

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte BALLARD C. BARE

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Appeal No. 1997-1194  
Application 08/084,668

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ON BRIEF

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Before URYNOWICZ, FLEMING and RUGGIERO, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 2, 4 through 10, 12 through 17, 19, and 20. Claims 3, 11, and 18 have been canceled.

The claimed invention relates to a method and system for routing data packets between local area networks using a

router. Router processing circuitry within the router searches a routing table for a routing table entry for a detected destination for the data packets. More particularly, Appellant asserts at pages 4 through 6 of the specification that, by associating a cost with each entry in a router table, virtual circuit connections can be utilized as back-up connections for a primary network.

Claim 1 is illustrative of the invention and reads as follows:

1. A router comprising:

router processing circuitry for routing data transferred between local areal networks;

a routing table, accessed by the processing circuitry, the routing table including

a plurality of routing table entries, each routing table entry including an address for a next hop router, and

a reference to a cost value for a route represented by the table entry; and,

a virtual connection map table accessed by the routing processing circuitry, the virtual connection map table having a plurality of virtual connection map table entries, each virtual connection map table entry having a phone number for a next hop router;

wherein for each virtual connection, a routing table entry includes a reference to a virtual connection map table

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entry.

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The Examiner relies on the following prior art:

Fisk <sup>1</sup> 1993	5,274,643	Dec. 28,  (Filed Dec. 11, 1992)
Hokari	5,289,536	Feb. 22, 1994 (Filed Mar. 20, 1992)
Shinohara	5,351,237	Sep. 27, 1994 (Filed Jun. 04, 1993)

Claims 1, 2, 4-10, 12-17, and 19-20 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Shinohara in view of Hokari.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Brief<sup>2</sup> and Answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner and the

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<sup>1</sup> The Fisk reference was not specifically relied upon by the Examiner in the Answer but was relied upon in an earlier Office action mailed April 12, 1995 (paper no. 5) to which the Examiner makes reference in the Answer.

<sup>2</sup> The Appeal Brief was filed April 8, 1996. In response to the Examiner's Answer dated June 19, 1996, a Reply brief was filed July 8, 1996 which was acknowledged and entered without further comment on August 5, 1996.

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evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellant's arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1, 4 through 10, 12 through 14, 19, and 20. We reach the opposite conclusion with respect to claims 2 and 15 through 17. Accordingly, we affirm-in-part.

Appellant has indicated (Brief, page 4) that, for purposes of this appeal, claims 1, 2, 4 through 6, 8, 13, 15, and 20 stand or fall separately and, accordingly, has provided separate arguments for each of these claims. We will consider the claims separately only to the extent that separate arguments are of record in this appeal. Dependent claims 7, 9, 10, 12, 14, 16, 17, and 19 have not been argued separately

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and, accordingly, will stand or fall with their base claim.

As a general proposition in an appeal involving a rejection under 35 U.S.C. § 103, an Examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to Appellants 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 In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); 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, 1051, 189 USPQ 143, 147 (CCPA 1976).

With respect to independent claims 1, 6, and 13, the Examiner proposes to modify the network system disclosure of Shinohara which includes a router for transferring data between local area networks (LANS) but which lacks any suggestion of a consideration of a cost factor in the selection of a particular route for data transfer. To address

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this deficiency, the Examiner turns to Hokari which is directed to the selection of a least cost route for data transfer in a ISDN (Integrated Services Digital Network) network using stored least cost routing table information. In the Examiner's line of reasoning (Answer, page 3, which references a previous Office action mailed April 12, 1995, paper no. 5), the skilled artisan would have found it obvious to incorporate a least cost router in the system of Shinohara in order to provide rapid and economic route selection for the transfer of data packets in view of the teachings of Hokari.

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In making the obviousness rejection, the Examiner, therefore, has pointed out the teachings of Shinohara and Hokari, has reasonably indicated the perceived differences between this prior art and the claimed invention, and has provided reasons as to how and why the prior art references would have been modified and/or combined to arrive at the claimed invention. In our view, the Examiner's analysis is sufficiently reasonable that we find that the Examiner has at least satisfied the burden of presenting a prima facie case of obviousness. The burden is, therefore, upon Appellant to come forward with evidence or arguments which persuasively rebut the Examiner's prima facie case of obviousness. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but elected not to make in the Brief have not been considered in this decision (note 37 CFR § 1.192).

In response, Appellant, aside from a broad general assertion at page 16 of the Brief, does not attack the combinability of Shinohara and Hokari but, rather, initially argues that Hokari does not disclose a key feature of the claimed invention, i.e. "each routing table entry . . .

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including a reference to a cost value for a route represented by the table entry;" (claim 1). In Appellant's view (Brief, page 7; Reply Brief, page 3), there is no cost value associated with each table entry in the routing table in Hokari, despite the fact that Hokari identifies his routing table as a "least cost routing table."

Appellant further attacks the Examiner's position by asserting that Shinohara, the primary reference utilized by the Examiner to teach the routing of data packets between LANS, does not suggest the use of virtual circuits or virtual connections among a plurality of circuits (Brief, pages 8 and 9). After careful review of the Shinohara and Hokari references in light of the arguments of record, we agree with the Examiner's stated position in the Answer. Although Appellant would have us ignore Hokari's designation of his routing table as a "least cost routing table," it is apparent to us from the description of the operation of Hokari's system at column 1, lines 43 through 67 and column 3, lines 57 through 63, that such routing table clearly contains cost data entries. These cost entries are referenced by the use of digit conversion data which, on the receipt of a call setup

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message, converts the called party number and retrieves the least cost routing data to select a particular ISDN trunk circuit.

With regard to Shinohara's use of "virtual" circuits, we agree with the Examiner that the disclosure at column 6, line 31 to column 9, line 22 of Shinohara describes a plurality of virtual circuits and selection means as claimed even though the term "virtual" is not mentioned by Shinohara. We note that Appellant's specification at page 4, line 13 defines a virtual circuit as follows:

Virtual circuits are circuits which represent routes which are not always connected.

In our view, the disclosure of Shinohara which describes the assigning of various circuits to routers with the selected circuits using telephone connections for packet transmission would clearly meet the above definition.

In view of the above discussion, it is our opinion that the Examiner's prima facie case of obviousness remains un rebutted by any convincing arguments offered by Appellant and, accordingly, the obviousness rejection of independent claims 1, 6, and 13 is sustained. The rejection of dependent

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claims 7, 9, 10, and 12 (all dependent on independent claim 6), and claims 14 and 19 (both dependent on independent claim 13), grouped together with their base claims by Appellant and not argued separately, is also sustained.

With respect to dependent claims 4, 5, 8, and 20, grouped and argued separately by Appellant, we sustain the obviousness rejection of these claims as well. Claims 4 and 20 are directed to various entries in the virtual connection map table including circuit numbers, state information, and next hop router address. In addressing these limitations, the Examiner points to the circuit entries in Shinohara's Figure 4 and the router address information discussed at column 9, lines 23 through 28 of Shinohara. The Examiner further suggests (Answer, page 6) the obviousness to the skilled artisan of including state information in the map table in order to prevent attempted access to existing connected circuits. In a related argument, the Examiner asserts the obviousness of including status and configuration information in the map table as recited in dependent claim 5 for monitoring connection quality to ensure reliability. With

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regard to dependent claim 8, the Examiner reiterates the argument concerning Shinohara's disclosure of "virtual" circuits discussed supra with respect to independent claims 1, 6, 13.

Appellants have responded to the Examiner's assertion of the obviousness of storing state and status information by reiterating their previous argument concerning Shinohara's alleged deficiency in disclosing "virtual" circuits. In Appellant's view, since Shinohara lacks any teaching of "virtual" circuits, no reason can be found for storing state information or monitoring the status of such circuits.

After reviewing the arguments of Appellant, it is apparent that, instead of arguing the question of obviousness with respect to the particulars of dependent claims 4, 5, 8, and 20, Appellant has based his arguments on the "virtual" circuit feature recited in parent independent claims 1, 6, and 13. Our earlier discussion on this issue, however, found Appellant's arguments to be unpersuasive. Despite any explicit teaching in the Shinohara and Hokari references, we find the Examiner's rationale with regard to the obviousness of the stored state and status information to be reasonable so

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as to establish a prima facie case. In considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). Since the Examiner's prima facie case of obviousness has not been overcome by any persuasive arguments by Appellant, the 35 U.S.C.

§ 103 rejection of dependent claims 4, 5, 8, and 20 is sustained.

Turning now to a consideration of dependent claims 2 and 15 through 17, grouped and argued separately by Appellants, we note that, while we found Appellant's arguments to be unpersuasive with respect to the obviousness rejection of claims 1 through 10, 12 through 14, 19, and 20, we reach the opposite conclusion with respect to claims 2 and 15 through 17. Claims

2 and 15 (from which claims 16 and 17 depend) both include specific recitations to virtual connection circuits and circuit allocation routines in combination with a virtual

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connection map queue for the placing of data packets to be transferred through the virtual connection circuits. The Examiner has attempted to address this claim language by referring to the disclosure at columns 6 through 9 of Shinohara. Our review of Shinohara, however, reveals no disclosure of any such virtual map queue, let alone how such might cooperate with the remaining elements of the claims. The Examiner has provided no indication how the cited portions of Shinohara might be interpreted to meet the requirements of the claims. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

As a final note, we make reference to the Fisk patent which the Examiner relied upon in the Office action mailed April 12, 1995 (paper no. 5) and which the Examiner makes reference to in the Answer. Fisk was relied on solely to



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MICHAEL R. FLEMING  
Administrative Patent Judge

JOSEPH F. RUGGIERO  
Administrative Patent Judge

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