

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**D E C I S I O N**  
**of 5 August 2005**

**Case Number:** T 0823/04 - 3.5.3

**Application Number:** 01302774.3

**Publication Number:** 1189472

**IPC:** H04Q 7/38

**Language of the proceedings:** EN

**Title of invention:**

Method of determining transmission rate from a mobile station  
to a base station in a wireless communication system

**Applicant:**

LUCENT TECHNOLOGIES INC.

**Opponent:**

-

**Headword:**

Transmission rate assignment/LUCENT

**Relevant legal provisions:**

EPC Art. 116, 113, 54(2)  
EPC R. 68

**Keyword:**

"Novelty - main request (no)"

**Decisions cited:**

T 1059/04, G 0010/93

**Catchword:**

-



Case Number: T 0823/04 - 3.5.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.5.3  
of 5 August 2005

**Appellant:** LUCENT TECHNOLOGIES INC.  
600 Mountain Avenue  
Murray Hill, New Jersey  
07974-0636 (US)

**Representative:** Sarup, David Alexander  
Lucent Technologies NS UK Ltd  
5 Mornington Rd  
Woodford Green  
Essex IG8 0TU (GB)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 9 January 2004  
refusing European application No. 01302774.3  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** A. S. Clelland  
**Members:** A. Ritzka  
R. Moufang

## **Summary of facts and submissions**

- I. This appeal is against the decision of the examining division dated 9 January 2004, refusing European patent application No. 01302774.3 for the reason that the subject matter of claim 1 was not novel having regard to the disclosure of US 5 914 950 A (D1).

Notice of appeal was filed on 5 March 2004 and the appeal fee paid. The statement of grounds of appeal was filed on 22 April 2004.

The appellant's main request was that the decision be cancelled in its entirety and a patent be granted with claims 1 to 16 as filed with the letter of 21 August 2003, or alternatively on the basis of claims 1 to 6 of an auxiliary request filed with the statement of grounds of appeal. No request was made for oral proceedings.

- II. The board issued a communication in which it expressed the preliminary view that the subject-matter of claim 1 of the main request did not meet the requirement of Article 123(2) EPC and moreover did not appear novel in view of the disclosure of D1. As regards the auxiliary request, the board took the view that substantive examination of the subject matter of claim 1 of this request did not appear to have been carried out and that in the event that the main request was not held allowable it appeared likely that the board would remit the case to the examining division for further examination.

- III. In a letter dated 19 April 2005, in response to the communication, a new claim 1 to replace claim 1 of the main request was submitted, claims 2 to 16 of the main request remaining unamended. The auxiliary request was maintained.
- IV. The board issued an invitation to oral proceedings accompanied by a further communication. In that communication the board gave its preliminary view that amended claim 1 of the main request did not comply with Article 84 EPC and that the doubts concerning the compliance of the claim with Article 123(2) raised in the first communication persisted because the subject matter in question was still present. Furthermore the subject matter of the claim did not appear to involve an inventive step in view of the disclosure of D1.
- V. In a letter dated 4 July 2005 the appellant submitted an amended claim 1 to replace claim 1 according to the main request. The remaining claims of the main request and the auxiliary request were maintained. The appellant announced that it would not attend the oral proceedings set for 5 August 2005 and requested that the oral proceedings be cancelled and the procedure continued in writing. If that were not possible, a written decision based on the papers was requested.
- VI. The board informed the appellant that the oral proceedings would take place as scheduled on 5 August 2005.

VII. Claim 1 according to the main request reads as follows:

"1. A method for determining when a request for higher transmission rate should be granted to a mobile station that has access to a communication system comprising the steps of:

obtaining a first indicator and a second indicator, for all active connections;

establishing a blocking threshold;

deciding whether to grant or deny the mobile station access to use the requested higher transmission rate based on a comparison of the first indicator and second indicator relative to the blocking threshold; and

tracking the first indicator or second indicator for the mobile station granted access to use the requested higher transmission rate wherein tracking includes tracking the first indicator or second indicator from the time the mobile station is assigned the higher transmission rate to the time the actual transmission from the mobile station occurs."

Claim 1 according to the auxiliary request reads as follows:

"1. A method for determining when a request for a higher transmission rate should be granted to a mobile station that has access to a communication system comprising:

obtaining a first estimated performance indicator and a second estimated performance indicator for all active connections;

establishing a blocking threshold; and

deciding whether to grant or deny the mobile station access to use the requested higher transmission rate based on a comparison of the first and second indicators relative to the established blocking threshold, wherein the deciding step comprises denying access at the requested higher transmission rate to the mobile station when the first performance indicator exceeds the blocking threshold value to avoid degradation of performance of the wireless communication system, wherein

the obtaining step comprises obtaining a projected receive signal strength indicator rise as the first estimated performance indicator and estimated loading as the second indicator, the projected receive signal strength indicator rise being a ratio of the estimated receive signal strength indicator at the start time to one minus the projected change of loading for the mobile station requesting the new channel divided by one minus the estimated loading."

## **Reasons for the decision**

### *1. Oral proceedings*

As pointed out in this board's decision T 1059/04, the function of a board of appeal is to reach a decision on the issues presented to it, not to act as an alternative examining division (cf. G 10/93, OJ EPO 1995 172, in particular point 4).

According to Article 116(1) EPC, oral proceedings shall take place either at the instance of the European Patent Office if it considers this to be expedient or

at request of any party to the proceedings. Rule 68(1) EPC provides that where oral proceedings are held before the European Patent Office, the decision may be given orally. Oral proceedings are considered as an effective way to discuss cases mature for decision, because the appellant is given the opportunity to present its comments, Article 113(1) EPC. A decision can be made at the end of oral proceedings based on the requests discussed during oral proceedings.

The need for procedural economy dictates that the board should reach its decision as quickly as possible while giving the appellant a fair chance to argue its case. In the present appeal the holding of oral proceedings was considered by the board to meet both of these requirements. The appellant gave no reasons to support the request to cancel the oral proceedings scheduled by the board and to continue the procedure in writing. The board considered that, despite the appellant's announced intention not to attend, the twin requirements of fairness and procedural economy were still best served by holding the oral proceedings as scheduled. The mere choice by the appellant not to attend was not a sufficient reason to delay the board's decision. If the appellant had attended the oral proceedings, it would have had an opportunity to present its comments. The board considered therefore that Article 113(1) EPC had been satisfied. The request to cancel the scheduled oral proceedings was therefore refused.

2. *Main request*

2.1 Claim interpretation

Claim 1 refers to "tracking the first indicator or second indicator for the mobile station granted access to use the requested higher transmission rate wherein tracking includes tracking the first indicator or second indicator from the time the mobile station is assigned the higher transmission rate to the time the actual transmission from the mobile station occurs". According to the description, section [0012] lines 20 to 25, "the rate assignment procedure tracks the committed loading fraction for high data rate channels that have been assigned but are yet to start transmission as well as the loading that will be released after some of the existing transmissions end." The first indicator and second indicator are not specified in the claim. It is therefore not clear what is meant by "tracking the first indicator or the second indicator". The board interprets this formulation as "tracking one of the indicators".

Moreover, claim 1 includes after "deciding whether to grant or deny the mobile station access to use the requested higher transmission rate", the feature "tracking the first or second indicator for the mobile station granted access to use the requested higher transmission rate". The claim is silent as to the relationship between the deciding and the tracking steps. The board assumes that if it is necessary after tracking, the assignment decision is reviewed.



2.2 Novelty

D1 is concerned with a communication system capable of simultaneous voice communication and data transmission with variable transmission rate. D1 discloses a dynamic adjustment of data rate to avoid degradation of speech quality in a voice channel (see column 4, lines 14 to 17 and 26 to 30). This implies that D1 discloses a method for determining when a request for higher transmission rate should be granted to a mobile station that has access to a communication system (see column 4, lines 10 to 30 and lines 39 and 40).

D1 states that the total received power  $P_{tot}$  is a function of the reverse link capacity and of the loading of the system as expressed by a first

indicator  $\sum_{i=1}^M X_i \frac{R_i}{W}$  (see column 19, lines 40 to 42). The channel scheduler assigns the data transmission rate for the scheduled tasks while maintaining  $P_{tot}$  below  $P_{max}$  (see column 20, lines 19 to 21).  $P_{max}$  is considered as a

blocking threshold. Thus, the first indicator  $\sum_{i=1}^M X_i \frac{R_i}{W}$  and the total received power  $P_{tot}$ , which serves as a second indicator, are obtained and compared to  $P_{max}$  and, based on this comparison, a decision is made to grant or to deny the mobile station access to use the requested higher transmission rate.

D1, column 29, lines 22 to 35 discloses that during the period of delay, from the time of the prediction to the time of actual use, the status of the network might have changed and that the accuracy of the prediction of

the available reverse link capacity for the unscheduled tasks is improved by making the prediction at a moment as close as possible to the time at which the estimate will be used. D1, column 29, lines 36 to 43 discloses that predictions can be made at short time intervals to allow a quick response to changes in the reverse link demand and that the maximum scheduled transmission rates can be reassigned every frame. D1, column 4, lines 14 to 17 states that to avoid degradation in the quality of the voice communication, the data transmission should be dynamically adjusted to match the available reverse capacity of the cell.

Furthermore, D1, column 12, lines 56 to 61 discloses performing the reverse link rate scheduling continuously or periodically and selecting the scheduling interval such that the reverse link capacity of the cells is fully utilized for the duration of the scheduling period.

In other words, the status of the network might change over a short time scale. The decision to grant or to deny a higher transmission rate should be made as close as possible to the time of actual use of the transmission rate. Thus, the indicators of the available reverse capacity of the cell, i.e. the first

indicator  $\sum_{i=1}^M X_i \frac{R_i}{W}$  or the second indicator  $P_{tot}$ , have to be tracked to determine whether the status of the network has changed from the time of the decision to grant the request for higher transmission rate to the time of actual use of the higher transmission rate.

The arguments raised by the appellant are not considered by the board to be persuasive. The appellant states, referring to figure 7 of D1, that D1 discloses collecting information, assigning transmission rates based on the collected information, sending a schedule of assigned rates to a remote station and waiting for the next scheduling period, but fails to disclose tracking the first indicator or the second indicator from the time the mobile station was assigned the higher transmission rate to the time the actual transmission occurred. However, D1, column 29, lines 36 to 45 discloses that the maximum scheduled transmission rates are assigned every K frames or reassigned every frame to allow the channel scheduler to quickly respond to changes in the reverse link demand. This means that these changes have to be tracked. Accordingly, the subject matter of claim 1 lacks novelty.

Thus claim 1 does not comply with Article 54(2) EPC.

3. *Auxiliary request*

Claim 1 was amended with respect to the claim as originally filed inter alia by including features disclosed in the description at sections [0022], [0023], [0024] and [0025]. The board notes that the amended claim 1 includes features of originally filed claim 4 and claim 7. However, claim 7 was appended to claim 3, and the features of claim 3 have not been included in amended claim 1. A complete substantive examination of the subject matter of the amended claim 1 does not appear to have been carried out yet. The board accordingly considers it appropriate to remit

the case to the department of first instance to complete the examination.

**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 examination on the basis of the auxiliary request.

The Registrar:

The Chairman:

D. Magliano

A. S. Clelland