

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SAMI SHAIQ and ARTHUR V. HOFF

Appeal No. 1999-2380
Application No. 08/575,743

ON BRIEF

Before BARRETT, GROSS, and LEVY, Administrative Patent Judges.

LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-20, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to maintaining packet security in a computer network. An understanding of the invention can be derived from a reading of exemplary claims 1, 15 and 17, which are reproduced as follows:

1. A method for determining the trust worthiness of executable packets in a computer network having a plurality of secured computers and a plurality of unsecured computers, each executable packet having a source address and a destination address, said method comprising the steps of:

a) determining within a first degree of certainty whether a source address of one said executable packet is associated with anyone of said plurality of secured computers, said source address is not associated with anyone of said plurality of secured computers, or association of said source address with anyone of said plurality of secured computers is uncertain; and

b) determining within a second degree of certainty whether a destination address of said one executable packet is associated with anyone of said plurality of secured computers, said destination address is not associated with anyone of said plurality of secured computers, or association of said destination address with anyone of said plurality of secured computers is uncertain.

15. An intelligent firewall useful in association with a computer network having a plurality of secured computers and a plurality of unsecured computers, the firewall comprising:

a source address verifier configured to determine within a first degree of certainty whether a source address of an executable packet is associated with anyone of said plurality of secured computers, said source address is not associated with anyone of said plurality of secured computers, or association of said source address with anyone of said plurality of secured computers is uncertain.

17. An intelligent firewall useful in association with a computer network having a plurality of secured computers and a plurality of unsecured computers, the firewall comprising:

a destination address verifier configured to determine within a degree of certainty whether a destination address of an executable packet is associated with anyone of said plurality of secured computers, said destination address is not associated with anyone of said plurality of secured computers, or association of said destination address with anyone of said plurality of secured computers is uncertain.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Jacobson	5,548,649	Aug. 20, 1996 (filed March 28, 1995)
Judson	5,572,643	Nov. 5, 1996 (filed October 19, 1995)
Futral	5,638,515	Jun. 10, 1997 (effectively filed September 3, 1992)

Claims 1-4, 6-8, 10-12, and 14-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jacobson in view of Futral.

Claims 5, 9, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jacobson in view of Futral, further view of Judson.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 17, mailed March 22, 1999) and the final rejection¹ (Paper No. 7, mailed February 4, 1998) for the examiner's complete reasoning in support of the rejections, and to appellants' brief (Paper No. 16, filed January 7, 1999) for appellants' arguments thereagainst. Only those arguments actually made by appellants have been considered in this decision. Arguments which

¹ The rejections of the claims set forth in the final rejection have been incorporated into the examiner's answer (answer, page 3).

appellants could have made but chose not to make in the brief have not been considered. See 37 CFR 1.192(a).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejections advanced by the examiner, and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections 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 not have suggested to one of ordinary skill in the art the invention as set forth in claims 1-20. Accordingly, we reverse, essentially for the reasons set forth by appellants.

We begin with the rejection of claims 1-4, 6-8, 10-12, and 14-20 under 35 U.S.C. § 103(a) as being unpatentable over Jacobson in view of Futral.

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 must stem from some teaching, suggestion or implication 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. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985); 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. 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)

Before addressing the examiner's rejections based upon prior art, it is an essential prerequisite that the claimed subject matter be fully understood. As stated by the court in In re Hiniker Co., 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998) "[t]he name of the game is the claim." Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 103 begins with a determination of the scope of the claim. The properly interpreted claim must then be compared with the prior art. Claim interpretation must begin with the language of the claim itself. See Smithkline Diagnostics, Inc. v. Helena Laboratories Corp., 859 F.2d 878, 882, 8 USPQ2d 1468, 1472 (Fed. Cir. 1988). Accordingly, we will initially direct our attention to appellants' claim 1 to derive an understanding of the scope and content thereof.

The examiner (answer, page 5) takes the position that because the alternative term "or" is used in claim 1, "the system need only determine whether a packet is associated with a

secured, unsecured source/destination or uncertain of the association," and that (id.) "the prior art cited above teaches the ability to at least recognize the association with a secured or unsecured destination. The appellant's claims need to specifically recite the requirement for determining whether all three states can be detected in order for this argument to be overcome."

Appellants assert (brief, page 9) that claim 1 requires consideration of all three states in the processing of data packets.

Claim 1 recites that:

determining within a first degree of certainty whether a source address of one said executable packet is associated with anyone of said plurality of secured computers,

said source address is not associated with anyone of said plurality of secured computers,

or association of said source address with anyone of said plurality of secured computers is uncertain; and

We observe that claim 1 also contains similar language with respect to a destination address. From the recited language, we find that claim 1 requires determining whether a source address

of an executable packet is associated with a secured computer, is not associated with a secured computer, or whether association with a secured computer is uncertain. We find that the term "or" refers to determining which of the three listed states the source address corresponds to. To meet the claim, the prior art would have to be capable of considering all three states in order to be able to determine which state is associated with the source address. We therefore agree with appellants (brief, page 9) that "[t]he conjunction 'OR' in Claim 1 merely recognizes that any single source address will be associated with only one of the three states, not that only one of the three states need be considered when processing data packets. As discussed above, all Claims 2-20 recite, either through dependence from Claim 1 or independently of Claim 1, similar subject matter."

The examiner further asserts (answer, pages 5 and 6) that "out of the three states described in claim 1, two are redundant in definition, uncertain and no[t] associated with a secured computer."

Appellants assert (brief, page 9) that three separate states are recited by the claims; that the examiner's folding of three separate states into two is inconsistent with the teachings of

the invention, and that (id., page 3) "[i]ncluding the uncertain state allows greater flexibility in filtering data packets."

We find that as illustrated in appellants' figures 2C and 3C, in some instances, the determination of uncertainty is processed along with a determination that a source or destination address is associated with anyone of a plurality of secured computers; and that in some instances, the determination of uncertainty is processed along with a determination that a source or address is associated with anyone of a plurality of secured computers. Irrespective of how the determination of uncertainty is processed after the determination is made, the claims require a separate determination of whether association of the address with anyone of the plurality of secured computers is uncertain. Thus, we disagree with the examiner's interpretation of the claims.

Turning to the prior art applied against the claims, we find that the issue with respect to each of the independent claims 1, 7, 11, 15, 17, 18, and 20 is whether Jacobson and Futral teach or suggest determining, with a degree of certainty, whether a source address (claims 7, 15, and 18) or destination address (claims 11, 17, and 20) or both (claim 1): is associated with anyone of a

plurality of secured computers, is not associated with anyone of a plurality of secured computers, or association with anyone of a plurality of secured computers is uncertain.

The examiner asserts (answer, page 5) that "Jacobson lacks the teaching of uncertain states." To overcome this deficiency in Jacobson, the examiner turns to Futral for a teaching of this feature. The examiner asserts (final rejection, page 4) that "[t]he security mode [of Futral] prevents use of a data frame if a source or destination address, is not comparable to a secured stored value, or if it is uncertain whether there is a match or not (no indication of a destination or source class). (column 3 lines 38-65 and col. 4, lines 14-49 and column 11, lines 28-64)."

The examiner further asserts (answer, page 4) that "Futral shows that if an address is not found (no match between a secured destination and/or source), or if the mode bits do not indicate a destination or source class, the packet will not be processed. This lack of indication of a destination class (for example) infers to the system that the destination of the packet is unknown, or uncertain."

Appellants argue (brief, page 6) that "applicants have had difficulty identifying the particular teaching of Futral of such determining of uncertainty," and that (id., page 7) "Applicants

have found no teaching or suggestion within Futral that a third state of uncertainty is recognized for either source addresses or destination addresses."

We find that in Futral (col. 11, lines 7-10) "[t]he filter unit 28 must be able to differentiate between source and destination addresses, and the mode nits 100 are used for this purpose." In addition (id., lines 28-35) Futral discloses that:

The information contained in the database DB on the various nodes in networks A and B permit the filter to exercise a certain modicum of security; that is, messages may be forwarded from one network to the other only if (1) the source node is authorized to use the bridge 12, and/or (2) the destination node on one of the networks (e.g., network B) is authorized to receive dataframes from another network (e.g., network A).

In addition (id., lines 42-64), in the secure destination address mode, if the record in the database DB corresponding to the destination address DA of the dataframe under analysis by the filter unit 28 is found, the mode control field must be that of a destination class. If the address is not found, or if the mode bits do not indicate a destination class, then the Copy command is not issued. In similar fashion, after the destination address is checked, the database DB is searched for the occurrence of a record corresponding to a source address SA contained in the dataframe under analysis. If the record is found, the mode control bits of that record are looked at to determine if they

are set to indicate that the node corresponding to the record found is authorized to communicate dataframes to the network. If the mode bits are not found, or do not indicate a source class, the filter state machine will withhold the Copy command and the dataframe, in essence, will be discarded.

From the disclosure of Futral, we find that both an address (source or destination) and a corresponding mode control bit are required in order for a message to be forwarded from one network to another. Although the situations can arise when an address is found but the address does not correspond with the mode control bit, or the address is found but no mode bit is found, we find no teaching or suggestion that a determination of uncertainty is made, but rather simply that two required criteria for forwarding the message have not been met. We find the examiner's assertion (answer, page 5) that the system infers uncertainty to be speculation, unsupported by evidence in the record. While the system of Futral could be modified to make a determination of uncertainty, we find no teaching or suggestion for making the modification. Because the mode control bits are used to differentiate between source and destination addresses, we find that the only suggestion of making a determination of uncertainty comes from appellants' disclosure.

From all of the above, we therefore find that the examiner has failed to establish a prima facie case of obviousness of the invention found in independent claims 1, 7, 11, 15, 17, 18, and 20. Accordingly, the rejection of claims 1-4, 6-8, 10-12, and 14-20 under 35 U.S.C. § 103(a) is reversed.

We turn next to the rejection of claims 5, 9, and 13 under 35 U.S.C. § 103(a) where the examiner additionally relies upon the teachings of Judson for a teaching of packets including applets. We will not sustain the rejection of these claims because Judson does not make up for the deficiencies of the basic combination of Jacobson and Futral. Accordingly, the rejection of claims 5, 9, and 13 under 35 U.S.C. § 103(a) is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-20 under 35 U.S.C. § 103(a) is reversed.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
ANITA PELLMAN GROSS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
STUART S. LEVY)	
Administrative Patent Judge)	

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PLEASE ADD ATTY INFO

(GJH)

APPEAL NO. 1999-2380 - JUDGE LEVY
APPLICATION NO. 08/575,743

APJ LEVY

APJ GROSS

APJ BARRETT

DECISION: **REVERSED**

Prepared By:

DRAFT TYPED: 02 Oct 03

FINAL TYPED: