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Datasheet for the decision of 25 March 2024

Case Number: T 0917/22 - 3.5.05

Application Number: 17718180.7

Publication Number: 3440820

IPC: H04L29/06, G08B25/01, G08B25/08, G08B25/10, H04M11/04

Language of the proceedings: EN

Title of invention:
Apparatus, system, and method of establishing a communication link

Applicant:
Carrier Corporation

Headword:
Protocol conversion by a redialer/CARRIER

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - all requests (no): juxtaposition of obvious implementation measures

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Case Number: T 0917/22 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 25 March 2024

Appellant: (Applicant)	Carrier Corporation One Carrier Place Farmington, CT 06032 (US)
Representative:	Dehns St. Bride's House 10 Salisbury Square London EC4Y 8JD (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 2 December 2021 refusing European patent application No. 17718180.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	P. Tabery
	C. Almberg

Summary of Facts and Submissions

I. The appeal is directed against the examining division's decision to refuse the present application.

II. The examining division decided that the claimed subject-matter did not involve an inventive step (main request and auxiliary requests 1 to 5). In addition, the claims of auxiliary requests 4 and 5 were found not to comply with Articles 84 and 123(2) EPC.

III. The documents referred to by the examining division included the following prior art:

D1: US 8 385 511 B2.

IV. Oral proceedings were held before the board on 25 March 2024.

The final requests of the appellant were that the appealed decision be set aside and that a patent be granted based on the claims of the main request or one of auxiliary requests 1 to 5 - of which all were subject to the appealed decision, with the exception of auxiliary requests 2 and 5 which were first filed with the statement of grounds of appeal.

At the end of the oral proceedings, the board's decision was announced.

V. Claim 1 of the **main request** reads as follows:

"A method performed by a redialer (2.060) of establishing a communication path between a customer

terminal (2.050) and a central monitoring station (2.080), the method comprising:

receiving a first call from the customer terminal;

answering the first call;

generating a call establishment request, CER;

establishing a second call to the central monitoring station;

forwarding the CER to the central monitoring station;

receiving an acknowledgement from the central monitoring station; and

connecting the first call and the second call to establish a voice frequency link between the customer terminal and the central monitoring station independent of whether an alarm event has been received from the customer terminal;

wherein the first call is in a first protocol and the second call is in a second protocol, the method including converting the calls to an intermediate protocol before connecting the first and second calls; and

wherein the method further comprises:

receiving voice frequency, VF, data information using the first protocol from the customer terminal or the second protocol from the central monitoring station;

converting the VF data information to a data message format;

and forwarding the data message via an IP interface to the other of the customer terminal or the central monitoring station."

VI. Claim 1 of **auxiliary request 1** reads as follows (amendments vis-à-vis claim 1 of the main request underlined as indicated by the appellant):

"A method performed by a redialer (2.060) of establishing a communication path between a customer terminal (2.050) and a central monitoring station (2.080), the method comprising:

receiving a first call from the customer terminal;

answering the first call;

generating a call establishment request, CER;

establishing a second call to the central monitoring station;

forwarding the CER to the central monitoring station;

receiving an acknowledgement from the central monitoring station; and

connecting the first call and the second call to establish a voice frequency link between the customer terminal and the central monitoring station independent of whether an alarm event has been received from the customer terminal;

wherein the first call is in a first protocol, wherein the first protocol is cellular or voice over IP, VoIP, and the second call is in a second protocol, wherein the second protocol is public switched telephone network voice frequency, PSTN VF, the method including converting the calls to an intermediate protocol before connecting the first and second calls; and

wherein the method further comprises:

receiving voice frequency, VF, data information using the first protocol from the customer terminal or the second protocol from the central monitoring station;

converting the VF data information to a data message format;

and forwarding the data message via an IP interface to the other of the customer terminal or the central monitoring station."

VII. In claim 1 of **auxiliary request 2**, the feature amended in claim 1 of auxiliary request 1 has been further amended as follows (amendments vis-à-vis claim 1 of the main request underlined as indicated by the appellant):

"wherein the first call is in a first protocol, wherein the first protocol is cellular or voice over IP, VoIP, and the second call is in a second protocol, wherein the second protocol is public switched telephone network voice frequency, PSTN VF, the method including converting the calls to an intermediate protocol before connecting the first and second calls, wherein the intermediate protocol is a redialer internal protocol; and".

VIII. Claim 1 of **auxiliary requests 3, 4, and 5** differ from claim 1 of the main request, auxiliary request 1, and auxiliary request 2, respectively, in that the alternatives

"or the second protocol from the central monitoring station"

and

"the other of the customer terminal or"

have been deleted, i.e. the last three features of claim 1 of each of these requests read as follows:

"receiving voice frequency, VF, data information using the first protocol from the customer terminal;
converting the VF data information to a data message format;
and forwarding the data message via an IP interface to the central monitoring station."

Reasons for the Decision

1. The present application concerns connecting an alarm system to an operator at a "central monitoring station". A "redialer" then provides a protocol conversion functionality between a voice frequency line and the IP protocol.

2. Main request

2.1 Claim 1 of the main request includes the following limiting features (board's labelling):

(a) A method performed by a redialer of establishing a communication path between a customer terminal and a central monitoring station, the method comprising:

(b) receiving a first call from the customer terminal;

(c) answering the first call;

(d) generating a CER;

(e) establishing a second call to the central monitoring station;

(f) forwarding the CER to the central monitoring station;

(g) receiving an acknowledgement from the central monitoring station;

(h) connecting the first call and the second call to establish a voice frequency link between the

customer terminal and the central monitoring station independent of whether an alarm event has been received from the customer terminal;

(i) wherein the first call is in a first protocol and the second call is in a second protocol,

(j) converting the calls to an intermediate protocol before connecting the first and second calls;

(k) receiving VF data information using the first protocol from the customer terminal **or** the second protocol from the central monitoring station;

(l) converting the VF data information to a data message format;

(m) forwarding the data message via an IP interface to the other of the customer terminal **or** the central monitoring station.

2.2 Novelty (Article 54(1) EPC)

2.2.1 The board concurs with the examining division that the subject-matter of claim 1 differs from the disclosure of document **D1** in that the method further includes feature (j) which relates to converting the calls to an "intermediate protocol".

2.2.2 The appellant contested that the use of VoIP as set out in document D1 could be regarded as the "data message format" of claim 1 of the present application, since the VoIP was already disclosed as the "first protocol". It could not be mapped to both, the "first protocol" of the **received** information as well as the "data message format" being **forwarded**. Moreover, the forwarding of

the data message was distinct from the "call" and could thus not be mapped to. Therefore, features (l) and (m) were not disclosed in document D1.

2.2.3 The board is not convinced by this argument. The examining division mapped, in its novelty analysis (incorporated into the decision by reference to the summons dated 6 April 2021) the "[received] VF data information using [...] the second protocol" to the "DTMF tones" received from the central monitoring station via the PSTN interface 11 (see D1, col. 1, lines 28 and 29) and the claimed "data message [format]" to the VoIP messages transmitted by the dialling subsystem to the "alarm communicator". For the sake of completeness, the board notes that the term "data message format" is not further specified in claim 1. In particular, its relation to the "first and second protocols" is left entirely open. This term thus allows for a broader interpretation than assumed by the appellant and may also comprise "VoIP message formats". Therefore, feature (l) and the second alternatives of features (k) and (m) are indeed known from document D1.

2.2.4 As to the appellant's argument that the "data message format" could be an SMS, the board considers that the present application does not provide any teaching in this direction. The term "SMS" is not even mentioned in the application as filed.

2.3 Inventive step (Article 56 EPC)

2.3.1 The board holds that the sole distinguishing feature (j) does not credibly cause a technical effect other than altering - for whatever reasons - the communication protocols used: claim 1 allows for the interpretation that the "intermediate protocol" remains

inside the "redialer" and is thus entirely undetectable outside of it.

2.3.2 Consequently, the board is not convinced by the appellant's argument that the distinguishing feature would achieve the technical effect of any "improved communications". Notably, the appellant did not explain which aspect of the underlying communications was actually improved, i.e. how the alleged improvement could be objectively measured and thus verified.

2.3.3 During the oral proceedings before the board, the appellant asserted that the distinguishing feature caused the technical effect of "providing the possibility for a more consistent conversion".

The board holds that this effect is not derivable over the entire scope claimed either, since the term "intermediate protocol" is not further limited and thus also comprises protocols providing a "less consistent" conversion. And even if, for the sake of argument, it was assumed that this technical effect was achieved on the basis of the skilled person's common general knowledge, distinguishing feature (j) would have been obvious to that skilled person in view of this very same common general knowledge. Converting data messages sent using a certain communication protocol to data messages to be forwarded via a different communication protocol would have constituted a routine task for the skilled person in the field of telecommunication networks at the application's priority date, dictated solely by practical circumstances (e.g. the support of some specific protocols by some network components).

2.3.4 Lastly, the appellant emphasised that the present invention provided, for transmitting the information

received as VF data information, a *further* protocol channel that was operated parallel to the established VoIP channel.

The board however finds that, for the reasons indicated in point 2.2.3 above, the wording of claim 1 allows for the broad interpretation that the information received as "VF data information" is also transmitted within the "second protocol". Therefore, this argument also fails to convince the board.

2.3.5 Hence, the board considers that the subject-matter of claim 1 of the main request is not inventive over the disclosure of document D1 taken alone.

2.4 In view of the above, the main request is not allowable under Article 56 EPC.

3. Auxiliary request 1

3.1 The board agrees with the examining division that the added features were already considered as being known from document **D1** in the context of analysing novelty of claim 1 of the main request.

3.2 Since the board does not concur with the appellant's allegation that the examining division's analysis contained a contradiction (see point 2.2.3 above), this argument of the appellant has no merits.

3.3 As to inventive step, the appellant further referred to the technical effect asserted with respect to the main request. Since the board found that claim 1 of auxiliary request 1 comprises the same distinguishing feature (j) as claim 1 of the main request, this

technical effect fails to convince the board in the context of auxiliary request 1, too.

3.4 Therefore, claim 1 of auxiliary request 1 is not inventive for the same reasons as for claim 1 of the main request.

3.5 Hence, auxiliary request 1 is not allowable under Article 56 EPC either.

4. Auxiliary request 2

Compared to claim 1 of auxiliary request 1, feature (j) has been amended as follows:

(j') converting the calls to an intermediate protocol before connecting the first and second calls, wherein the intermediate protocol is a redialer internal protocol.

4.1 As to the added feature, the board concurs with the examining division that document D1 does not directly and unambiguously disclose a "redialer internal protocol". Thus, feature (j') constitutes the distinguishing feature here.

4.2 However, the board finds that the term "redialer internal protocol" does not possess a well-established meaning in the relevant art. Therefore, it cannot alter the board's view that the distinguishing feature does not credibly cause a technical effect other than changing the communication protocol used (see point 2.3.1 above).

4.3 Hence, claim 1 of auxiliary request 2 is not inventive for the same reasons as for claim 1 of the main

request.

4.4 In consequence, auxiliary request 2 is not allowable under Article 56 EPC either.

5. Auxiliary request 3

5.1 Distinguishing features

5.1.1 The board agrees with the appellant that claim 1 of this request has been amended, compared to claim 1 of the main request, by deletion of those alternatives in features (k) and (m) which are already known from document D1 - with the undisclosed alternatives remaining. As it refers to amended feature (k), feature (l) is also not disclosed in document D1.

5.1.2 Notably, as to feature (k), document D1 discloses that the "event data" (i.e. the data which is subsequently forwarded to the "central monitoring station") is transmitted using "long range data interface 6", which comprises SMS and Ethernet-type technologies, but not the claimed "voice-frequency data information". Furthermore, document **D1** discloses a "PSTN interface" instead of the "IP interface" according to feature (m).

5.1.3 Thus, the subject-matter of claim 1 differs from the disclosure of document D1 in **features (j) to (m)**.

5.2 Inventive step

5.2.1 On the one hand, as held in the context of the main request, the distinguishing feature (j) may not contribute to an inventive step, since it does not credibly cause a technical effect other than changing the communication protocol used (see point 2.3.1

above). Hence, it may also not contribute to a *combined* technical effect. It is therefore sufficient to determine whether **features (k) to (m)** involve an inventive step in combination.

5.2.2 As to the "voice frequency data information" reflected in **features (k) and (l)**, the board considers that document D1 shows, in Fig. 8, a traditional alarm reporting system. Therein, the customer premises equipment comprises a "digital dialer" capable of establishing a telephone connection over a PSTN. Depending on the circumstances, it would have indeed been desirable for the skilled person to enable the use of such a traditional customer premises equipment with the enhanced "alarm communication center" disclosed in the passages of document D1 cited above.

5.2.3 As to the distinguishing feature "IP interface" according to **feature (m)**, the board holds that IP networks were widely used at the application's priority date. Depending on the circumstances, it would therefore have been desirable for the skilled person to enable interconnecting the "redialer" with the "central monitoring station" over such an IP network without further ado. In that regard, the board notes that IP networks, using VoIP for transmitting calls over IP networks and interconnecting VoIP calls with PSTN calls is already known from document D1, albeit in the reverse configuration. Moreover, the board notes that it was commonly known at the application's priority date that low-rate voice codecs could not be guaranteed to reproduce DTMF signals accurately enough for automatic recognition. In the context of VoIP technology, it was - already then - common practice to recognise those tones and transmit the *recognised* information instead.

5.2.4 The technical effect of distinguishing features (k) to (m) resides in ensuring compatibility of the system of document D1 with the network constraints identified in points 5.2.2 and 5.2.3 above, i.e. somewhat an "increased compatibility" as the appellant put it at the hearing before the board. The corresponding objective technical problem may thus be formulated as "how to render the system of document D1 compatible with these constraints".

5.2.5 The board holds that the constraints identified above reflect common network configurations, which the skilled person in the field of telecommunication networks would have readily foreseen, depending on the practical needs. This way, the skilled person would have arrived at distinguishing features (k) to (m) without employing any inventive skill.

5.2.6 For these reasons, the subject-matter of claim 1 of auxiliary request 3 is not inventive over the disclosure of document D1.

5.3 In view of the above, auxiliary request 3 is likewise not allowable under Article 56 EPC.

6. Auxiliary request 4

6.1 The board notes that the features which were added to claim 1 - compared to claim 1 of auxiliary request 3 - have already been considered when analysing inventive step of the subject-matter of claim 1 of auxiliary request 3.

6.2 As to inventive step, the appellant referred to its previous arguments. Since the board found these not to be convincing, it holds that the subject-matter of

claim 1 of auxiliary request 4 is not inventive for the same reasons as for claim 1 of the main request.

6.3 Hence, auxiliary request 4 is not allowable under Article 56 EPC either.

7. Auxiliary request 5

7.1 This request has been amended versus its preceding version in that the term "internal redialer protocol" now reads "redialer internal protocol". This is the same amendment as made to claim 1 of auxiliary request 2.

7.2 Compared to claim 1 of auxiliary request 4, claim 1 of this request further specifies that "the intermediate protocol is a redialer internal protocol".

7.3 As already indicated in the context of auxiliary request 2, the board judges that the term "redialer internal protocol" does not have a well-established meaning in the relevant art. As the appellant merely referred to its previous arguments, the board holds that claim 1 of this request is not inventive for the same reasons as for claim 1 of auxiliary request 4.

7.4 Consequently, auxiliary request 5 is not allowable under Article 56 EPC too.

8. With all claim requests on file found not allowable, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated