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D E C I S I O N
of 26 September 2002

Case Number: T 0641/00 - 3.5.1

Application Number: 92907791.5

Publication Number: 0579655

IPC: H04Q 7/20, H04B 7/26

Language of the proceedings: EN

Title of invention:
Method in mobile telephone systems in which a subscriber identity module (SIM) is allocated at least two identities which are selectively activated by the user

Patentee:
COMVIK GSM AB

Opponent:
DeTeMobil Deutsche Telekom MobilNet GmbH
GIESECKE & DEVRIENT GmbH

Headword:
Two identities/COMVIK

Relevant legal provisions:
EPC Art. 52(1)-(3), 56

Keyword:
"Inventive step (no)"
"Problem-and-solution approach: treatment of non-technical aspects"

Decisions cited:
T 0026/81, T 0026/86, T 0072/95, T 0470/95, T 0931/95, T 0027/97, T 0157/97, T 0158/97, T 0176/97, T 1053/98

Headnote:

1. An invention consisting of a mixture of technical and non-technical features and having technical character as a whole is to be assessed with respect to the requirement of inventive step by taking account of all those features which contribute to said technical character whereas features making no such contribution cannot support the presence of inventive step.

2. Although the technical problem to be solved should not be formulated to contain pointers to the solution or partially anticipate it, merely because some feature appears in the claim does not automatically exclude it from appearing in the formulation of the problem. In particular where the claim refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

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Case Number: T 0641/00 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 26 September 2002

Appellant: (Proprietor of the patent)
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Representative:
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 13 April 2000 revoking European patent No. 0 579 655 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: S. C. Perryman
R. R. K. Zimmermann

Summary of Facts and Submissions

I. European patent No. 0 579 655 relates to digital mobile telephone systems and in particular to the use of a single-user multi-identity IC card as subscriber identity module in a mobile unit of a GSM type system. The patent, which claims the 12 April 1991 as priority date, was granted to the appellant with effect from 5 March 1997.

II. On 4 and 5 December 1997, the respondents filed oppositions against the patent on grounds of lack of novelty and inventive step and submitted, as prior art citation against the patent, among others the proceedings paper of G. Mazziotto, "The Subscriber Identity Module for the European Digital Cellular System GSM", published in Fourth Nordic Seminar on Digital Mobile Radio Communications DMR IV, 26 to 28 June 1990, Oslo, Norway (cited as document D8).

The opposition division in charge of examining the oppositions was of the opinion that multi-identity IC cards were already known from the prior art and that for improving identity selection in digital mobile telephone networks, a skilled person would consider it obvious to use such cards in network systems of the type disclosed in document D8, for example. The patent was thus revoked for lack of inventive step; the decision was posted on 13 April 2000.

III. The appellant filed a notice of appeal against the revocation decision on 9 June 2000, paying the appeal fee the same day. A written statement setting out the grounds was filed on 11 August 2000.

IV. In August 2000, a third party presented observations in terms of Article 115 EPC, citing as a further relevant prior art document European patent specification EP-B-0 344 989 (A-publication published in 1989).

V. In oral proceedings held on 17 January 2002 the matter in question was discussed with the representatives. In the course of the hearing, the appellant submitted two amended versions of claim 1 filed as main and auxiliary request, which read as follows:

Main request: "1. Method in a digital mobile telephone system of the GSM type, in which subscriber units (MS) are controlled by a subscriber identity module (SIM), characterised in that the subscriber identity module (SIM) is allocated at least two identities (IMSI 1 , IMSI 2), information thereon being stored in a home database of the system, said at least two identities being selectively usable, wherein only one identity (IMSI 1 or IMSI 2) can be activated at a time, the user when using a subscriber unit (MS) selectively activating the desired identity in said home database from the subscriber unit, wherein the selective activation is used for distributing the costs for service and private calls or among different users".

Auxiliary request: "1. Method in a digital mobile telephone system of the GSM type, in which subscriber units (MS) are controlled by a subscriber identity module (SIM), characterised in that the subscriber identity module (SIM) is allocated at least two identities (IMSI 1 , IMSI 2), information thereon being stored in a home database of the system, said at least two identities being selectively usable, the user, when using a subscriber unit (MS) selectively activating the

desired identity in said home database from the subscriber unit, wherein, when one identity (IMSI 1 or IMSI 2) is selectively activated, involving a change of identity, the previous identity is deactivated, controlled by the subscriber's home database (HLR), an incoming call being set up against the activated identity controlled by the information in the home database, the selective activation being used by the home database for distributing the costs for service and private calls or among different users."

The oral proceedings were ended with closure of the debate.

VI. According to the appellant's submissions, the prior art GSM telephone systems did not disclose any subscriber identity module or card of the single-subscriber multi-identity type. The multi-service cards known from the prior art were inappropriate for such use in GSM type networks. Furthermore, without modifying the network's home database in the manner taught by the present invention the necessary functionality of the system could not be provided.

The inventor's merits resided in realizing the economical and administrative problem for certain subscribers that distributing the costs for various categories of calls within one and the same subscription caused extra work. At the time the invention had been made each subscription always had been allocated just one unique identity in the form of one unique personal identity number IMSI.

Changing this involved a totally new approach to the identification process in a GSM type system. It was not

enough to include more than one identity in the SIM, but the inventor had to find a solution how to activate, selectively, the system with regard to the desired identity and to set up an incoming call against the activated identity. The cited prior art was silent on all these features of the invention.

VII. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the claims submitted at the oral proceedings on 17 January 2002 as main request or as auxiliary request, and if the document EP-A-0 344 989 was considered as relevant to patentability the case should be remitted to the first instance for further prosecution.

The respondents disagreed. The appeal should be dismissed and the case should not be remitted to the first instance.

VIII. The respondents raised various objections against the amended claims: Allocating two or more identities to the same subscriber for the purpose of distributing the costs for service and private calls or among different users was an issue of the GSM commercial and administrative management, rather than a technical feature of the telephone network or its infrastructure. Commercial and administrative ideas and concepts, however, had no technical character and did thus neither confer novelty nor inventive step to any subject-matter; such kind of definition rather obscured technical aspects in an invention. With regard to the patent as amended the reasons given by the opposition division for the refusal were thus still valid.

Reasons for the Decision

1. The appeal is admissible.

   The appeal is not allowable, however, since the invention as claimed is not patentable in terms of Articles 52(1) and 56 EPC for lack of inventive step.

2. Article 56 EPC states in its English text that an invention shall be considered to involve an inventive step, if having regard to the state of the art, it is not obvious to a person skilled in the art. The equally authentic French and German texts are somewhat more informative in that they can best be rendered in English as stating that an invention shall be considered as based on inventive activity if a skilled person cannot derive it in an obvious manner from the state of technology.

3. The legal definition of Article 56 EPC is to be put into context with the remaining patentability requirements of Articles 52 to 57 EPC, these articles implying the general principles that patents shall be available for inventions in all fields of technology (see, for example, Singer/Stauder: "Europäisches Patentübereinkommen", Artikel 52, paragraph 2 with further citations), and that technical character is a sine qua non for an invention in the sense of the EPC (see, for example, decision T 931/95 Controlling Pension Benefits System/PBS PARTNERSHIP (OJ EPO 2001, 441)).

4. On this approach it is legitimate to have a mix of technical and "non-technical" features (i.e. features

relating to non-inventions within the meaning of Article 52(2) EPC) appearing in a claim, even if the non-technical features should form a dominating part. Thus in T 26/86 X-ray apparatus/KOCH& STERZEL, (OJ EPO 1988, 19) a mix of technical and non-technical features was considered as a matter of principle, to be patentable even if the technical was not the dominating part of the invention. As reasoned by the board, "the teaching (might, otherwise, be made) unpatentable in its entirety if the greater part is non-technical and even though the technical aspect which is found to be subordinate is in fact judged to be novel and to involve inventive step" (see paragraph 3.4 of the decision). It follows that the board, although allowing a mix of technical and non-technical features to be claimed, considered the technical part of the invention as the basis for assessing inventive step.

5. Furthermore, based on the ordinary meaning to be given the terms of Article 56 EPC in their context in the EPC, and consistent in particular with Rule 27 EPC, as a test for whether an invention meets the requirements of Article 56 EPC the boards of appeal have developed and applied a method known as the "problem-and-solution approach" (see EPO publication "Case Law of the Boards of Appeal of the European Patent Office", 4th edition, 2002, pages 101 ff.) according to which an invention is to be understood as a solution to a technical problem. This approach requires identification of the technical field of the invention (which will also be the field of expertise of the person skilled in the art to be considered for the purpose of assessing inventive step), the identification of the closest prior art in this field, the identification of the technical problem which can be regarded as solved in relation to this

closest prior art, and then an assessment of whether or not the technical feature(s) which alone or together form the solution claimed, could be derived as a whole by the skilled person in that field in an obvious manner from the state of the art.

For the purpose of the problem-and-solution approach, the problem must be a technical problem, it must actually be solved by the solution claimed, all the features in the claim should contribute to the solution, and the problem must be one that the skilled person in the particular technical field might be asked to solve at the priority date. In this context "problem" is used merely to indicate that the skilled person is to be considered as faced with some task (German "Aufgabe"), not that its solution need necessarily involve any great difficulty.

If the above conditions are not met by a problem as formulated, then it is usually necessary to reformulate the problem. There may also be cases where the features claimed fall into two or more groups, each group serving to solve a particular technical problem quite unrelated to the technical problem solved by the other groups. In such a case the obviousness of each group as a solution to its problem needs to be considered in isolation (see, for example, decision T 470/95 , not published in OJ EPO). If no technical problem can be derived from the application, then an invention within the meaning of Article 52 EPC does not exist (see decision T 26/81, OJ EPO 1982, 211).

6. Further, where a feature cannot be considered as contributing to the solution of any technical problem by providing a technical effect it has no significance

for the purpose of assessing inventive step.

Thus in T 158/97 Treating electrical conductive fluid/IBBOTT, a modification of a known device not related to any technical function was held incapable of contributing to inventive step (similarly T 72/95 Ionizing liquid/IBBOTT, T 157/97 Ionizing fluids/IBBOTT and T 176/97 Ionizing fluid/IBBOTT, all not published in OJ EPO). In T 27/97 Cryptographie à clés publiques/FRANCE TELECOM, not published in OJ EPO, the present Board (in a different composition) ignored, in assessing inventive step a feature distinguishing the claimed subject-matter from the prior art for lack of any established technical effect causally related to this feature.

In the present Board's view, this finding is entirely consistent with the general requirement for an invention to have technical character, leading to the conclusion that an invention in the sense of Article 52 EPC can only be made up of those features which contribute to said technical character.

7. The technical problem should not be formulated to refer to matters of which the skilled person would only have become aware by knowledge of the solution now claimed. Such formulation of the problem involving inadmissible hindsight of the solution must be avoided by reformulation of the technical problem to be solved. Thus a problem should not contain pointers to the solution or partially anticipate it.

However, in the Board's view this principle applies to those aspects of the subject matter claimed which contribute to the technical character of the invention

and hence are part of the technical solution. Merely because some feature appears in the claim does not automatically exclude it from appearing in the formulation of the problem. In particular where the claim refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

Thus in T 1053/98 (not published in OJ EPO) the Board (in a different composition) considered it necessary to formulate the technical problem in such a way that there was no possibility of an inventive step being involved by purely non-technical features. Such a formulation of the problem could refer to the non-technical aspect of the invention as a given framework within which the technical problem was posed. The approach adopted in this decision thus accepts it as correct to formulate the technical problem to include non-technical aspects whether novel or not: these non-technical aspects are thus not to be regarded as contributing to the solution.

Similarly, in T 931/95 Controlling Pension Benefits System/PBS PARTNERSHIP (OJ EPO 2001, 441) dealing with inventive step in respect of an apparatus implementing a business method, the Board (in a different composition) proceeded on the footing that the person skilled in the art had knowledge of the non-technical method so that only the technical aspects of the apparatus were taken into account in assessing inventive step. This approach, which is actually a method of construing the claim to determine the technical features of the claimed invention, allows

separating the technical from the non-technical aspects of the invention even if they are intermingled in a mixed type claim feature.

8. Finally, the identification of the skilled person may also need careful consideration. The skilled person will be an expert in a technical field. If the technical problem is concerned with a computer implementation of a business, actuarial or accountancy system, the skilled person will be someone skilled in data processing, and not merely a business man, actuary or accountant.

9. Starting point for examining inventive step is, in the present case, prior art document D8. It describes features of the GSM network standards at the stage of implementation reached in 1990 and the so-called Subscriber Identity Module SIM in particular, which is part of the mobile station and stores all the subscriber related information elements contained in the individual mobile stations, allowing the system to identify, authenticate and locate the subscriber in the network (see e.g. document D8, pages 8/9, section 3.3). The remaining part of the mobile station is "a universal equipment operable by different subscribers in turn, each using his own SIM" (document D8, page 3, penultimate paragraph).

The GSM standards address not only technical issues but also administrative and commercial aspects of the network management. In particular the separation of subscriber related and universal functions provide, from the network operator's point of view, "a great flexibility in the subscription management" (loc.cit.). Although not explicitly dealt with in document D8, the

commercial aspects of a subscription management imply that the network operator has at its disposal the technical and administrative means for charging the calling costs to the individual subscriber.

The SIM, in the "GSM network operation phase " (document D8, section 2.3 on page 5), is personalized (allocated to a given subscriber) and, from a process point of view, a GSM application enabling the subscriber technically to access the system. The GSM application may be one of several applications, for example when the SIM is part of an ISO standardized multi-application IC card supporting in addition to the GSM application a number of other applications. On such an active multi-application card the GSM application can be selected by appropriate commands (document D8, page 1, last paragraph, page 6, third paragraph and page 9, third and last paragraphs).

10. Claim 1 (according to both requests) defines that " the subscriber identity module (SIM) is allocated at least two identities". Figure 6 of the present patent specification, however, shows an "active card modified for use as a subscriber identity module" including two standard modules (patent specification, column 4, lines 46 ff., column 6, lines 12 ff. and column 8, claim 15), each module providing a fully functional GSM application. The term "subscriber identity module" as used in the patent, therefore, has to be construed to include the multi-application card disclosed in document D8, except for the claim feature that "at least two identities" are allocated, which means in the terminology of document D8 that not only one but at least two of the applications supported by the active multi-application card are GSM applications.

11. According to document D8, each single subscriber identity module is allocated an identity which is the basis for different identity data (among others, the personal identity number IMSI to which a MSISDN number is allocated). The network location registers including the Home Location Register HLR (see document D8, page 2, section 1.2) maintain the correspondence between all these numbers. Since the GSM standards require that the subscriber identity data are stored in the network home database, a user selecting a GSM application automatically and selectively activates the desired identity in the home database of the network operator from the subscriber unit. Only one GSM application can be allocated to an IMSI identity at a time. By means of the MSISDN number allocated to the subscriber identity incoming calls are automatically set up against the activated identity according to the information stored in the home database.

12. With reference to appellant's main request it follows that document D8 anticipates all features of claim 1 but the following:

(i) the subscriber identity module is allocated at least two identities,

(ii) said at least two identities being selectively usable, and

(iii) the selective activation being used for distributing the costs for service and private calls or among different users.

13. Distributing costs according to specific schemes (features (ii) and (iii)), however, is not disclosed as

a technical function of the system: it is left to the user to decide and to select the desired identity and to the network operator to use the additional identity data in one or other way. The inconveniences to be eliminated are actually not located in any technical aspects of the network system, distributing costs according to the claimed kind of cost attributing scheme is rather a financial and administrative concept which as such does not require the exercise of any technical skills and competence and does not, on the administrative level, involve any solutions to a technical problem. Technical aspects first come into play with the implementation of such a scheme on the GSM system. In other words, the claimed concept of selectively distributing the costs for service and private calls or among different users does as such not make a contribution to the technical character of the invention.

14. According to the patent specification, eliminating inconveniences caused by distributing costs for service and private calls or among different users is an object of the invention (see, for example, column 1, lines 45 ff.). This is not yet formulated as a technical problem. To arrive at the technical problem this object needs to be reformulated as being to implement the GSM system in such a way as to allow user-selectable discrimination between calls for different purposes or by different users. In fact, the technical professional would, in a realistic situation, receive knowledge of the cost distribution concept as part of the task information given to him to indicate the services to be provided to the customer.

15. From document D8, the skilled person, an expert in GSM

systems, knows that before access to a GSM network can be granted, the mobile station has to be personalized by means of a subscriber identity module, providing the IMSI number which identifies the account to which the calling costs are to be charged. Discriminating between calls originating from one and the same mobile station, therefore, requires the allocation of different IMSI numbers, or in other terms, the implementation of a corresponding number of GSM applications (feature (i)). Faced with this technical requirement, the skilled person finds a solution in document D8 (loc.cit): the use of an active multi-application card providing the necessary commands for selecting the desired application (feature (ii)), and thus the desired identity which a GSM system can use for charge collection.

Finally, any technical considerations which might be involved in implementing the specific use according to feature (iii) on the GSM system derive from the prior art in a straightforward way. In the GSM system costs are charged to the identity used for making a call and this remains the same according to the invention. The patent in suit does not disclose or claim any new way of charging costs, but only correlates more than one identity with one and the same subscription under the discrimination aspect, thus requiring - if at all - only minor modifications of the network's home database. In the Board's view, such considerations do not involve any technical ingenuity and hence cannot contribute positively to inventive step.

In consequence, the claimed invention, insofar as it has technical character, is obvious in the light of document D8 so that the method of claim 1 does not meet

the patentability requirement of inventive step (Articles 52(1) and 56 EPC).

16. Claim 1 of the auxiliary request in substance includes the additional feature that "an incoming call (is) set up against the activated identity controlled by the information in the home database". In view of the MSISDN number allocated to any subscriber identity module (see above) this claim feature is already a feature of the standard GSM system and does thus not make any difference to the formulation of the technical problem or the assessment of inventive step so that the reasons given above for lack of inventive step in respect to the main request apply also to the auxiliary request.

17. In summary, the invention as claimed in both main and auxiliary request does not meet the requirement of inventive step, precluding maintenance of the patent on the basis of the requested amendments. Appellant’s request concerning remittal of the case to the first instance, which is expressed as conditional on the relevance of document EP-B-0 344 989, does not take effect since the document is not material to the decision on the appeal.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl S. V. Steinbrener