Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HAKAN MITTS, HARRI HANSEN and JUKKA IMMONEN,

Appeal No. 2002-1306
Application No. 08/993,321

ON BRIEF

Before THOMAS, KRASS and FLEMING, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 3-8 and 10-13.

The invention is directed to a network-structured telecommunications network. More specifically, an efficient network topology is described for the routing of connections in the network comprising both fixed cable communications networks and wireless mobile terminals. In order to overcome prior problems concerning fixed tree

topologies, the instant invention utilizes a dynamic anchor node assignment. Any of the switches in the tree topology may be assigned as an anchor node and this switch will control the routing of the network, the routing starting from that switch.

Representative independent claim 1 is reproduced as follows:

> 1. A network-structured telecommunications network comprising switches and data transmission connections there between, where at least a certain number of the switches are arranged to control the routing of the connections in the telecommunications network according to a plurality of predetermined tree topologies, characterised in that each of the certain number of switches belonging to said plurality of predetermined tree topologies is arranged to serve as an anchor node of the plurality of predetermined tree topologies during routing and that a subset of the certain number of switches are provided with functions supporting wireless terminals.

The examiner relies on the following references:

Chen et al. (Chen)	5,831,975	Nov. 03, 1998 (filed Apr. 04, 1996)
Katzela et al. (Katzela)	5,872,773	Feb. 16, 1999 (filed May 17, 1996)

Claims 1, 3-8 and 10-13 stand rejected under 35 U.S.C. § 103 as unpatentable over Katzela in view of Chen.

Reference is made to the briefs[1] and answer for the respective positions of appellants and the examiner.

[1] Supplemental brief of Mar. 19, 2001 and reply brief of Aug. 15, 2001.

OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v, John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason much stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc. , 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the

evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner contends that Katzela discloses the claimed invention but for the specific description of an anchor node of the tree topology (see page 3 of the answer for the examiner's analysis of Katzela). The examiner turns to Chen for the disclosure of a system for hierarchical multicast routing in an ATM network wherein a certain number of switches are arranged to control the routing of the connections in the network according to a plurality of tree topologies and wherein each of the certain number of switches belonging to a plurality of the predetermined tree topologies is arranged to serve as an anchor node of the plurality of the predetermined tree topologies during routing. The examiner points to the abstract, Figure 1, column 1, line 57 through column 2, line 19; column 2, lines 47-63, column 4, lines 33-54 and column 6, line 34 through column 7, line 29, of Chen.

The examiner then concludes that it would have been obvious to use the technique of routing as taught by Chen, in the system of Katzela, "so that overloading of the root node can be avoided in order to improve the flexibility of the system" [answer-page 4].

It appears to us that the examiner has set forth a prima facie case of obviousness, at least in the case of independent claims 1 and 10, describing the differences between the prior art and the instant claimed invention and giving a reason why the artisan would have found the instant claimed subject matter obvious over the prior art. We turn to appellants' argument to determine if anything therein persuades us of an error in the examiner's case.

With regard to independent claim 1, appellants argue that the tree topologies comprising the claimed switches include both wireless and fixed networks. In fact, a substantial part of appellants' argument is that the instant invention is directed to including both wireless and fixed networks and that Katzela does not disclose or suggest forming tree topologies in an ATM network using both wireless and fixed terminals. Appellants contend that Katzela merely discloses a method for updating a tree topology in order to handle network traffic and conditions in a wireless only communications network. Note pages 3-5 of the principal brief.

This argument is not persuasive because it is not based on any particular claimed limitation. Neither independent claim 1, nor any of the other claims on appeal, is limited to forming tree topologies including "both wireless and fixed" networks. Arguments regarding "both wireless and fixed" networks fail from the outset since they

are not based on limitations appearing in the claims. In re Self, 671 F.2d 1344, 1348, 213 USPQ2d 1, 5 (CCPA 1982). Thus, it is immaterial that Katzela may be directed to a wireless only communications network while the instant invention is contemplated to be directed to both wireless and fixed networks because appellants' claims are not limited to the latter.

Appellants do point to the claim language "a subset of the certain number of switches are provided with functions supporting wireless terminals" as support for the argument that the claims are directed to both wireless and fixed networks. However, to the extent this is implying that since only a "subset" of the switches is for supporting wireless terminals, this must mean that the remainder of the switches support a fixed terminal, we are not persuaded. There is no such implication made by the claim language because a "subset" may, indeed, cover the entire set. It is basic set theory that the whole of a set is also a subset of that set, i.e., the universal set. Accordingly, the instant claim language regarding a "subset" does not preclude all of the switches from being provided with functions supporting wireless terminals.

In the reply brief, appellants argue that the advantage of the instant invention, viz., including both wireless and fixed networks, must be taken into account in determining obviousness, even though the limitation does not appear in the claims,

because weight must be given to all evidence bearing on the issue of obviousness. We disagree. While it is true that weight must be given to all evidence bearing on the issue of obviousness, this refers to the obviousness of the "claimed subject matter." The inclusion of both wireless and fixed networks, for the reasons supra, forms no part of the instant claimed subject matter.

At page 2 of the reply brief, appellants argue that

> ...in assessing the obviousness of an invention, factors such as what the invention does, the manner in which it is done, and the advantages over prior methods, should all form part of the inquiry. The advantages are part and parcel of the invention. If the advantages flow from what is being claimed, the advantages must be considered. Advantages need not be specifically set forth in the claims.

We note that appellants cite no authority for this position and we are unaware of any rule of law which requires us to read limitations from the specification into the claims except in the case of proper "means plus function" claim language in accordance with 35 U.S.C. § 112, sixth paragraph. The instant claims are not in "means plus function" format. While certain unclaimed advantages may accrue from the claimed subject matter, there is simply nothing within the language of the instant claims indicating that tree topologies in an ATM network are formed using "both wireless and fixed terminals." In fact, only wireless terminals are indicated in the claims. Nothing therein indicates that there are any fixed terminals.

Appellants also argue that nothing in Katzela teaches an "anchor node," as set forth in the claims (the examiner recognizes this) and since Chen only describes a "fixed" anchor node, there would have been no reason to combine the references to arrive at the instant claimed invention.

The error in this reasoning is that it is based on the assumption that, in Chen, the selection of the core, or anchor, nodes is fixed and that this teaches away from the instant claimed invention. In the first place, nothing in the instant claim language indicates whether the claimed "anchor node" is fixed or not fixed, so appellants' argument is, again, directed to limitations not in the claims. Moreover, while Chen does describe the core nodes as being fixed, in the sense that "[o]nce selected, it is assumed that core nodes will not change" [column 8, line 40], that sentence in Chen goes on to state, "however, as would be understood, this restriction is not binding." Accordingly, Chen is not limited to unchanging core nodes and, as such, appellants' assertion that, in Chen, the core node is fixed, is not accurate.

We will, therefore, sustain the rejection of independent claims 1 and 10.

With regard to claim 3, appellants argue that the claim distinguishes over the applied references because it recites that the data connections are further characterized in that "each" of the switches belonging to a group may be arranged to

serve as an anchor node of the tree topology during routing. It is appellants' position that Chen does not disclose that "any" node can be a core node because it teaches that the selection of a core node is "crucial" [column 8, line 9]. We disagree. We find nothing in Chen that indicates that only certain nodes may serve as core node. Merely because the selection of core nodes is "very crucial," and that it "is important to have the right set of core nodes" [column 8, line 19 of Chen], does not imply that "each" of the switches cannot be arranged to serve as a core node. We interpret Chen's teaching to imply that for certain functions, certain switches are crucial to serve as core nodes but other switches, which may not be applicable to serve as core nodes for one purpose, may be very applicable as core nodes for other purposes. Also, while it may be, according to Chen's teachings, that certain switches would be preferred as the core node for particular groups because they are better candidates based on a certain characteristic (e.g., "Nodes with larger degree also make better core nodes"-column 8, lines 22-23), this does not preclude other nodes within the group from serving as a core node, although they may not offer as good a result.

Accordingly, we are unpersuaded by appellants' argument and will sustain the rejection of claim 3 under 35 U.S.C. § 103.

Claim 4 recites that each of the switches is arranged to choose, in the beginning of the routing controlled by the switch, the tree topology to be used in the routing, "according to which tree topology's centre point is located nearest to the switch in question." Since we find no such detail as to how such a tree topology is chosen disclosed or suggested by the applied references, and the examiner has not addressed this limitation, we will not sustain the rejection of claim 4.

Similarly, we find no teaching or suggestion, by the applied references, of the transmission of an "identifier" of the tree topology routing to be used, as recited in claim 5, and the examiner has not addressed this limitation, we will not sustain the rejection of claim 5 under 35 U.S.C. § 103.

As to claim 6, we will sustain the rejection of this claim, which depends from claim 1, because it is clear that Katzela is directed to telecommunications networks which are ATM networks, e.g., see column 6, line 59 of Katzela.

We will also sustain the rejection of claim 7 under 35 U.S.C. § 103 because it is also clear that Katzela's telecommunications network utilizes a Private Network-Network Interface (PNNI) protocol. See column 4, lines 43-44, of Katzela.

We will not, however, sustain the rejection of claim 8 because, like claim 5 supra, we find no teaching or suggestion by the applied references, and the examiner has not addressed the issue, of an "identifier" of the tree topology routing to be used.

We will sustain the rejection of claim 11 under 35 U.S.C. § 103 since this claim merely recites that a "predetermined tree topology" is used in the routing and that it is chosen at the beginning of the routing procedure. Clearly, there is a routing procedure in Katzela and this routing employs a "predetermined tree topology." For example, the abstract of Katzela even indicates "a routing protocol for determining preestablished VPI trees rooted at each destination node."

We will not sustain the rejection of claim 12 under 35 U.S.C. § 103 because, like claim 4 supra, we find nothing in the applied references suggestive of the claimed choice based on "as to which tree topology's centre point is located nearest to the switch from which the routing starts."

We will sustain the rejection of claim 13 under 35 U.S.C. § 103 because, like claim 7 supra, it is clear that Katzela's telecommunications network utilizes a Private Network-Network Interface (PNNI) protocol. See column 4, lines 43-44, of Katzela.

Since we have sustained the rejection of claims 1, 3, 6, 7, 10, 11 and 13, but have not sustained the rejection of claims 4, 5, 8 and 12, the examiner's decision rejecting claims 1, 3-8 and 10-13 under 35 U.S.C. § 103 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JAMES D. THOMAS Administrative Patent Judge	)))))) BOARD OF PATENT
ERROL A. KRASS Administrative Patent Judge	) APPEALS) AND) INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	))))

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