-1, 2-2) for managing and controlling said base stations, and a core network (1) having a switching function for said base station control stations and a communication network, characterized in that:

said core network (1) comprises

means for receiving a request including a type of service of the request from said user terminal (4) present in said cells,

means for determining whether a communication rate in accordance with the type of service of the request is negotiable or not, and

means for sending first information about the communication rate and second information indicating whether the communication rate is negotiable or not when sending an RAB (Radio Access Bearer) assignment request message to said base station control station."

Claim 1 of the first auxiliary request differs from claim 1 of the main request in that in the penultimate paragraph, after "negotiable or not", the wording "based on the type of service of the request" is inserted.

Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that in the penultimate paragraph, after "based on the type of service of the request", the wording "and based on stored information about communication rate negotiability for each of a plurality of types of service" is inserted.

Claim 1 of the third auxiliary request differs from claim 1 of the first auxiliary request in that in the penultimate paragraph, after "based on the type of service of the request", the wording "and a pre-stored table assigning communication negotiability to a plurality of types of service" is inserted.

Reasons for the Decision

1. *Inventive step - claim 1 of the main request*

1.1 Both the examining division and the appellant considered D1 to represent the closest prior art.

More specifically, D1 discloses (see page 7, line 10, to page 8, line 2, and Fig. 1) a communication system which includes a user terminal (mobile station MS), a plurality of base stations BTS1-BTS9 having respective cells C1-C9 serving as radio service areas, base station control stations (base station controllers BSC) for managing and controlling the base stations, and a mobile services switching centre MSC. The switching centre MSC has a switching function for the base station control stations and a communication network and, hence, may also be referred to as a core network in the sense of

the present application (see the application as published, column 1, lines 48 to 51).

In response to receiving a message from a mobile station MS for setting up a high-speed data call, the mobile services switching centre MSC sends an assignment request message to a base station controller BSC, in which the assignment request message contains a maximum desired data transfer rate DRMAX as well as a minimum required data transfer rate DRMIN (the abstract, page 11, lines 16 to 23 and 27 to 30, and Fig. 6). In response to the assignment request message, the base station controller assigns, provided that sufficient capacity is available, a data transfer rate which is within the limits of the parameters DRMIN and DRMAX, i.e. it assigns an acceptable communication rate, in which the parameter DRMIN indicates the lowest communication rate which is still acceptable for the requested service, e.g. a video service (page 2, line 22, and page 11, lines 30 to 35). If this assignment is not possible, the base station controller sends an Assignment Failure message to the switching centre (page 12, lines 18 to 23).

Using the language of claim 1 of the main request, D1 thus discloses that the core network MSC includes means for receiving a high-speed data service request from a user terminal present in the cells and that the assignment request message which is sent by the core network MSC to the base station control station BSC includes first information about a desired communication rate, i.e. DRMAX, and second information which indicates a minimum required communication rate, i.e. DRMIN.

In the board's view, the presence of the parameters DRMIN and DRMAX in the assignment request message (for which purpose the assignment request message is modified by including, in addition to the parameters normally required for setting up a data connection, the parameters DRMIN and DRMAX (page 9, lines 27 to 33, and page 11, lines 16 to 30)) indicates that the communication rate to be assigned may, within certain limits, be freely chosen and, hence, is negotiable in the sense of the present application (see the application as published, paragraph [0033]). Likewise, the absence of these parameters, for example in the case of a normal call set-up signal (page 8, line 34, to page 9, line 4), implies that the communication rate is not negotiable. This would also be the case if the value of DRMIN is (almost) equal to DRMAX.

Hence, D1 also discloses that the second information indicates whether the communication rate is negotiable or not.

The parameters DRMIN and DRMAX may be explicitly indicated by the mobile station to the serving mobile communication network in the call set-up request message for a high-speed data service (page 9, lines 27 to 33, and page 11, lines 16 to 23). Alternatively, the mobile station MS may include an indication of the level of service requested (page 5, lines 27 to 31, and page 9, line 33, to page 10, line 9), in which case the minimum and maximum requirements will be selected in accordance with the indicated level of service in the mobile communication network (page 5, lines 31 to 33). The mobile communication network includes the base stations BTS, the base station controllers BSC and the mobile

services switching centre MSC (see, e.g., the abstract).

Although the specific embodiment described in D1 relates to a GSM communication system, D1 also discloses that the communication system may be of a different type, e.g. a UMTS communication system (see page 6, lines 27 to 35). In the board's view, in the case of a UMTS communication system, it is implicit that use is made of wideband CDMA technology. Further, in UMTS communication systems the mobile services switching centre is commonly referred to as a core network and the assignment request message as a radio access bearer (RAB) assignment request message.

1.2 The subject-matter of claim 1 of the main request therefore differs from the communication system of D1 in that:

i) instead of including a level of service, the service request includes a type of service; and

ii) the core network includes means for determining whether a communication rate in accordance with the type of service of the request is negotiable or not.

1.3 Re. feature i): In the board's view, the term "level of service" is, at least in the context of the present application, equivalent to "type of service", since both terms are used as a representation, in accordance with the requested service, of a certain communication rate and of whether or not this rate is negotiable, cf. D1, page 5, lines 27 to 31, and page 10, lines 3 to 9, and the application as published, paragraphs [0030] to [0032], and Fig. 4. This different terminology does not

therefore contribute to an inventive step.

1.4 Re. feature ii): Accommodating the determining means in the core network would have been obvious to the person skilled in the art when faced with the problem of implementing the system of D1. The reasons are as follows:

D1 does not explicitly disclose, in the case of a request which includes a level of service, where the corresponding minimum and maximum communication rates will be determined. This could either be at the core network or at the base station controllers. That a determination has to take place is implied by the fact that a base station controller eventually assigns a communication rate which must be within these rate limits (page 11, lines 30 to 35).

In the board's view, it would be obvious to the skilled person, in order to be able to use different types of user terminals, that the communication system should preferably be capable of processing both service request formats, i.e. both service requests which specify a level of service and those which explicitly specify the parameters DRMIN and DRMAX. This would suggest to the skilled person that for a call set-up request message which specifies a level of service the parameters DRMIN and DRMAX should be determined at the core network. This is because the call set-up request message is for reception by the core network (page 11, lines 16 to 18, claim 4, and Fig. 6); the assignment request message which, in response to receiving the call set-up request message, is to be sent by the core network to the serving base station controller, would then have the same format for both service request formats, which would simplify the signalling protocol

between the core network and the base station controllers. A determination of the parameters at the core network would also be in accordance with the teaching of D1, since D1 describes the alternative of using a level of service only in relation to the call set-up message, i.e. a message which is sent by the user terminal to the core network, whilst the assignment request message, which is sent by the core network to the base station control station, is only described as including the parameters DRMIN and DRMAX (cf. page 5, lines 27 to 31, and page 9, line 27, to page 10, line 9, on the one hand, and page 11, lines 27 to 30, and Fig. 6, on the other hand).

1.5 The appellant argued that, in the case of a request which includes a level of service, the corresponding parameters DRMIN and DRMAX would be determined at the serving base station controller, since the serving base station controller carried out the assignment of the communication rate and stored the parameters DRMIN and DRMAX (D1, page 13, lines 19 to 22, and page 14, lines 19 and 20).

The board does not find these arguments convincing. In view of the fact that the number of base station controllers is higher than the number of core networks (see D1, page 7, line 26, to page 8, line 2), implementing the determining means at each one of the base station controllers would, in addition to the above-mentioned different signalling formats between the core network and each of the base station controllers, imply a higher implementation effort and, hence, higher costs, without any additional advantages being obtained. Further, the storage of the parameters in the base station controller is in order to be able to assign a communication rate which is within the limits set by these parameters. In the

board's view, this storage neither implies nor suggests that the parameters are to be determined at the base station controller instead of at the core network.

1.6 The board therefore concludes that the skilled person would be led by the teaching of D1 to accommodate the determining means in the core network rather than in the base station controllers.

1.7 Consequently, when faced with the problem of implementing the communication system of D1, the person skilled in the art would have arrived, without the exercise of inventive skill, at a communication system which includes all the features of claim 1 of the main request.

1.8 The subject-matter of claim 1 of the main request does not therefore involve an inventive step (Articles 52(1) and 56 EPC).

2. *Inventive step - claim 1 of the auxiliary requests*

2.1 The appellant submitted that claim 1 of the first auxiliary request (see point VI above) included amendments by way of a clarification of the claimed subject-matter only.

2.2 In the board's view, the reasoning as set out at point 1 above in relation to claim 1 of the main request applies to the subject-matter of claim 1 of the first auxiliary request as well, given that the determination of whether a communication rate in accordance with the type of service of the request is negotiable or not will be based on the type of service of the request.

2.3 In relation to claim 1 of the second and third auxiliary requests the board notes that in the system referred to at point 1.4 above the core network would receive the request for a type of service from the user terminal and would determine the parameters DRMIN and DRMAX accordingly, which would in turn determine whether or not the communication rate in accordance with the type of service is negotiable. In order to be able to carry out this determination, the core network must have available, for each one of the plurality of types of service, information which assigns the requested type of service to the respective values of the parameters DRMIN and DRMAX, i.e. to the respective communication rate negotiability as implied by these parameters. Hence, the determination by the core network whether or not the desired communication rate in accordance with the type of service of the request is negotiable will be based on the type of service of the request and on information about communication rate negotiability for each of the plurality of types of service. Making this information available at the core network by storing it in a pre-stored table is considered to be well within the ordinary skills of a person skilled in the art in the field of communication systems.

2.4 The additional features as defined in claim 1 of each one of the first to third auxiliary requests do not therefore contribute to an inventive step.

2.5 In view of the above and the reasons as given in respect of claim 1 of the main request, the board concludes that the subject-matter of claim 1 of each one of the first to third auxiliary requests does not involve an inventive step either (Articles 52(1) and 56 EPC).

3. It follows that none of the requests on file is allowable.

4. In view of the foregoing, it has not proved necessary to consider any of the further objections according to the preliminary opinion given by the board in the communication accompanying the summons to oral proceedings.

Further, at the oral proceedings, in relation to the question of whether or not the appellant could resile from the indication of the prior art in the application in suit, *in casu* Fig. 2, the appellant referred to T 1001/98 and the board to T 1554/05. Since an answer to this question would not affect in any way the reasoning as given above, which starts out from D1, this issue need not be further considered here.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano A. S. Clelland