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**Datasheet for the decision
of 5 September 2006**

Case Number: T 0718/04 - 3.5.03

Application Number: 01303940.9

Publication Number: 1198148

IPC: H04Q 7/38

Language of the proceedings: EN

Title of invention:

Service restriction control for mobile communications

Applicant:

LUCENT TECHNOLOGIES INC.

Opponent:

-

Headword:

Protocol revision/LUCENT

Relevant legal provisions:

EPC Art. 116(1), 113(1), 56, 84
EPC R. 68(1)

Keyword:

"Inventive step - no"

Decisions cited:

T 1059/04, G 0010/93

Catchword:

-



Case Number: T 0718/04 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 5 September 2006

Appellant: LUCENT TECHNOLOGIES INC.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 16 February 2004
refusing European application No. 01303940.9
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 16 February 2004, refusing European patent application No. 01 303 940.9 for the reason that the subject-matter of claims 1 and 5 as filed with letter of 16 December 2003 lacked novelty having regard to the disclosure of:

D1: WO 00 52948 A.

II. Notice of appeal was filed on 5 April 2004 and the appeal fee paid. The statement of grounds of appeal was filed on 22 May 2004. The appellant requested that the appealed decision be cancelled in its entirety and that a patent be granted.

III. The board issued an invitation to oral proceedings accompanied by a communication. In the communication the board commented that the appellant had not specified the documents on which the request for grant was based, but it was assumed that grant on the basis of the documents on which the appealed decision was based was requested; the appellant was invited to clarify the request. The board expressed the preliminary view that claims 1 and 5 as considered by the examining division did not comply with the provisions of Article 84 EPC, and insofar as they could be understood their subject-matter did not appear to involve an inventive step having regard to the disclosure of D1 and the common general knowledge as exemplified by:

D3: M. Mouly, M.-B. Pautet, The GSM System for Mobile Communications, 1992, ISBN 2-9507190-0-7.

This document was introduced into the proceedings by the board, making use of its power under Article 114(1) EPC.

- IV. With a letter dated 4 April 2006, in response to the communication, the appellant confirmed that it requested that the decision under appeal be set aside and that a patent be granted on the basis of the documents on which the examining division's decision was based. It was argued that the subject-matter of the independent claims was patentable.
- V. In the letter of 4 April 2006 the appellant announced that it would not attend the oral proceedings set for 12 May 2006 and requested that the oral proceedings be cancelled and the procedure continued in writing. The board informed the appellant that the oral proceedings would take place as scheduled on 12 May 2006.
- VI. Oral proceedings took place as scheduled on 12 May 2006. Neither the appellant nor its representative attended the hearing. After deliberation on the basis of the submissions and requests of 4 April 2006 the board decided to close the debate and continue the procedure in writing.
- VII. The board thereafter issued a further invitation to oral proceedings accompanied by a communication reopening the debate. In this communication reference was made to D3. The board, making use of its competence under Article 111(1) EPC, introduced *inter alia*

D4: EP 0 510 322 A2

into the proceedings. The board expressed the preliminary view that the subject-matter of claims 1 and 5 did not appear to involve an inventive step having regard to the disclosure of D4 and the common general knowledge as evidenced by D3.

- VIII. With a letter dated 4 August 2006, in response to the communication, the appellant argued that the board's interpretation of the term "protocol revision" was too broad and that the subject-matter of the independent claims was patentable.
- IX. In the letter of 4 August 2006 the appellant announced that it would not attend the oral proceedings set for 5 September 2006 and requested that the oral proceedings be cancelled and the procedure continued in writing. The board informed the appellant that the oral proceedings would take place as scheduled on 5 September 2006.
- X. Oral proceedings took place as scheduled on 5 September 2006. Neither the appellant nor its representative attended the hearing. After deliberation on the basis of the submissions and requests of 4 April 2006 and 4 August 2006 the chairman announced the board's decision.
- XI. Claim 1 reads as follows:

"A method for controlling communication services, said communication services including a base station

transmitting messages to, and receiving messages from, at least one mobile station, the method characterized by the steps of:

transmitting (14) from the base station (10) to the at least one mobile station (12) a message (20) identifying which mobile stations are restricted to using something less than the most recent protocol revision, said something being an earlier protocol revision or a subset of the most recent protocol revision;

receiving (16) at the base station from one or more of the restricted mobile stations a message (100) requesting communication services from the base station that matches said something that is less than the most recent protocol revision; and

providing communication services to the one or more mobile stations identified in the transmitted message subject to said something that is less than the most recent protocol revision."

Claim 5 reads as follows:

"A method for controlling communication services, said communications [sic] services including a base station transmitting messages to, and receiving messages from, at least one mobile station, the method characterized by the steps of:

receiving a first message (20) at a mobile station, the received message identifying which mobile stations are restricted to using something less than the most recent protocol revision, said something being an earlier protocol revision or a subset of the most recent protocol revision; and

transmitting, if the first message identifies the mobile station, from the mobile station a second message (100) requesting communication services subject to said something that is less than the most recent protocol revision."

Reasons for the Decision

1. *Oral proceedings*
 - 1.1 As pointed out by this board in a different composition in decision T 1059/04 (unpublished), the function of a board of appeal is to reach a decision on the issues presented to it (cf. G 10/93, OJ 1995 172, in particular point 4).
 - 1.2 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. Oral proceedings are considered as an effective way to discuss cases mature for decision, because the appellant is given the opportunity to present its concluding comments on the outstanding issues (Article 113(1) EPC). A decision can be made at the end of oral proceedings based on the requests discussed during oral proceedings (Rule 68(1) EPC).
 - 1.3 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 request to cancel oral proceedings and to continue in writing was therefore refused.

- 1.4 Oral proceedings took place as scheduled on 12 May 2006 and again on 5 September 2006, both times in the absence of the appellant, who had been duly summoned. In the latter proceedings, after deliberation on the basis of the requests and submissions presented in the appellant's letters dated 4 April 2006 and 4 August 2006, the board took the view that the claimed subject-matter did not involve an inventive step, an objection discussed in detail in the communications accompanying the respective summons to oral proceedings. Article 113(1) EPC is accordingly met.

2. *Technological background*

Communication systems, e.g. mobile communication systems, comprise various devices, e.g. mobile stations and base stations, that exchange information according to a set of rules and conventions which are referred to as protocols. The hardware and software components of these devices must conform to at least one common protocol to guarantee communication among them.

Protocols are commonly revised or updated to modify the operation of certain features, add new features, or

eliminate existing features. These features may include improved service capabilities and imply updates of hardware and/or software implemented in the devices, e.g. base stations and mobile stations. These updates must be integrated into both the mobile stations and the base stations, and if a particular mobile station and base station are provided with different updates a mismatch will occur; in this case they will communicate the level of their most recent updates to one other and agree on a level which is common to both stations. Moreover, the updates for base stations and mobile stations may turn out to be incompatible with one another. In this case the mobile station and base station have to agree on compatible updates for communication. According to the claimed subject-matter this is achieved by transmitting a message from the base station to the mobile station identifying which updates ("protocol revisions" see point 3.1 below) the mobile station is restricted to. The mobile station then requests communication services from the base station that match this restriction and these services are provided accordingly.

3. *Claim 1*

3.1 Interpretation

Claim 1 refers to the feature that "mobile stations are restricted to using something less than the most recent protocol revision, said something being an earlier protocol revision or a subset of the most recent protocol revision".

The term "protocol revision" does not appear to be commonly used in the art. As used in the application it appears to refer to updates, i.e. to software or indeed hardware variations or versions which define or are linked to available communication services, see the description at paragraph [0002] lines 12 to 18, and paragraphs [0004] and [0005] and the last paragraph on page 1 of the appellant's letter of 4 August 2006. Turning to the appellant's argument that simply adding new software or updating existing software does not necessarily constitute a protocol revision, the board refers to point 3.2 below.

The term "most recent" is of unclear limitative effect. The "most recent protocol revision" will vary with ongoing time. It refers to organisational or historical rather than to technical subject-matter. Thus, no additional technical limitation can be seen in adding "most recent" to "protocol revision".

Accordingly, the feature that "mobile stations are restricted to using something less than the most recent protocol revision, said something being an earlier protocol revision or a subset of the most recent protocol revision" is understood in the broad sense that there may be hardware or software variations with time for mobile stations. In other words, mobile stations or groups of mobile stations are subjected to communication service restrictions determined by their software and/or hardware. A different interpretation would give rise to an objection under Article 84 EPC.

3.2 Inventive step

The board's comments on inventive step are based on the interpretation of claim 1 discussed in point 3.1 above.

The board notes that downward compatibility is a basic requirement of all improvements in existing communication systems.

The provision of communication services by means of a base station transmitting messages to and receiving messages from at least one mobile station in a GSM network is common general knowledge in the art, see D3, pages 94 and 95. D3 is a textbook which is the standard work on the GSM system and is considered to represent the common general knowledge in the mobile communication art before the claimed priority date.

D4 discloses that in a digital radio communication network, e.g. GSM, the software of both the mobile stations and the network infrastructure can be optimised through software modifications, i.e. the existing software can be modified or replaced by a more recent one. Providing the mobile stations and the infrastructure with these software updates requires a considerable effort, see column 1, lines 4 to 12 and column 1, lines 51 to 58. Moreover, the success of software updates for different models of mobile stations may vary, so that for some of the mobile stations a modification or an exchange of software has to be performed repeatedly until the intended function works correctly; especially older models are likely to cause problems, see column 1, lines 23 to 28.

D4 also discloses that the effort of providing software updates can be reduced by sending data causing a related exchange or modification of software stored in the mobile stations. This data is sent by a stationary radio station, in the context of GSM a base station, to each of the mobile stations, see column 2, lines 31 to 37. The data is only sent if the subscriber identity and the equipment identity (in the context of GSM, International Mobile Subscriber Identity IMSI and International Mobile Equipment Identity IMEI respectively) have been confirmed, see D4, column 3, lines 21 to 28. This implies that the data must be accompanied by information identifying the mobile stations for which the software update or modification is intended.

D4 envisages that an update or a modification of software will require only part of the complete software to be modified, see column 2, lines 46 to 49. In some cases it is sufficient to delete or deactivate parts of the software, see column 2, lines 54 to 57.

The skilled person would understand that the software updates may implement protocol revisions and that by deactivating or deleting predetermined parts of the software only a subset of the software update, i.e. a specific protocol may be revised. Moreover, the skilled person would understand that software updates optimising the communication system may include software in conformance with the most recent protocol revisions. It is common general knowledge, as evidenced by D3, that the operator of a GSM system keeps record of mobile stations creating problems by means of specific lists stored in the Equipment Identity

Register EIR, see D3, pages 74 and 107. A black list includes a list of IMEI codes of mobile stations that need to be barred and a grey list includes the IMEI codes of faulty mobile stations whose fault is not serious enough to justify complete barring but might be reported to the subscriber, see D3, page 591. Software patches may be required as corrective measures to reduce the effect of failure. Alternatively, the GSM system permits modifications of the configuration to be used to patch software errors to avoid going through dubious routines, see D3, page 583. This implies that in order to ensure the correct functioning of older models of mobile stations the use of a less recent protocol, i.e. software, might be appropriate.

Thus, in the board's view it follows from the disclosure of D4 in the light of the common general knowledge as evidenced by D3 that information identifying which mobile stations are restricted to using something less than the most recent protocol revision, said something being an earlier protocol revision or a subset of the most recent protocol revision, must be stored in the communication system and transmitted from the base station to at least one mobile station when an upgrade is undertaken.

It is furthermore common general knowledge in the art (see e.g. D3, pages 368 figure 6.19), that the transition between the idle mode and the dedicated mode of a mobile station at the beginning of each new connection is always triggered by the mobile station through a channel request message sent on a random access channel. Only when a signalling link layer has been established and an "initial message" sent on the

new dedicated channel does the network know the identity of the mobile station. It is also common general knowledge in the art (see D3, pages 376 to 381), that mobile stations differ in many characteristics, such as their maximum transmission power and the services they may support. It is important that the infrastructure is aware of these characteristics when the mobile station sets up a connection. Because the user's equipment may be changed without the operator being informed, this indication must be given at the beginning of each new connection. This is the purpose of the mobile station "classmark" parameter which is sent in the initial channel request message in the GSM system. The classmark parameter includes inter alia information about a revision level, so that the infrastructure will know which level of upgrade is used by each mobile station.

It would therefore be obvious to the skilled person that a notification of which software updates or software modifications are supported by the mobile station should be included in the initial channel request message. Thus, the steps of receiving at the base station from one or more of the restricted mobile stations a message requesting communication services from the base station that matches said something that is less than the most recent protocol revision and providing communication services to the one or more mobile stations identified in the transmitted message subject to said something that is less than the most recent protocol revision, follow as a matter of course. The subject-matter of claim 1 therefore does not involve an inventive step.

The board agrees that, as pointed out by the appellant, the term "protocol revision" is not used in D4. According to the appellant's arguments a protocol revision may be implemented by modifying the hardware and/or software that operates in accordance with the relevant protocol or protocols, i.e. according to a given set of rules and conventions. Thus, hardware and/or software modifications implementing a protocol revision may be viewed as a subset of all conceivable hardware and/or software modifications. It is an ongoing objective to improve any technical system, and protocol revisions may be viewed as an aspect of such improvements, given that protocols govern how devices in a communication system exchange information. No reason can be seen why software modifications implementing a protocol revision should be viewed differently from software updates optimising the communication system as referred to in D4 (see column 1, lines 4 to 9, column 2, lines 35 to 37, 46 to 49 and 54 to 57); indeed the selection of software modification specifically implementing a protocol revision may be considered to relate to organisational rather than to technical subject-matter.

The board therefore concludes that the subject-matter of claim 1 does not involve an inventive step.

3.3 Claim 5

The subject-matter of claim 5 differs from the subject-matter of claim 1 in being directed to a method, the steps of which are carried out at the mobile station rather than at the base station, and in that the entity from which the mobile station receives the first

message identifying which mobile stations are restricted to using something less than the most recent protocol revision is not specified. It furthermore differs in that there is no equivalent to the step of providing communication services as contained in claim 1. The subject-matter of claim 5 is thus broader than the subject-matter of claim 1. Thus, the arguments presented on claim 1 apply *mutatis mutandis*, see points 3.1 and 3.2 above.

4. There being no other requests, it follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Magliano

A. S. Clelland