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**Datasheet for the decision
of 20 April 2007**

Case Number: T 1042/05 - 3.5.03

Application Number: 01304725.3

Publication Number: 1207647

IPC: H04L 1/18

Language of the proceedings: EN

Title of invention:

Transport channel multiplexing system and method

Applicant:

LUCENT TECHNOLOGIES INC.

Opponent:

-

Headword:

Transport channel multiplexing/LUCENT

Relevant legal provisions:

EPC Art. 84, 52(1), 54

Keyword:

"Clarity - no (main and first auxiliary request)"
"Novelty - yes (second auxiliary request)"
"Remittal for further prosecution"

Decisions cited:

G 0010/93

Catchword:

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Case Number: T 1042/05 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 20 April 2007

Appellant:

LUCENT TECHNOLOGIES INC.
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Representative:

Sarup, David Alexander
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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 4 March 2005
refusing European application No. 01304725.3
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. S. Clelland
Members: D. H. Rees
M-B. Tardo-Dino

Summary of Facts and Submissions

I. This is an appeal against the decision of the examining division, dispatched on 4 March 2005, to refuse patent application number 01 304 725.3, publication number 1 207 647. The reason given for the refusal was that the independent claims 1 and 6 were not clear, in violation of Article 84 EPC. It was also argued that their subject-matter lacked novelty with respect to the disclosure of document

D4: "Universal Mobile Telecommunications System (UMTS); Multiplexing and channel coding (FDD)," 3GPP TS 25.212 version 3.4.0 Release 1999, ETSI, September 2000

II. Notice of appeal was filed in a letter dated 29 April 2005 and received on 6 May 2005. The fee was paid on 3 May 2005. A statement setting out the grounds of the appeal was submitted on 30 June 2005 together with new independent claims 1 and 6.

The board issued, of its own motion, a summons to attend oral proceedings to be held on 20 April 2007. In the accompanying communication the board cited D4. It gave its preliminary opinion that a feature of the independent claims was not clear and not supported by the description, in violation of Article 84 EPC, and was not disclosed in the original application, in violation of Article 123(2) EPC. If this feature was ignored the claimed subject-matter appeared to lack novelty with respect to D4, which document could also be very relevant for any further amended claims the appellant might submit.

III. In a submission on 16 March 2007 the appellant's representatives informed the board that they would not attend the oral proceedings. Amended claims 1 and 6 of an auxiliary request were submitted.

IV. On behalf of the board the rapporteur contacted the appellant's representative and gave reasons why the board took the preliminary view that the newly submitted claims also lacked clarity. In response the appellant filed further claims 1 and 6 of a second auxiliary request with a letter dated 29 and received 30 March 2007.

V. The independent claims of the main request read as follows:

"1. A method of multiplexing transport channels in a wireless communication system, said method comprising: receiving packet data units for a plurality of transport channels;
forming, for each transport channel, block segments from the received packet data units for the transport channel;
coding the block segments to produce code blocks;
rate matching each code block; and
time-multiplexing the rate-matched code blocks for the transport channels into a coded shared transport channel,
characterized by
mapping a plurality of transport format combination indication signaling information into a single transport format combination indicating signaling information thereby reducing transport format combination indication signaling information."

"6. A system for multiplexing transport channels in a wireless communication system, said system comprising: a plurality of buffers (14), each buffer (14) receiving packet data units for a different transport channel; a transport channel processing block associated with each transport channel, each transport channel processing block including, a segmentation block (20) forming block segments from the received packet data units, an error correction encoder (22) encoding the block segments, an encoder (24) encoding the error corrected block segments to form a code block, and a rate matcher (26) rate matching each code block; and a scheduler (30) time-multiplexing the rate-matched code blocks for the transport channels into a coded shared transport channel and characterized by mapping a plurality of transport format combination indication signaling information into a single transport format combination indication signaling information thereby reducing transport format combination indication signaling information."

In claim 1 of the first auxiliary request the characterising feature is replaced by:

"mapping rate information (RI) and a transport channel identity (TrCH id) transport format combination indication signaling information into a number (M) of packet data units (PDUs) that are transmitted to a wireless unit."

In claim 6 of the first auxiliary request the same amendment has been made and additionally the division of the claim has been changed so that the scheduler is included in the characterising part of the claimed subject-matter.

In claim 1 of the second auxiliary request the final feature of the first auxiliary request has been amended to read:

"mapping rate information (RI) and a transport channel identity (TrCH id) into a number (M) of packet data units (PDUs) that are transmitted to a wireless unit."

The same amendment has been made to claim 6 of the second auxiliary request.

VI. The appellant requests that the decision under appeal be set aside and a patent be granted on the basis of:

claims

1 and 6 filed with the statement of grounds of appeal (main request) or alternatively filed on 16 March 2007 (first auxiliary request), or further alternatively filed on 30 March 2007 (second auxiliary request), 2 to 5 and 7 to 9 filed on 17 August 2004;

description pages

4 to 7 as originally filed,
1 to 3 filed with the letter dated 25 and received 27 March 2002,
8 filed on 7 October 2002, and
2A and 2B filed on 23 December 2003; and

figure sheet 1 as originally filed.

- VII. The appellant was not represented at the oral proceedings, during which the board deliberated and the chairman announced the decision taken.

Reasons for the Decision

1. 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 (G 10/93, OJ 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 the request of any party to the proceedings. Oral proceedings are an effective way to discuss cases mature for decision, since the appellant is given the opportunity to present its concluding comments on the outstanding issues (Article 113(1) EPC), and a decision can be made at the end of the oral proceedings (Rule 68(1) EPC).

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 these requirements. A summons was therefore issued. In accordance with Article 11(3) of the Rules of Procedure of the Boards of Appeal 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 on its written case. 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 board considers that its reasons for coming to its decision do not constitute a departure from grounds or evidence previously put forward, requiring that the appellant be given a further opportunity to comment. The board concludes that Article 113(1) EPC has been satisfied and it was therefore in a position to make its decision at the oral proceedings.

2. *Interpretation of the claimed matter*

2.1 As the board understands the description of the present application the alleged invention relates (at least in its preferred embodiment) to the Universal Mobile Telecommunications System UMTS. To provide efficient wireless data communications, UMTS uses a downlink shared channel which can be shared by a plurality of wireless units to receive data. The downlink shared channel (DSCH) structure accepts information from a number of transport channels, that in general address different users, and time multiplexes/schedules those into a single Coded Shared (or Scheduled) Transport Channel (CSTrCH) (published application paragraph [0005]).

2.2 One of the parameters of a transport channel is the number M of Transport Blocks (or MAC-PDUs) which are processed together as a single unit. The invention lies in a choice to limit the possible values of M so that for any given combination of Rate Information (RI) and Transport Channel (TrCH) identity (index *i*), there is only one value of M. As a result when a wireless unit decodes the data sent to it, including TrCH *i*, it can use the locally stored value of RI and TrCH *i* to calculate M, so that the value of M does not have to be indicated as part of the Transport Format Combination Indication (TFCI) as it would otherwise need to be (published application paragraph [0013]). The number of possible values of TFCI is according to the appellant therefore reduced compared with the prior art which means that the number of bits required to represent TFCI is also reduced.

3. *The main request*

3.1 The independent claims of the main request which are directed to a method of (claim 1) and a system for (claim 6) multiplexing transport channels include the feature of "mapping a plurality of transport format combination indication signaling information into a single transport format combination indication signaling information." However there is no such step (or means for carrying out this step) disclosed in the method of or system for multiplexing transport channels. The feature is unclear. The board supposes that the appellant is referring to the choice of restricting the communication protocol to only one value of M for a given combination of Rate Information (RI) and Transport Channel (TrCH) identity, rather than as in

the prior art allowing plural values of M for any given such combination. This choice however is one which is made when defining the protocol, not when carrying out the multiplexing method. Moreover this interpretation is simply a supposition on the part of the board. As noted above, the feature is unclear, so that the claims do not satisfy Article 84 EPC and the request is therefore not allowable.

4. *The first auxiliary request*

4.1 In claims 1 and 6 of the first auxiliary request this feature has been replaced by "mapping rate information (RI) and a transport channel identity (TrCH id) transport format combination indication signaling information into a number (M) of packet data units (PDUs) that are transmitted to a wireless unit." The feature of mapping the rate information and the transport channel identity into a number of PDUs, i.e. calculating or looking up the value of a function of these two variables to generate a value of M which is used in further processing, is disclosed in the application as filed (paragraph [0013], see point 2.2 above). This feature is indeed part of the method of multiplexing disclosed in the application. However the values of RI and TrCH id are not "transport format combination indication signaling information" as this expression would be understood by the person skilled in the UMTS art. The "transport format combination indication" would be known to the skilled person to be a distinct field in the data frames. The application explains that as a result of the invention this field may be smaller than in the prior art but that does not mean that RI and TrCH id are part of that field; these

data come from other sources. In particular TrCH is a different field in the data frame. Thus claims 1 and 6 of the first auxiliary request, by conflating fields which the skilled person would know to be distinct, are also unclear, in violation of Article 84 EPC. This request is therefore also not allowable.

5. The second auxiliary request

5.1 The independent claims of the second auxiliary request specify "mapping rate information (RI) and a transport channel identity (TrCH id) into a number (M) of packet data units (PDUs) that are transmitted to a wireless unit." This feature is disclosed as part of the multiplexing method in the application and in this request the confusing conflation of control field names no longer occurs. Thus with this amendment the appellant has overcome the clarity objection to claim 1 raised by the examination division in its decision to refuse the application.

5.2 In the examination procedure a further clarity objection to claim 6 was raised in that it was directed to a system but included method steps. This objection appears still to apply but could be very easily overcome.

5.3 The subject-matter claimed in the second auxiliary request also overcomes the examining division's objection of lack of novelty with respect to document D4. There is nothing in the section cited by the examination division (section 4.3.1 on pages 47 and 48) or elsewhere in this document which discloses explicitly or implicitly a step of mapping rate

information (RI) and a transport channel identity (TrCH id) into a number (M) of packet data units (PDUs).

6. Since the second auxiliary request overcomes the objections raised in the decision to refuse the application, but is not yet in a state on the basis of which grant of a patent could be ordered (see point 5.2) it would appear to be appropriate to remit the case for further prosecution.

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 on the basis of the second auxiliary request.

The Registrar:

The Chairman:

D. Magliano

A. S. Clelland