

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

VIRNETX INC.,
Patent Owner.

Case IPR2014-00404¹

Patent 7,987,274 B2

Before MICHAEL P. TIERNEY, KARL D. EASTHOM, and
STEPHEN C. SIU, *Administrative Patent Judges*.

SIU, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. BACKGROUND

Microsoft Corp. filed a Petition (Paper 2) (“Pet.”) seeking an *inter partes* review of claims 1–5, 7, 8, 10, 12, 15, and 17 of U.S. Patent No.

¹ As discussed below, IPR2014-00484 has been joined with IPR2014-00404. This Final Written Decision applies to the joined case.

IPR2014-00404
Patent 7,987,274 B2

7,987,274 B2 (Ex. 1001, “the ’274 patent”) pursuant to 35 U.S.C. §§ 311–319. On July 31, 2014, the Board instituted an *inter partes* review of claims 1–5, 7, 8, 10, 12, 15, and 17 (Paper 13) (“Dec. on Inst.”).

Apple Inc. (“Petitioner”) filed a Petition (IPR2014-00484, Paper 1) seeking an *inter partes* review of claims 1–5, 7, 8, 10, 12, 13, 15, 17, and 18 of the ’274 patent pursuant to 35 U.S.C. §§ 311–319. On September 15, 2014, the Board instituted an *inter partes* review of claims 1–5, 7, 8, 10, 12, 15, and 17 (IPR2014-00484) and joined IPR2014-00484 with IPR2014-00404 pursuant to 35 U.S.C. § 315(c) (IPR2014-00484, Paper 11 – Dec. on Inst.). On April 16, 2015, the present proceeding was terminated with respect to Microsoft Corporation only. Paper 38.

Subsequent to institution, VirnetX Inc. (“Patent Owner”) filed a Patent Owner Response (Paper 26) (“PO Resp.”), and Petitioner filed a Reply (Paper 34) (“Pet. Reply”). An Oral Hearing was conducted on April 28, 2015.

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5, 7, 8, 10, 12, 15, and 17 of the ’274 patent are unpatentable.

A. *The ’274 Patent (Ex. 1001)*

The ’274 patent describes methods for communicating over the Internet. Ex. 1001, 9:38–39.

B. Illustrative Claim

Claim 1 of the '274 patent is reproduced below:

1. A method of accessing a secure network address, comprising:
 - sending a query message from a first network device to a secure domain service, the query message requesting from the secure domain service a secure network address for a second network device;
 - receiving at the first network device a response message from the secure domain name service containing the secure network address for the second network device; and
 - sending an access request message from the first network device to the secure network address using a virtual private network communication link.

C. Cited Prior Art

Lindblad	US 6,225,993 B1	May 1, 2001	(Ex. 1009)
Bhatti	US 8,200,837 B1	June 12, 2012	(Ex. 1010)

Takahiro Kiuchi and Shigekoto Kaihara, "C-HTTP – The Development of a Secure, Closed HTTP-Based Network on the Internet," Proceedings of SNDSS, 1996 (Ex. 1004 – "Kiuchi").

D. Instituted Grounds of Unpatentability

References	Basis	Claims Challenged
Kiuchi	§ 102	1–4, 7, 8, 10, 12, 15, and 17
Kiuchi and Lindblad	§ 103	5
Kiuchi and Bhatti	§ 103	1–4, 7, 8, 10, 12, 15, and 17
Kiuchi, Bhatti, and Lindblad	§ 103	5

E. Claim Interpretation

Virtual Private Network (VPN) Communication Link

We previously determined that, under a broadest reasonable construction, one of skill in the art would have understood the term “virtual private network communication link,” in light of the Specification, to include “a transmission path between two devices that restricts access to data, addresses, or other information on the path, generally using obfuscation methods to hide information on the path, including, but not limited to, one or more of authentication, encryption, or address hopping.” Dec. on Inst. 7.² Patent Owner disputes this interpretation and argues that the term “virtual private network communication link” 1) must be “a communication path between computers in a virtual private network” (PO Resp. 6), 2) “requir[es] computers within a VPN to communicate directly” (PO Resp. 9), and 3) requires a “network of computers,” which, according to Patent Owner must be “more than a ‘path between two devices.’” PO Resp. 14.

We decline to modify our previous construction of this term in the manner suggested by Patent Owner because such a modification is immaterial in this proceeding for reasons set forth below. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (claim terms need only be construed to the extent necessary to resolve the case).

² Our construction is consistent with the broadest, reasonable construction in *Inter Partes Reexamination Control No. 95/001,792*. *See Cisco Systems, Inc. v. VirnetX, Inc.*, Appeal 2014-000491, slip. op. at 4–8 (PTAB Apr. 1, 2014) (Decision on Appeal) (involving grandparent patent to the ’274 patent, U.S. Patent No. 7,188,180).

Secure Domain (Name) Service

Patent Owner argues that one of skill in the art would have understood the term “secure domain (name) service,” in light of the Specification, to require “recogniz[ing] that a query message is requesting a secure computer address.” PO Resp. 16. Petitioner proposes that a secure domain (name) service (SDNS) should be construed as “[a] service that can resolve secure computer network addresses for a secure domain name for which a conventional domain name service [(“DNS”)] cannot resolve addresses.” See Pet. 13; PO Resp. 15 (discussing Petitioner’s proposed construction).

Claim 1, for example, recites sending a query message to “a secure domain service” requesting a secure network address and receiving “a response message from the secure domain name service containing the secure network address.” Claim 1 does not recite “recogniz[ing] that the query message is requesting a secure computer address.” “[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms” and “the context in which a term is used in the asserted claim can be highly instructive.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). At least based on the context of the claim, we cannot agree with Patent Owner that one of ordinary skill in the art would have understood that “recogniz[ing]” is required by claim 1 in the absence of a recitation of this alleged requirement.

Based on the context of the claim, the Specification, and the prosecution history, claim 1 does not require “recogniz[ing]” as argued by Patent Owner. The Specification describes an “SDNS 313” that “contains a cross-reference database of secure domain names and corresponding secure network addresses. That is, for each secure domain name, SDNS 3313

stores a computer network address corresponding to the secure domain name.” Ex. 1001, 47:15–18. This disclosure comes closest to aligning with the claim term, “secure domain service” (i.e., an SDNS as set forth in the disclosure). Patent Owner does not point the panel to a disclosure in the Specification that clearly supports the requirement of an SDNS to “recognize that the query message is requesting a secure computer address.” Hence, further based on the context of the Specification, we cannot agree with Patent Owner that one of ordinary skill in the art would have understood that “recogniz[ing]” is required by claim 1 in the absence of such a disclosure in the Specification of this alleged requirement.

Patent Owner argues that “VirnetX has disclaimed secure domain services that do not perform this recognition” and that “[a] district court later relied on VirnetX’s statements.” PO Resp. 16–17. However, Patent Owner does not indicate that the district court determined, under a broadest reasonable standard, how one of ordinary skill in the art would have construed the term “secure domain service” in light of the Specification and that, under this broadest reasonable construction, one of ordinary skill in the art would have understood the “secure domain service” to require “recogniz[ing].” Indeed, based on the record before us, it appears the district court did not construe the term “secure domain service” at all, much less under a broadest reasonable standard.

Patent Owner argues that, during a reexamination proceeding of a different (but related) matter (*Inter Partes* Reexamination Control No. 95/001,270), Patent Owner allegedly proposed various examples of possible functionality of a secure domain name service. For example, Patent Owner argues that in the reexamination proceeding for U.S. Patent No. 7,188,180,

Patent Owner allegedly stated that a secure domain name service “may allow an entity to register . . . names . . .” and “may . . . support the establishment of a VPN communication link.” PO Resp. 17–18. However, Patent Owner does not demonstrate persuasively that these possible functions of a secure domain service (i.e., that a secure domain service “may” register names or support a VPN link) support the contention that one of ordinary skill in the art would have understood that a secure domain service requires “recogniz[ing].”

For at least the above reasons, and to the extent it is material, we adopt Petitioner’s proposed construction of the term “secure domain service.”³

Tunnel Packeting

Patent Owner argues that one of ordinary skill in the art would have understood the term “tunnel packeting” to mean “forming a packet to be transmitted that contains data structured in one protocol format within the format of another protocol.” PO Resp. 19. However, Patent Owner does not demonstrate sufficiently that the construction of “tunnel packeting” will bear on the outcome of the issues in this *inter partes* review. Hence, we decline to modify our construction of this term.

Client Computer

³ We adopt and incorporate by reference our analysis of this construction in the companion case. *See Apple Inc. v. VirnetX Inc.*, Case IPR2014-00403, slip. op. at 8–20 (PTAB July 29, 2015) (also discussing prosecution history).

Patent Owner argues that one of skill in the art would have understood that a “client computer” must be a “user’s computer.” PO Resp. 21. Claim 15 recites a client computer that is connected to a communication network.

Patent Owner argues that a “client computer” must be a “user’s computer” but does not specify a difference between a “client computer” and a “user’s computer.” Instead, Patent Owner merely states that the Specification discloses a “user’s computer 2601.” We note that the Specification illustrates a component “2601” but does not appear to disclose that component “2601” is a “user computer.” Spec. Fig. 26. Indeed, the Specification does not appear to disclose any specific name for component “2601” at all. Even if the Specification explicitly disclosed that component “2601” as illustrated in Figure 26 of the Specification is a “user’s computer,” Patent Owner does not explain sufficiently why one of ordinary skill in the art would have understood that a “client computer,” as recited in claim 15 must be a “user’s computer,” or how such a “user’s computer” would differ from a “client computer.” *Id.* at 21.

Patent Owner also argues that the Specification discloses a “computer 3301” that “is manned by a user.” *Id.* We note that the Specification discloses that element “3301” is a “client computer” (*see, e.g.,* Spec. 45:19). Patent Owner does not indicate if the Specification refers to element “3301” as a “user’s computer” as well, and, if so, how calling element “3301” a “user’s computer” (as opposed to a “client computer”) would result in a difference in element “3301,” what this supposed difference would be, and how this supposed difference would modify the broadest reasonable construction of the term “client computer,” as recited in claim 15.

Also, the '274 patent Specification employs the term “user’s computer” in a “conventional scheme . . . shown in FIG 25. A user’s computer 2501 includes a client application 2504 (for example a web browser)” Ex. 1001, 38:61–63. Although Patent Owner refers to this “conventional” computer as “another embodiment,” the '274 patent Specification disparages the “conventional architecture” that employs a user’s computer, because it is not secure enough. *See* Ex. 1001, 39:4–13. In general, the '274 patent Specification states that “[t]he present invention” involves a “client computer” with a “client application” that “communicates with a server.” *See* Ex. 1001, 7:40–44. This description of “[t]he present invention” does not mention, let alone require, a “user’s computer.”

For at least the above reasons, we do not adopt Patent Owner’s proposed construction of the term “client computer” as a “user’s computer.” Instead, we construe the term “client computer,” under a broadest reasonable standard, to include a computer associated with a client.

Access Request Message

As Patent Owner explains, the construction of this term “do[es] not appear to be relevant to the parties’ disputes.” PO Resp. 24.

Secure Network Address

As Patent Owner explains, the construction of this term “do[es] not appear to be relevant to the parties’ disputes.” PO Resp. 24.

II. ANALYSIS

A. *Kiuchi*

For at least the following reasons, we find that Petitioner has demonstrated that claims 1–4, 7, 8, 10, 12, 15, and 17 are anticipated by *Kiuchi* under 35 U.S.C. § 102.

Patent Owner argues that this proceeding should be terminated because “the Board relies on the host server’s IP address and the host server, meaning *Kiuchi*’s origin server, respectively.” PO Resp. 29. Under 35 U.S.C. § 314(d), “the determination . . . whether to institute an inter partes review . . . shall be final and nonappealable.” *See In re Cuozzo Speed Technologies, LLC*, 778F.3d 1271, 1277 (Fed. Cir. 2015). Therefore, even if we relied on “*Kiuchi*’s origin server,” we disagree with Patent Owner that such an alleged reliance would indicate that “the proceeding should be terminated.” In any event, we disagree with Patent Owner that we relied upon “*Kiuchi*’s origin server” as explained in more detail below. Because Patent Owner’s argument ostensibly in support of terminating the proceeding is based on Patent Owner’s erroneous interpretation, Patent Owner has provided insufficient reasons to terminate the present proceeding.

Petitioner explains that *Kiuchi* discloses a client-side proxy (i.e., “first network device”) that sends a request to a C-HTTP name server (i.e., a “secure domain service”) for a secure network address for a server-side proxy (i.e., “second network device”). *See, e.g.*, Pet. 28. In other words, Petitioner equates the “second network device,” as recited in claim 1, with the “server-side proxy” of *Kiuchi*.

Patent Owner contends that *Kiuchi* discloses that the first network device (or client-side proxy) requests a secure network address for the

“origin server” of Kiuchi and not the server-side proxy of Kiuchi, the server-side proxy being equated with the recited “second network device.” PO Resp. 32–34. We disagree with Patent Owner.

Claim 1 recites sending a message from a first network device for an address for a second network device and, in response, receiving at the first network device the address for the second network device. Kiuchi discloses that a client-side proxy “asks the C-HTTP name server whether it can communicate with the host” and that, in response, the C-HTTP name server examines “the requested server-side proxy.” In response to the request from the client-side proxy, the client-side proxy (i.e., “first network device”) receives “the IP address and public key of the server-side proxy.” Ex. 1004, 65. In other words, Kiuchi discloses a first network device (or a client-side proxy) sending a message to the C-HTTP name server (or secure domain service) to request a secure network address (e.g., an “IP address and public key”) for a second network device (i.e., server-side proxy) and then, in response, receiving at the client-side proxy the requested secure network address for the second network device (i.e., “the IP address and public key of the server-side proxy”). Patent Owner does not demonstrate persuasively a difference between Kiuchi and the claimed invention.

Patent Owner argues that Kiuchi discloses that the client-side proxy sends a request for a network address for the “origin server” but not for the server-side proxy. However, Kiuchi discloses that in response to the request to communicate with “the host,” the name server examines “the requested *server-side proxy*” and returns “the IP address . . . of the *server-side proxy*.” Ex. 1004, 65 (emphasis added). Thus, contrary to Patent Owner’s

contention, “the host” of Kiuchi corresponds to the “server-side proxy” (or second network device, as recited in claim 1).

Patent Owner also argues that Kiuchi fails to disclose an access request message, as recited in claim 1. In particular, Patent Owner argues that Kiuchi discloses a “user agent” sending a query message for a secure domain service, rather than a “first network device” (i.e., a client-side proxy of Kiuchi) sending a request to a secure domain service. PO Resp. 36 (citing Ex. 2041 ¶ 42 (“Declaration of Fabian Monroe, Ph.D.” or “Monrose Dec.”)). We are not persuaded by Patent Owner’s arguments. Dr. Monroe testifies that Kiuchi discloses an “HTTP/1.0 message [that] is sent ‘from the user agent’ and reaches neither the host/origin server nor the server-side proxy.” Ex. 2041 ¶ 42. However, as previously discussed, Kiuchi discloses a step of “sending . . . requests to the server-side proxy” in which “a client-side proxy forwards HTTP/1.0 requests from the user agent” to the server-side proxy. Ex. 1004, 66. Neither Patent Owner nor Patent Owner’s declarant (Dr. Monroe) explains sufficiently how an “HTTP/1.0 request” that is “forwarded” by a client-side proxy to a server-side proxy fails to reach the server-side proxy in Kiuchi or that the forwarded request in Kiuchi is somehow diverted prior to reaching the server-side proxy and does not arrive at its intended destination.

Patent Owner also argues that Kiuchi discloses that the client-side proxy “dispatches a new C-HTTP request” but Kiuchi fails to disclose that the client-side proxy sends “an HTTP/1.0 request.” PO Resp. 37. First, we note that claim 1 recites “sending an access request message.” Claim 1 does not recite or otherwise require “sending an HTTP/1.0 request.” For at least this reason, we are not persuaded by Patent Owner’s argument. Also, as

previously discussed, Kiuchi discloses “sending . . . requests to the server-side proxy” in which “a client-side proxy forwards HTTP/1.0 requests” to the server-side proxy. Ex. 1004, 66. Patent Owner does not demonstrate persuasively a material difference between the client-side proxy “sending” a request to a server-side proxy and a client-side proxy “forwarding” a request to a server-side proxy. In both cases, a request is transmitted from the client-side proxy to the server-side proxy.

Patent Owner argues that Kiuchi discloses an “HTTP/1.0 request” that “is not an access request message [as recited in claim 1] at least because it does not seek any ‘communication, information, or services’ with the server-side proxy.” PO Resp. 38 (citing Ex. 2041 ¶¶ 44, 46). Kiuchi discloses a client-side proxy “[s]ending C-HTTP request to the server-side proxy” in which the “client-side proxy forward HTTP/1.0 request” to the server-side proxy for communication and exchange of services between devices. Ex. 1004, 66. For example, Kiuchi discloses one example in which “patient information” is “transfer[red]” “among hospitals and related institutions.” Ex. 1004, 64. Patent Owner does not indicate sufficiently how Kiuchi’s request for communication between network devices for communication or information (e.g., patient information) exchange, for example, differs from a device seeking “any communication, information, or services.” Hence, to the extent that claim 1 requires seeking “any communication, information, or services,” we disagree with Patent Owner that Kiuchi fails to disclose this feature. PO Resp. 38.

Patent Owner argues that Kiuchi fails to disclose sending an “HTTP/1.0 message” using a “virtual private network communication link.” PO Resp. 39. In particular, Patent Owner argues that Kiuchi discloses

sending a message from a client-side proxy to a server-side proxy, which, according to Patent Owner, is “a point-to-point connection, not a network as claimed.” PO Resp. 39–40. Patent Owner also argues that Kiuchi fails to disclose sending a request “using a virtual private network communication link” because “the request [of Kiuchi] lacks the ‘network’ aspect of a VPN communication link and further because [Kiuchi merely discloses] a point-to-point message [instead of] a VPN communication link.” PO Resp. 42–43 (citing Ex. 2041 ¶ 52). Hence, Patent Owner argues that Kiuchi fails to disclose a “network.” We disagree with Patent Owner’s argument.

For example, Kiuchi discloses one embodiment of the use of a C-HTTP name server (and client-side and server-side proxies) in “networks among hospitals and related institutions.” Ex 1004, 64. At least in view of this explicit disclosure of “networks,” we are not persuaded by Patent Owner that Kiuchi fails to disclose a “network.”

Patent Owner argues that Kiuchi discloses sending an HTTP/1.0 request but that “the request must pass through both the client-side and server-side proxies to reach the origin server.” PO Resp. 41 (citing Ex. 2041 ¶ 51). According to Patent Owner, this indicates that “*Kiuchi* fails to disclose direct communications to any host server and any message from the client-side proxy . . . is not sent using a VPN communication link.” PO Resp. 41–42. Hence, Patent Owner argues that Kiuchi fails to disclose a “direct communication.”

Claim 1, for example, recites sending an access request from a first network device to a secure network address using a virtual private network communication link. Claim 1 does not recite sending an access request

message over a “direct communication.” We are therefore not persuaded by Patent Owner’s argument.

To the extent that Patent Owner argues that a “direct communication” is recited implicitly in claim 1, for example, we disagree with Patent Owner at least because even if a “direct communication” is required, Kiuchi discloses this feature. Kiuchi discloses a client-side proxy (i.e., first network device) “[s]ending C-HTTP requests to the server-side proxy” in which the client-side proxy “forwards HTTP/1.0 requests” to the server-side proxy. Ex. 1004, 66. Kiuchi also discloses that “[a] client-side proxy and server-side proxy communicate with each other using a secure, encrypted protocol (C-HTTP).” Ex. 1004, 64. Kiuchi does not disclose that the communication between the client-side proxy and the server-side proxy is not a “direct communication” and Patent Owner does not explain adequately how the communication between the client-side proxy and the server-side proxy of Kiuchi differs from a “direct communication,” as Patent Owner contends is implicitly recited in claim 1.⁴

Regarding claim 15, Patent Owner argues that Kiuchi fails to disclose a “client computer,” in which “client computer,” as recited in claim 15, is construed to mean a “user’s computer.” PO Resp. 44–45. In other words, Patent Owner argues that Kiuchi fails to disclose a “user’s computer.”

⁴ The Federal Circuit determined that “Kiuchi’s client-side and server-side proxies terminate the connection, process information, and create a new connection – actions that are not ‘direct’ within the meaning of the asserted claims.” *VirnetX, Inc. v. Cisco Systems, Inc.*, 767 F.3d 1308, 1317 (Fed. Cir. 2014). Hence, the Federal Circuit determined that a client-side proxy did not form a “direct communication” with an origin server. However, the Federal Circuit did not determine whether or not the client-side proxy forms a “direct communication” with a server-side proxy.

Claim 15 recites that “a client computer [is] connected to a communication network.” As previously discussed and in view of the apparent lack of distinction between a “client” and a “user,” based on Patent Owner’s arguments, we are not persuaded by Patent Owner that one of ordinary skill in the art would have construed, under a broadest reasonable standard, the term “client computer,” in light of the Specification, to mean “user’s computer.”

We also disagree with Patent Owner that Kiuchi fails to disclose a “client computer,” or a computer associated with a client. As previously discussed, Kiuchi discloses a “client-side proxy” that is associated with a “client.” Hence, Kiuchi discloses a “client computer.”

In addition, assuming one of ordinary skill in the art would have understood that a “client computer” must include specific reference to a “user,” as Patent Owner appears to contend, Kiuchi discloses this feature. Kiuchi discloses, for example, a “user agent” and “communication between a client-side proxy and user agent.” Ex. 1004, 65. In other words, the “user agent” of Kiuchi is connected to (i.e., in communication with) a communication network (which includes a client-side proxy). Patent Owner does not demonstrate persuasively a difference between the “user agent” of Kiuchi (that is connected to a communication network) and the “client computer” that is also “connected to a communication network,” as recited in claim 15.

B. Kiuchi and Bhatti/Lindblad

Regarding claims 1–5, 7, 8, 10, 12, 15, and 17, Patent Owner argues that it would not have been obvious to one of ordinary skill in the art to have

combined the teachings of Kiuchi and Bhatti because Kiuchi discloses an “origin server” that, according to Patent Owner, corresponds to the “second network device,” as recited in claim 1, for example. PO Resp. 47–49. Even if the “origin server” of Kiuchi would somehow render the combination of Kiuchi and Bhatti improper, we need not consider Patent Owner’s argument further because, as previously discussed, Petitioner relies on the “server-side proxy” and not the “origin server” of Kiuchi as the recited second network device.

Patent Owner also argues that Bhatti fails to disclose “using a virtual private network communication link.” PO Resp. 50. However, as discussed above, we agree with Petitioner that Kiuchi discloses this feature.

No additional issues with respect to Bhatti or the Lindblad reference are identified. PO Resp. 50–51.

ORDER

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–4, 7, 8, 10, 12, 15, and 17 are anticipated under 35 U.S.C. § 102 by Kiuchi or unpatentable under 35 U.S.C. § 103(a) over Kiuchi and Bhatti and that claim 5 is unpatentable over 35 U.S.C. § 103(a) over the combination of Kiuchi and Lindblad or the combination of Kiuchi, Lindblad, and Bhatti.

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–5, 7, 8, 10, 12, 15, and 17 of the ’274 patent have been shown to be unpatentable.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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