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Datasheet for the decision
of 12 March 2009

Case Number: T 1821/06 - 3.5.03

Application Number: 01000215.2

Publication Number: 1178658

IPC: H04M 3/493

Language of the proceedings: EN

Title of invention:
Voice over IP based system for internet browsing using a
gateway

Applicant:
Cisco Systems, Inc.

Headword:
Voice over IP based internet browsing/CISCO

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
-

Decisions cited:
-

Catchword:
-

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Case Number: T 1821/06 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 12 March 2009

Appellant:	Cisco Systems, Inc. 170 West Tasman Drive San Jose CA 95134 (US)
Representative:	Kazi, Ilya Mathys & Squire LLP 120 Holborn London EC1N 2SQ (GB)
Decision under appeal:	Decision of the Examining Division of the European Patent Office posted 12 July 2006 refusing European application No. 01000215.2 pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman: A. S. Clelland
Members: T. Snell
              M.-B. Tardo-Dino

Summary of Facts and Submissions

I.   This appeal is against the decision of the examining
       division refusing European patent application
       No. 01000215.2, with publication number EP-A-1178658.

       The refusal was based on the ground that the subject-
       matter of, *inter alia,* claim 1 did not meet the
       requirement of inventive step pursuant to Article 52(1)
       in combination with Article 56 with respect to the
       disclosure of the following document:

       D1: Goose et al, "Enhancing Web accessibility via the
            Vox Portal and a Web-hosted dynamic HTML↔VoxML
            converter", Computer Networks, Vol. 33 (2000),
            pages 583-592.

II.   The appellant filed a notice of appeal against the
       above decision. New claims of a main request and three
       alternative claim sets of first to third auxiliary
       requests were subsequently filed together with a
       statement of grounds of appeal.

       In the statement of grounds, the appellant requested
       that the decision under appeal be set aside and a
       patent granted on the basis of one of the above-
       mentioned requests.

       Oral proceedings were conditionally requested.

III.   In a communication accompanying a summons to oral
       proceedings the board gave a preliminary opinion in
       which, *inter alia*, a reasoned objection under Article

52(1) in combination with Article 56 EPC (inventive step) was raised against claim 1 of each request.

To support its reasoning, the board, by virtue of its power under Article 114(1) EPC, introduced the following document into the proceedings for the purpose of illustrating common general knowledge at the priority date of the application:

D2:   Schroeder et al: "Scalable Web Server Clustering Technologies", IEEE Network, May/June 2000, pages 38-45.

IV.   In response to the board's communication, the appellant filed new claims of a main request (claims 1-13) and an auxiliary request (claims 1-10) to replace all the existing requests.

V.   Oral proceedings were held on 12 March 2009. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims 1-13 of the main request or the set of claims 1-10 of the auxiliary request, both filed with the letter dated 5 February 2009. After due deliberation, the board announced its decision at the end of the oral proceedings.

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

"A Voice over IP "VoIP" based speech system comprising a plurality of speech servers (5) and a VoIP telephony Gateway server (3) having a call processor (16) with advanced call management functions (15),

said VoIP telephony Gateway server being operable to receive audio data representing a voice call from a telephony interface (11), to compress digital audio data into VoIP compliant packets, to enable VoIP connections to be established with each of the plurality of speech servers (5) through a VoIP-compliant call control interface (13) of the system, to use its advanced call management functions (15) to examine the status of each speech server (5) and to identify the speech server (5) best suited to receive a voice call, and to transmit said VoIP-compliant packets using the VoIP protocol to the speech application of the identified speech server;

each speech server containing a speech application (24) operable to receive VoIP-compliant packets transmitted by the VoIP telephony Gateway server via a VoIP connection established with the VoIP telephony Gateway server, to reconstruct said digital audio data from said VoIP-compliant packets, and to speech-to-text convert said digital audio data and further operable to synthesise text into digital audio data, to encapsulate said digital audio data in VoIP-compliant packets and to transmit said VoIP-compliant packets to said VoIP telephony Gateway server via an *[sic]* VoIP connection established with the VoIP telephony Gateway server; and

said VoIP telephony Gateway server being further operable to receive VoIP-compliant packets from a said speech server via an *[sic]* VoIP connection established with that speech server, to reconstruct said digital audio data from said VoIP-compliant packets, and to transmit said digital audio data through said telephony interface."

VII.   Claim 1 of the **auxiliary request** reads as follows:

"A Voice over IP VoIP" based speech system comprising a
plurality of speech servers (5) and a VoIP telephony
Gateway server (3) having a call processor (16) with
advanced call management functions (15),

said VoIP telephony Gateway server being operable to
receive audio signals from a telephony interface (11),
to digitize received audio signals into digitized audio
data, to compress digitized audio data into VoIP-
compliant packets, to enable VoIP connections to be
established with each of the plurality of speech
servers (5) through a VoIP-compliant call control
interface (13) of the system, to use its advanced call
management functions (15) to examine the status of each
speech server (5) and to identify the speech server (5)
best suited to receive a voice call, and to transmit
said VoIP-compliant packets using the VoIP protocol to
the speech application of the identified speech server;

each speech server containing a speech application (24)
operable to receive VoIP-compliant packets transmitted
by the VoIP telephony Gateway server via a VoIP
connection established with the VoIP telephony Gateway
server, to reconstruct said digital audio data from
said VoIP-compliant packets, and to speech-to-text
convert said digital audio data and further operable to
synthesise text into digital audio data, to encapsulate
said digital audio data in VoIP-compliant packets and
to transmit said VoIP-compliant packets to said VoIP

telephony Gateway server via an *[sic]* VoIP connection established with the VoIP telephony Gateway server; and said VoIP telephony Gateway server being further operable to receive VoIP-compliant packets from a said speech server via a VoIP connection established with that speech server, to reconstruct said digitized audio data from said VoIP-compliant packets, and to transmit said digitized audio data through said telephony interface."

Reasons for the decision

1.   *The introduction of document D2 (Article 114(1) EPC)*

1.1   Document D2 is a review article giving an overview of a number of different methods of clustering web servers. The appellant accepted that D2 describes several methods of web clustering used by a number of major companies. The board regards this document as illustrating the common general knowledge of the art at the priority date of the application (19.06.2000). The appellant did not dispute that the methods of web clustering described in D2 were in the public domain before the priority date of the application.

1.2   The board, making use of its power under Article 114(1) EPC, introduced D2 into the proceedings in response to the grounds of appeal, in which the appellant challenged the finding of the examining division that the skilled person would implement a "scalable" server by adding additional servers to an existing server.

2.   *Inventive step (claim 1 - main and auxiliary requests)*

2.1   The board refers in the following analysis to the
        description and drawings of the present application as
        published (EP-A-1178658).

2.2   The present application relates to a Voice over IP
        (VoIP) based system for internet browsing. The main
        elements of the system are a VoIP telephony gateway
        server for converting between audio signals received
        from and transmitted to a telephony interface and VoIP-
        compliant packets transmitted over a VoIP-compliant
        network, and a plurality of "speech servers" in
        communication with the VoIP telephony gateway server.
        Each speech server runs a speech application for
        translating between the VoIP-compliant packets and text
        by using speech recognition and speech synthesis.

2.3   It was not contested by the appellant that document D1
        discloses, using the wording of claim 1 of the main
        request, a system comprising the following features:

        A Voice over IP "VoIP" based speech system (Fig. 1)
        comprising a speech server ("Vox Portal") and a VoIP
        telephony Gateway server having a call processor ("VoIP
        Gateway"),

        said VoIP telephony Gateway server being operable to
        receive audio data representing a voice call from a
        telephony interface ("PSTN", "Digital Trunk"), to
        compress digital audio data into VoIP compliant packets
        (implicit feature of the VoIP gateway), to enable VoIP
        connections ("H.323") to be established with the speech
        server through a VoIP-compliant call control interface

("Gatekeeper") of the system, and to transmit said
VoIP-compliant packets using the VoIP protocol to the
speech application of the speech server (cf. page 586,
right-hand col., lines 20-24);

the speech server containing a speech application
("VoxML Client") operable to receive VoIP-compliant
packets transmitted by the VoIP telephony Gateway
server via a VoIP connection established with the VoIP
telephony Gateway server, to reconstruct said digital
audio data from said VoIP-compliant packets, and to
speech-to-text convert said digital audio data, and
further operable to synthesise text into digital audio
data, to encapsulate said digital audio data in VoIP-
compliant packets and to transmit said VoIP-compliant
packets to said VoIP telephony Gateway server via a
VoIP connection established with the VoIP telephony
Gateway server (cf. page 586, right-hand col., lines
26-28 in conjunction with Fig. 1, "The Vox Portal acts
as a gateway that maps H.323 sessions to HTTP
sessions"; lines 30-31, "Interactivity is facilitated
by interpreting voice"; page 586, left-hand col., lines
18-21, "An audio rendering is then produced [by the Vox
Portal] which combines the use of descriptions .... and
the features of a speech synthesis engine); and

said VoIP telephony Gateway server being further
operable to receive VoIP-compliant packets from a said
speech server via a VoIP connection established with
that speech server, to reconstruct said digital audio
data from said VoIP-compliant packets, and to transmit
said digital audio data through said telephony
interface (further implicit features of the VoIP
gateway of Fig. 1).

2.4   The subject-matter of claim 1 of the main request differs from the disclosure of D1 in that, instead of a plurality of speech servers as claimed, the system of D1 comprises only a single speech server (ie the "Vox Portal"), and, as claimed, the call processor of the VoIP telephony gateway server (referred to hereinafter as the "VoIP gateway") is provided with "advanced call management functions" which are used to examine the status of each of the plurality of speech servers to identify the speech server best suited to receive a call, to which the VoIP-compliant packets are then transmitted.

2.5   The board agrees with the appellant (cf. the statement of grounds) that the problem to be solved starting out from D1 is to provide the system of D1 with more capacity, ie to scale the capacity of the Vox Portal.

2.6   It was however well-known at the priority date of the present application to solve the problem of server scalability by increasing the capacity of a single server, or alternatively by increasing the number of servers to form a server cluster. This point is illustrated by document D2, which describes a range of options known to the skilled person for clustering servers as an alternative to the earlier solution of replacing an old server by a new one (cf. D2, page 38, 2nd paragraph). In the board's view, in order to increase capacity and provide scalability, it would be obvious to apply the technique of server clustering to the Vox Portal of D1. The board therefore does not agree with the appellant's assertion made in the

statement of grounds that the skilled person would increase the capacity of the single server.

2.7   As discussed in D2 in the section entitled "An Overview of Transparent Clustering" (cf. page 39 and figure 1), a server cluster comprises a plurality of servers and an entity called a "dispatcher" which receives incoming requests to the cluster and selects one of the servers in the server pool to service the request based on some load sharing algorithm. On page 42, right-hand column, lines 46-48 a load sharing policy based on choosing the server with the fewest currently established connections is described. Implicitly this involves the dispatcher examining the status of each server. A dispatcher therefore provides the same "advanced call management functions" as required by claim 1.

2.8   The skilled person starting out from D1 and making use of common general knowledge as illustrated by D2 would therefore in the board's view arrive at the same arrangement as claimed in claim 1, with the possible exception that the dispatcher might be configured as a network entity separate from the VoIP gateway of D1 rather than as part of the VoIP gateway itself. This was indeed the view of the appellant.

2.9   However, the board can see no essential difference between a dispatcher configured as part of the VoIP gateway, or as a separate entity. In the present invention, the routing of the VoIP-compliant packets to the most suitable server is carried out by an entity called the "gatekeeper", which in the embodiment of Figure 2 is also configured as a separate entity. In

this respect, paragraph 0018 of the description of the present application states:

> "Significantly, the present invention is not limited to the particular arrangement of the VoIP telephony Gateway server 3 [of Figure 2]. In particular, the depiction of the VoIP Gatekeeper 14 as a separate entity from the remaining components of the VoIP telephony Gateway server 3 is not meant to limit the invention as such. Rather, the placement of the VoIP Gatekeeper 14 in Figure 2 is intended for illustrative purposes only. Additionally, the scope of the invention with regard to the VoIP telephony Gateway server 3 in combination with the VoIP Gatekeeper should be limited only inasmuch as the VoIP telephony Gateway server 3 can receive a voice call and the VoIP Gatekeeper 14 can perform call management by identifying a suitable terminus for the voice call in the VoIP network 4."

This passage in the board's view teaches that it is entirely unimportant whether the gatekeeper is placed internally or externally to the VoIP gateway.

Hence, the board considers that an arrangement arrived at by combining D1 and D2 which comprises a separate dispatcher is functionally equivalent to the arrangement claimed in claim 1.

For these reasons, the board concludes that the subject-matter of claim 1 does not involve an inventive step with respect to the combination of D1 and D2 (Articles 52(1) and 56 EPC).

2.10   The appellant argued at the oral proceedings that an
        arrangement with a separate dispatcher was <u>not</u>
        functionally equivalent to the claimed arrangement. It
        was advantageous for the VoIP gateway itself to be
        provided with the gatekeeper functionality as it had
        direct access to the original telephony data, ie the
        audio content, and could base its speech server
        selection on this data. This option was not provided by
        an arrangement based on combining D1 and D2.

2.11   However, the board notes that claim 1 is not limited to
        such an embodiment but embraces server selection based
        on any criterion, including those not requiring access
        to the original telephony data.

        Moreover, it is stated in the description of the
        present application that the criterion used by the
        gatekeeper is load-balancing (cf. paragraphs 0014 and
        0016), which is the same criterion used by the various
        dispatchers of D2. There is no suggestion of any other
        criterion being used than load-balancing, in particular
        none requiring knowledge of the original telephony
        data.

        The board therefore finds the appellant's argument
        unconvincing.

2.12   Claim 1 of the main request differs from claim 1 of the
        auxiliary request essentially in that claim 1 of the
        main request embraces digital and analogue voice
        signals received by the VoIP telephony gateway server
        from the telephony interface, whereas according to
        claim 1 of the auxiliary request, received audio

signals are digitized by the VoIP telephony gateway
server. This difference, as accepted by the appellant,
is in view of the disclosures of D1 and D2 not relevant
to the issue of inventive step and the above comments
apply to claim 1 of both requests.

3.   For the above reasons, the board concludes that neither
        claim 1 of the main request nor the auxiliary request
        meets the requirement of inventive step (Articles 52(1)
        and 56 EPC).

        Since claim 1 of each request is not allowable, the
        requests as a whole are not allowable and, in the
        absence of an allowable request, 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

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