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D E C I S I O N
of 24 March 1999

Case Number: T 0714/96 - 3.5.1

Application Number: 86107363.3

Publication Number: 0203614

IPC: H04M 7/06

Language of the proceedings: EN

Title of invention:
Inter-network connection system

Patentee:
Fujitsu Limited

Opponent:
Alcatel SEL Aktiengesellschaft

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0714/96 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 24 March 1999

Appellant: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 28 May 1996 rejecting the opposition filed against European patent No. 0 203 614 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: P. K. J. van den Berg

Members: R. R. K. Zimmermann
C. Holtz
S. Wibergh
M. J. Vogel

Summary of Facts and Submissions

1. The appeal concerns European patent No. 0 203 614 granted on the basis of European patent application No. 86 107 363. A right of priority was claimed with 31 May 1985 as date of priority.

II. The patent in its entirety was opposed on the grounds of Article 100(a) EPC. The notice of opposition including a reasoned statement concerning lack of novelty and inventive step cited, *inter alia*, following prior art documents:

(1) CCITT, The International Telegraph and Telephone Consultative Committee, Yellow Book, vol. VI - Fasc.VI.6, Specifications of Signalling System No. 7, Rec. Q.701-Q.741, VIIth Plenary Assembly, Geneva, 10-21 November 1980, Geneva 1981

(2) JOURNAL OF TELECOMMUNICATION NETWORKS, vol. 2 (1983), No. 1, pages 83-102, Rockville, Maryland, US; D. Einert et al.: "The SNATCH Gateway: Translation of Higher Level Protocols"

III. The first instance rejected the opposition in a decision dated 28 May 1996. Against this decision the opponent filed a notice of appeal on 31 July 1996. The payment of the appeal fee was effected on 7 August 1999. In a written statement filed 25 September 1996 the appellant set out the grounds of appeal.

IV. The parties to the appeal proceedings submitted the following requests:

The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent (patentee) requested that the appeal be dismissed.

V. The patent was granted and maintained by the first instance on the basis of the following single patent claim:

An inter-network connection system for interconnection of a plurality of common channel signalling networks using a common channel signalling system, said connection system comprising:
a plurality of common channel signalling networks (A, B) each having an independent code system (numbering system based on a numbering plan) wherein each of said common channel signalling networks comprises one or more signalling offices and in each of said common channel signalling networks, one of said signalling offices is connected to function as a gateway office; and
a local signalling network (C) comprising a point to point system including at least one gateway office of each of said common channel signalling networks, and comprising, in each said local signalling network, a code system (numbering system based on a numbering plan) which is different from that of each of said common channel signalling networks, each of said signalling offices including:
means for transmitting from one of said common channel signalling networks to another one of said common channel signalling networks a signal unit comprising user data, an originating office code, and a

destination office code and each of said common channel signalling networks including:
an originating office including means for setting the user data, the originating office code and the destination office code in the signal unit and means for sending the signal unit to the gateway office in said one of said common channel signalling networks, the gateway office in said one of said common channel signalling networks including:
first changing means for changing in accordance with the user data the destination office code in the signal unit received from said signalling office in said common channel signalling network to which said gateway office belongs, to a gateway office code of said another common channel signalling network which is a second destination office code, and changing the originating office code from said originating office code of said signalling office to an own gateway office code, and for transmitting the signal unit including the second destination information through said local signalling network including both gateway offices; and the gateway office in said another of said common channel signalling networks including:
second changing means for changing, in accordance with the user data, the destination office code in a signal unit received from said gateway office in said local signalling office to which said gateway office belongs, to the destination office code which is a third destination office, for changing the originating office code from said gateway office code to an own gateway office code, and for transmitting the signal unit including the third destination information to the destination office.

VI. The first instance considered document 1 as the most relevant prior art. According to the decision under appeal, the international signalling network displayed in Figure 1/Q.705 of document 1 had to be associated with the signalling network C as defined in the patent claim. The signalling network C including the gateways offices provided an inventive contribution to the prior art. Adaptability of the system to network modifications, lessened storage requirements and making the recognition of the office codes between different networks unnecessary were achieved.

VII. The appellant argued that different pieces of prior art, *inter alia* documents 1 and 2, either deprived the claimed system of novelty or of inventive step. Document 1 disclosed an international common channel signalling system interconnecting national and international networks which were structurally independent and based on signalling office codes individual to each network. The signalling procedure and the message formats complied with the definitions given in the patent claim. For improving the interconnection system of the international network the skilled person would take document 2 into consideration. Although the subject-matter of this document belonged to the field of computer networks rather than to signalling networks and telecommunication this difference would not hinder the skilled person to combine the two documents. Both fields, telecommunication and computer networks, had converged technically and under professional and industrial aspects well before the priority date of the patent when digital technology entered the field of telecommunication. The skilled person would thus

consider it a normal professional requirement to be aware of the technical development in the field of computer networks. The appellant referred to the actual situation in research, education and industry and argued that remaining differences between these two fields, if present at all, did not play an important role there any more.

VIII. The respondent concurred with the reasons given in the first instance decision. Regarding the international network shown in Figure 1 /Q.705 (document 1), this network would be a multi-node international network and thus not the local point-to-point system defined in the patent claim.

Document 1 related to common channel signalling networks whereas document 2 related to packet computer networks which were networks of substantially different type so that it had not been obvious to combine these two documents.

In addition, the networks disclosed in documents 1 and 2 belonged to different fields, namely telecommunication and computer networks, which would be another reason for not combining these documents. Regarding this argument, the appellant had failed to prove the contrary.

In any case, even if a combination of documents 1 and 2 was considered one would not arrive at the claimed system since the signal format as well as the changing means defined in the patent claim could not be derived from the combination of these two documents.

Reasons for the Decision

1. The appeal is admissible.

2. If the appellant's objection of lack of inventive step proves right, the appeal is also allowable. Since document 1 concerns signalling networks and thus the same type of networks as the patent under appeal, this document appears to be an appropriate starting point for examining this question.

3. Figure 1/Q.705 of document 1 shows a worldwide signalling network comprising several national signalling networks interconnected by an international signalling network. The international signalling network and the different national signalling networks are structurally independent but comply with the specifications of the CCITT signalling standard No. 7 as set out in the "Yellow Book", the standard from which document 1 is an excerpt.

   Since a CCITT signalling system No. 7 is a common channel signalling system, Figure 1/Q.705 in fact shows an "inter-network connection system for interconnection of a plurality of common channel signalling networks using a common channel signalling system, said connection system comprising a plurality of common channel signalling networks" as defined in the first paragraphs of the patent claim.

   Furthermore, recommendations Q.723 and Q.724 (document 1) define an "initial address message" including a user-defined address information as well as signalling point codes OPC and DPC which identify the

individual signalling points in the respective national and international signalling networks. As specified in recommendation Q.705, the signalling point codes are allocated to the signalling points by means of independent numbering plans and according to rules individual to each network. Document 1, therefore, anticipates the patent claim regarding the structure of the messages (signal units) and the independency of the numbering systems of the different common channel signalling networks.

In addition, recommendation Q.705 indicates that at a node interconnecting a national signalling network with the international signalling network the signalling point may belong to both networks and is accordingly identified by a specific signalling point code in each of the two networks. This implies that at this node a translation module (gateway) involving functions of the user part (compare recommendation Q. 723) has to be provided for routing the initial address message correctly from the one network into the other. Since the numbering systems are independent it is also clear that such a gateway has to use, for correct routing, the user data which is included in the message data unit.

Since both of these two networks adhere to the CCITT signalling standard No. 7, such a translation must result at least in the following changes of the signalling point codes: The office code of the gateway in the one network which is coded as the destination office code in the incoming signal unit is translated into the office code of the gateway in the other network and inserted as the new originating office code

in the outgoing message. The destination office code of the outgoing message is determined by the gateway on the basis of the user data and identifies a third destination office in this other network.

This leaves the following features (cited as features a, b, ... etc. in the following text) which distinguish the subject-matter of the patent claim from said piece of prior art:

(a) a local signalling network comprising a point-to-point system including at least one gateway office of each of said common channel signalling networks,

(b) a numbering system based on a numbering plan which is different from that of each of said common channel signalling networks,

(c) means for transmitting a signal unit through said local signalling network from the gateway office of the one common channel signalling networks to the gateway office of the other common channel signalling network,

(d) at the one gateway office, means for changing the destination office code in the signal unit received by the one gateway office to the office code of the other gateway office,

(e) at the one gateway office, means for changing the originating office code from said gateway office code to the office code of the gateway office in the local signalling network,

(f) at the other gateway office, means for changing the destination office code to the office code of a destination office in said other common channel signalling network,

(g) at the other gateway office, means for changing the originating office code to the office code of this other gateway office in said other common channel signalling network.

4. According to recommendation Q.705, each of the gateways connecting the international network with the different national networks functions as a national signalling point as well as an international signalling point. Since the networks are structurally independent, the design of these gateways depends on the structures of the networks to be interconnected.

This dependency is a common problem arising with network interconnection systems when structurally different networks are to be connected. Document 2 discusses this problem in the context of the "openess" of network systems, taking an interconnection of the proprietary computer networks SNA and TRANSDATA as examples.

To solve this problem, document 2 proposes the use of two gateways in succession, connected by a "neutral network" (Figures 3 and 4) instead of the use of a single gateway. Possible "neutral architectures" are shown in Figures 3 and 4 of document 2.

5. Between the parties to the appeal proceedings the question was controversial whether the skilled person

would take document 2 in consideration at all, since document 2 concerns computer networks but not a common channel signalling system which belongs to the field of telecommunication.

Certainly, in the past telecommunication and computer technology were completely separate fields under technical as well as under personal and organisational aspects. However, in the course of the "digital revolution" taking place also in the field of telecommunication the barriers between these two fields disappeared.

Already long before the priority date of the contested patent, digital telecommunication networks including digital switching systems and computer networks had become closely related technologies. The appellant submitted some evidence supporting this view. Some confirmation is also provided by document 2 itself which is a publication in the "Journal of Telecommunication Networks", although the content of this document is explicitly related to computer networks.

The respondent further argued that the types of network to which documents 1 and 2 relate are too different as to allow the skilled person to combine these two documents. However, this argument does not apply to the present situation where the technical problem solved is in fact a problem common to both types of network.

Therefore, in the view of the Board, the skilled person is not hindered to combine documents 1 and 2 at all but is rather expected to take document 2 into

consideration when trying to find a more "open" design for the interconnection system.

6. If the skilled person wishes to apply the "neutral architecture" shown in Figure 4 of document 2 to the nodes of the international signalling network he has to replace the single gateway by at least two gateways interconnected by a "neutral network". This neutral network is clearly a local, point-to-point network requiring some sort of routing management which allows for a numbering system and plan which is independent from the numbering systems and plans of the interconnected networks. Features a and c as cited above are therefore a direct result of applying this concept to a gateway office of the international signalling network.

Feature b depends to some extent on the type of neutral network used. A network like the X.25 network proposed in document 2 would include a numbering system and plan according to feature b but this type of network is not suitable for interconnecting common channel signalling networks. The obvious alternative - and the only possible one when problems like those encountered with the SNATCH gateway are to be avoided - is a signalling network providing a close correspondence to the CCITT signalling system No. 7, at least as far as the network processes and data formats on the message transfer part level 3 are concerned. This applies in particular to the format of the data units transferred through the neutral network. A network structure including a numbering system on the basis of an independent numbering plan and providing a signal data format including user data and signalling point codes is

therefore a design which the skilled person would consider obvious. The gateways of such a neutral signalling network have to change the signalling point codes then precisely as defined in features d to g (see above).

7. Therefore, none of the features a to g form the basis for an inventive contribution to the prior art so that the requirement of inventive step as set out in Article 56 EPC is not fulfilled.

The subject-matter of the patent under appeal is thus not patentable so that the appeal has to be allowed.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

M. Kiehl P. K. J. van den Berg