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Paper No. 39
Filed: September 28, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

VIRNETX INC.,
Patent Owner.

Case IPR2015-00868
Patent 8,516,131 B2

Before KARL D. EASTHOM, JENNIFER S. BISK, and
GREGG I. ANDERSON, *Administrative Patent Judges.*

ANDERSON, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Apple Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–10, 13-22, and 25–27 of U.S. Patent No. 8,516,131 B2 (Ex. 1003, "the '131 patent"). VirnetX Inc. ("Patent Owner")[1] filed a Preliminary Response. Paper 6 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314. On October 1, 2015, we granted the Petition and instituted trial on claims 1–10, 13–22, and 25–27 of the '131 patent. Paper 8 ("Institution Decision" or "Inst. Dec.")

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 23, "PO Resp."), and Petitioner filed a Reply (Paper 26, "Reply"). Additionally, Patent Owner filed a Motion to Exclude evidence (Paper 30, "Motion," "Mot."). In support of its Petition, Petitioner proffered the Declaration of Dr. Roberto Tamassia ("Tamassia Declaration," Ex. 1005). The deposition of Dr. Tamassia was taken by Patent Owner and filed by both parties. ("Tamassia Deposition," Ex. 1071).[2] Patent Owner proffered the Declaration of Dr. Fabian Monrose. ("Monrose Declaration," Ex. 2018). The deposition of Dr. Monrose ("Monrose Deposition," Ex. 1066) was taken in this proceeding and in *Apple v. VirnetX Inc.*, IPR2014-00237, Final Written Decision (PTAB May 11, 2015) (Paper No. 41) ("'237 FWD" or generally "'237 IPR")) (on appeal at the Federal Circuit).[3]

An oral hearing was held on June 27, 2016. The transcript of the hearing has been entered into the record. Paper 38 ("Tr.").

[1] The Petition also names Science Application International Corporation as Patent Owner. However, the Patent Owner Response names only VirnetX Inc.

[2] Patent Owner filed the Tamassia Deposition as Exhibit 2019. We refer only to Exhibit 1071 unless otherwise noted.

[3] The deposition of Dr. Monrose (Ex. 1067) from the '237 IPR was also filed here but neither party cites to Exhibit 1067.

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). We conclude, for the reasons that follow, that Petitioner has shown by a preponderance of the evidence that claims 1–10, 13–22, and 25–27 of the ’131 patent are unpatentable.

### *A. The ’131 Patent*

The ’131 patent describes a system and method for transparently creating a secure communications link between a client device and a target device. Ex. 1003, Abstract, Figs. 26, 27 (elements 2601, 2604). Secure communication is based on a protocol called the “Tunneled Agile Routing Protocol” or “TARP.” *Id.* at 3:16–19. Once the encrypted communications channel is created, the devices are configured to allow encrypted communications between themselves over the encrypted communications channel. *Id.* at 40:36–45. Figure 26 of the ’131 patent is reproduced below.

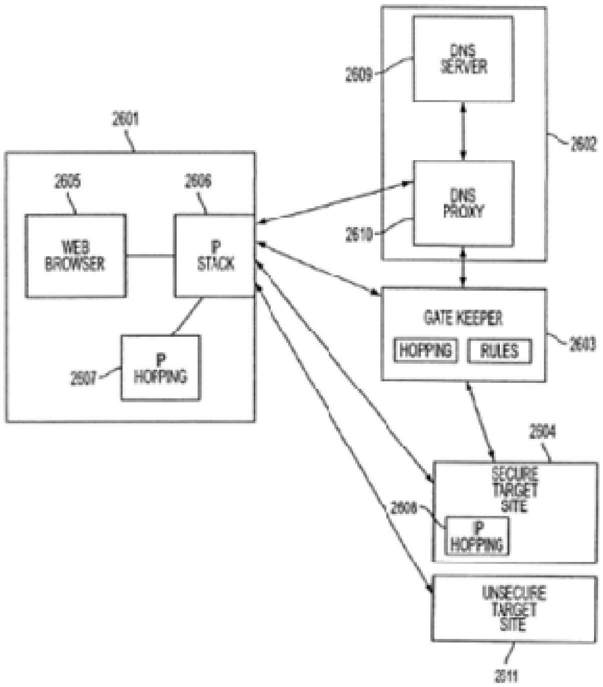

FIG. 26

Referring to Figure 26, reproduced above, user's computer 2601 is a conventional client, e.g., a web browser. Ex. 1003, 40:26–28. Gatekeeper server 2603 is interposed between modified Domain Name Server ("DNS") 2602 and secure target site 2604. *Id.* at 40:30–35. The DNS includes both conventional DNS server function 2609 and DNS proxy 2610. *Id.* Conventional IP protocols allow access to unsecure target site 2611. *Id.* at 40:58–59.

In one described embodiment, establishing the encrypted communications channel includes intercepting from the client device a request to look up an Internet Protocol (IP) address corresponding to a domain name associated with the target device. Ex. 1003, 40:36–54. It further includes determining whether the request to look up the IP address corresponds to a device that accepts an encrypted channel connection with the client device. *Id.* at 40:36–59. Gatekeeper 2603 facilitates and allocates the exchange of information for secure communication, such as using "hopped" IP addresses. *Id.* at 40:67–41:3.

The DNS proxy server handles requests for DNS look-up for secure hosts. Ex. 1003, 41:11–15. If the host is secure, then it is determined whether the user is authorized to connect with the host. *Id.* at 41:20–23. If the user is authorized to connect, a secure Virtual Private Network (VPN) is established between the user's computer and the secure target site. *Id.* at 41:35–38.

### *B. Illustrative Claim*

Petitioner challenges claims 1–10, 13–22, and 25–27 of the '131 patent. Claim 1 is an independent apparatus claim and claim 15 is an independent method claim. All remaining claims depend directly or indirectly from claim 1 or 15. Method claim 15 is reproduced below.

> 15. A method executed by a first network device for communicating with a second network device, the method comprising:
>
> sending a request to look up an internet protocol (IP) address of a second network device based on a domain name associated with the second network device;
>
> following interception of the request and a determination that the second network device is available for the secure communications service, receiving an indication that the second network device is available for a secure communications service, the requested IP address of the second network device, and provisioning information for a secure communication link;
>
> connecting to the second network device over the secure communication link, using the received IP address of the second network device and the provisioning information for the secure communication link; and
>
> communicating at least one of video data and audio data with the second network device using the secure communications service via the secure communication link.

Ex.1003, 57:11–30.

### *C. Instituted Ground of Unpatentability*

We instituted on the ground that claims 1–10, 13–22, and 25–27 were unpatentable under 35 U.S.C. § 103 over Beser[4] and RFC 2401.[5] Inst. Dec. 19.

[4] US 6,496,867 B1, issued December 17, 2002, to Nurettin B. Beser and Michael Borella (“Beser,” Ex. 1007).

[5] S. Kent & R. Atkinson, *Security Architecture for the Internet Protocol*, Request for Comments: 2401, 1–66 (November 1998) (BBN Corp.) (“RFC 2401,” Ex. 1008).

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