

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ARTHUR B. COLEMAN, LINH T. TRUONG  
and JUAN GRAU JR.

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Appeal No. 96-3047  
Application 08/053,191<sup>1</sup>

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ON BRIEF

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Before THOMAS, BARRETT and LALL, Administrative Patent Judges.  
LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 and 2, the only claims in the case.

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<sup>1</sup> Application for patent filed April 28, 1993.

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The disclosed invention pertains to a wireless mobile subscriber network where to achieve bidirectional communication cellular systems have been devised in which a service area is divided into smaller zones, each zone having a radio transmitter/receiver that is connected to the network by a wire line and may be connected to mobile units across an air interface. The radio transmitter/receiver functions as a network access point. The invention desires to have a wireless network which has tetherless access in which, as the mobile unit moves about, different network access points cooperate to provide a seamless, uninterrupted service to the mobile unit. When the mobile unit moves out of the range of a current network access point, it must be switched over to a successor network access point. This switchover between network access points is known as "handoff". The capability of handing off a mobile unit from one network access point to another makes possible "roaming" of mobile units from cell to cell. Roaming has not been hitherto possible in certain networks such as Novell networks, which require that the network ID of a node remain constant during a session. In

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such networks where different access points have different network ID's, and in which the network ID is not allowed to change during a session, the invention makes roaming possible by programming mobile units so as to appear to the network as "virtual routers" able to change access points during a session. These virtual routers, unlike conventional routers, connect one sublet to one other sublet, the one sublet being connected to a mobile unit having a fixed network ID and the other sublet, through fault-tolerant routing, being connected to a selectable access point and therefore having a variable network ID.

Representative claim 1 is reproduced as follows:

1. In a computer network running under a network operating system, said network operating system providing fault-tolerant internet routing of network communications between nodes and requiring that a network ID of a node remain constant for the duration of a session, said nodes including a plurality of mobile computing devices and said network including a wired network and a plurality of access points providing wireless access of said mobile computing devices to said wired network, at least some of said access points having different network IDs, a method of providing a capability of said mobile computing devices to roam during a session by changing access points to said network, comprising the steps of:

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programming said mobile computing devices so as to appear to said network as virtual routers able to change access points during a session;

wherein said virtual routers connect one subnet to one other subnet, said one subnet being connected to a mobile computing device and having a fixed network ID and said other subnet, through said fault-tolerant routing, being connected to a selectable access point and therefore having a variable network ID.

The Examiner relies on the following references:

Benjamin et al. (Benjamin)	4,677,588	Jun. 30, 1987
Harrison	5,181,200	Jan.
19,1993		
Freitas et al. (Freitas)	5,321,542	Jun. 14, 1994
	(effectively filed Oct. 29, 1990)	

Claims 1 and 2 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Harrison, Freitas and Benjamin.

Rather than repeat the discussions of Appellants and the Examiner, we make reference to the brief and the answer for the respective details thereof.

#### OPINION

We have considered the rejections advanced by the Examiner and the arguments in support of the rejections. We have, likewise, reviewed the Appellants' arguments set forth

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in the brief.

We conclude that the rejection of claim 1 under 35 U.S.C. § 103 over Harrison, Freitas and Benjamin is sustained, but the rejection of claim 2 under 35 U.S.C. § 103 over Harrison and Freitas is not sustained. Accordingly, we affirm-in-part. Furthermore, we reject claim 2 under 35 U.S.C. § 103 over Harrison, Freitas and Benjamin under 37 CFR § 1.196(b).

We first consider the rejection of claim 1 under 35 U.S.C.

§ 103 as unpatentable over Harrison, Freitas and Benjamin.

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 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. 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

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Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

**1. Rejection of claim 1 over Harrison, Freitas and Benjamin**

With respect to claim 1, the Examiner combines Harrison and Freitas to show wireless communication between the base stations and the mobile units, but the combination lacks the teaching of a "virtual router". The Examiner asserts that Benjamin shows the use of a gateway unit (item 10 in figure 1) to virtually route

messages between independent networks using alias names and real names. The Examiner concludes that it would have been obvious,

to one of ordinary skill in the art at the time of the invention, to combine Benjamin with the combined system of Harrison and Freitas because it would allow the resulting combined system to more efficiently interconnect independent networks allowing resources in one network to communicate resources in another network [answer, pages 5 to 6]. We note

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that Freitas at column 8, lines 29 through 33 makes specific reference for handoff procedures to Harrison by Serial Number and filing date, thus indicating their combinability.

Appellants argue that the references fail to teach or suggest the particular method of routing and roaming as claimed [brief, page 7]. Appellants then contend that, of the references cited, only Harrison is particularly concerned with roaming within a wireless network. However, in Harrison, when mobile unit moves from one zone to another, and loses contact with the base station in one zone, the packets from the mobile unit are queued up within a spooler until the mobile unit re-establishes

contact with another base station in another zone. The new base station retrieves the spooled packets and forwards them to the mobile unit. When the queue of the spooled packets is empty, subsequent packets are sent directly from the mobile unit to the new base station instead of the old base station. Appellants further argue that, in Harrison, mobile units have

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no routing capability [brief, pages 8 to 9].

The Examiner reiterates the rejection and asserts that roaming and routing is taught by the applied prior art, and the combination of Harrison, Freitas and Benjamin does teach the invention of claim 1 [answer, pages 7 to 14].

At the outset, we find that roaming and routing is shown by the applied prior art. As for roaming, Harrison discloses it at columns 8 to 11, and even Appellants so acknowledge it, see brief at page 8. Routing, too, is shown by the applied prior art, for example see Benjamin at column 4, line 56 to column 5, line 20.

We further find that Harrison discloses the wireless network where the mobile units such as 10a communicate wirelessly with a base station such as 12, see figures 2 and 4. When the mobile unit moves from one zone to another zone and loses contact with the a base station in one zone, the packets transmitted by the mobile unit are queued onto a spooler until the mobile unit reestablishes contact with another base station in another zone. The new base station receives queued packets from the spooler and transmits them to the mobile unit. After all the packets from

the spooler have been transmitted, subsequent transmission of packets takes place directly between the mobile unit and the new base station, see steps A through E, column 9 of Harrison. Appellants do acknowledge this much, [brief, pages 8 to 9].

Appellants have not argued the combination with any specificity. We find that Benjamin does indeed show the concept of creating virtual routers without changing the network ID of the logic units within a network configuration. For example, gateway 10 in figures 1 and 2 enables the communication from logical unit (LU) 18 in network A to LU 22 in network B, by creating a virtual router which is programmed to create a translations table. Aliases are used and no change in the ID of LU 18 and LU 22 is done in respective networks. The crux of the alias naming is that each network uses an alias name to identify resources in another network. By using alias names the same name can be used to identify LUs in separately controlled networks. When these networks are connected via the gateway, a unique alias name is used in the address space of each of the attached networks, and gateway makes the proper name translation during the establishment of a session between the two LU's [column 10, lines 37 to 48].

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We find, then, that the use of such a gateway router on a mobile unit in Harrison obviously would have created a virtual router each time the mobile unit moved from one network configuration, one zone, to another network configuration, another zone. This would have made it possible to maintain the network ID of the mobile unit constant in each network. Therefore, we conclude that the combination of Harrison, Freitas and Benjamin would have made obvious the invention of claim 1, and we affirm the Examiner's rejection based on said combination under 35 U.S.C. § 103.

## **2. Rejection of Claim 2 over Harrison and Freitas**

With respect to claim 2, the Examiner contends that the combination of Harrison and Freitas makes obvious the invention of claim 2 [answer, page 6].

Appellants again do not argue the combination of Harrison and Freitas, but merely discuss the Harrison reference alone. According to the Appellants, as the mobile unit moves, the network ID of the mobile unit within the LAN is changed, which is contrary to the invention of claim 2 [brief, page 2].

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The Examiner does not specifically respond to any arguments regarding claim 2.

We agree with Appellants with respect to claim 2. The rejection based on the combination of Harrison and Freitas does not meet the negative limitation of "routing network ... without changing the network ID of the mobile computing device." [claim 2, last paragraph]. We, therefore, reverse the rejection of claim 2 under 35 U.S.C. § 103 based on Harrison and Freitas.

**Rejection of Claim 2 under 37 CFR § 1. 196(b)**

Regarding claim 2, we note that limitations of claim 2 are met with the combination of Harrison, Freitas and Benjamin. As we discussed this combination of references with respect to claim 1, an alternate access point (or virtual) route is created by the use of the gateway unit such as item 10 in figure 1 of Benjamin in Harrison, and the combination also enables the communication between LUs lying in two separate networks "without changing the network ID of either LU in their respective networks." We, therefore, reject claim

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2 under 35 U.S.C. § 103 as being unpatentable over Harrison,  
Freitas and Benjamin, under 37 CFR  
§ 1.196(b).

In conclusion, The rejection of claim 1 under 35 U.S.C.  
§ 103 over Harrison, Freitas and Benjamin is sustained. The  
rejection of claim 2 under 35 U.S.C. § 103 over Harrison and  
Freitas is not sustained. However, claim 2 is rejected under  
35  
U.S.C. § 103 over Harrison, Freitas and Benjamin under 37 CFR  
§ 1.196(b). Therefore, the decision of the Examiner  
rejecting claims 1 and 2 is affirmed-in-part.

In addition to affirming the Examiner's rejection of  
claim 1, this decision contains a new ground of rejection  
pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997,  
by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10,  
1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct.  
21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of  
rejection shall not be considered final for purposes of  
judicial review."

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Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision . . . .

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of

rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should Appellants elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the



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LEE E. BARRETT	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
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PARSHOTAM S. LALL	)	
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