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Paper No. 44
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

VIRNETX INC.,
Patent Owner.

Case IPR2015-00811
Patent 8,868,705 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 1–34 of U.S. Patent No. 8,868,705 B2 (Ex. 1001, "the '705 patent"). VirnetX Inc. ("Patent Owner")[1] filed a Preliminary Response. Paper 6 ("Prelim. Resp."). On September 11, 2015, we granted the Petition and instituted trial on claims 1–34 of the '705 patent. Paper 8 ("Institution Decision" or "Inst. Dec.")

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 25, "PO Resp."), and Petitioner filed a Reply (Paper 29, "Pet. Reply"). In addition, Petitioner proffered the Declaration of Dr. Roberto Tamassia ("Tamassia Declaration," Ex. 1005). The deposition of Dr. Tamassia was taken by Patent Owner and the deposition transcript was filed by both parties. ("Tamassia Deposition," Ex. 1068).[2] Patent Owner proffered the Declaration of Dr. Fabian Monrose. ("Monrose Declaration," Ex. 2016).[3] The deposition of Dr. Monrose was taken in this proceeding ("Monrose Deposition," Ex. 1066).

An oral hearing was held on June 8, 2016. The transcript of the hearing has been entered into the record. Paper 43 ("Tr.").

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

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

[2] Patent Owner filed the Tamassia Deposition transcript as Exhibit 2015. We refer only to Ex. 1068 unless otherwise noted.

[3] Patent Owner also filed a Declaration of Dr. Monrose from *Apple Inc. v. VirnetX Inc.*, IPR2014-00237 ("'237 IPR") ("Monrose Declaration '237," Ex. 2001). Patent Owner does not cite to Exhibit 2001.

reasons that follow that Petitioner has shown by a preponderance of the evidence that claims 1–34 of the ’705 patent are unpatentable

A. The ’705 Patent

The ’705 patent describes a system and method for transparently creating an encrypted communications channel between a client device and a target device. Ex. 1001, 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 40:66–41:9. Figure 26 of the ’705 patent is reproduced below.

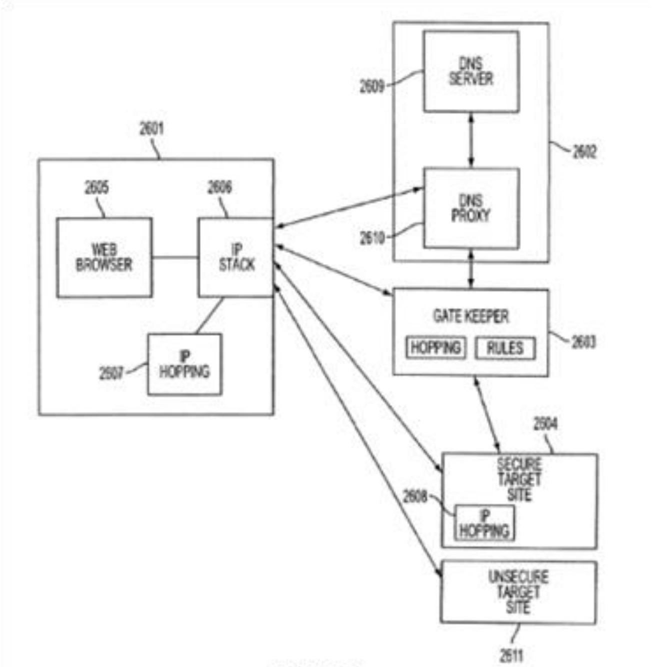

FIG. 26

Referring to Figure 26, user’s computer 2601 is a conventional client, e.g., a web browser. Ex. 1001, 39:58–60. Gatekeeper server 2603 is interposed between modified Domain Name Server (“DNS”) 2602 and secure target site 2604. *Id.* at 39:62–66. 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 39:66–67.

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. 1001, 40:1–19. 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 40:1–29. Gatekeeper 2603 facilitates and allocates the exchange of information for secure communication, such as using "hopped" IP addresses. *Id.* at 40:32–35.

The DNS proxy server handles requests for DNS look-up for secure hosts. Ex. 1001, 40:43–45. If the host is secure, then it is determined whether the user is authorized to connect with the host. *Id.* at 40:51–53. 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 40:66–41:2.

B. Illustrative Claim

Petitioner challenges claims 1–34 of the '705 patent. Claim 1 is an independent method claim and claim 21 is an independent system claim. All remaining claims depend directly or indirectly from claim 1 or 21. Claim 1 is reproduced below.

> 1. A method of transparently creating an encrypted communications channel between a client device and a target device, each device being configured to allow secure data communications between the client device and the

> target device over the encrypted communications channel once the encrypted communications channel is created, the method comprising:
>
> (1) 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;
>
> (2) determining whether the request to look up the IP address transmitted[4] in step (1) corresponds to a device that accepts an encrypted channel connection with the client device; and
>
> (3) in response to deterring in step (2), that the request to look up the IP address in step (2) corresponds to a device that accepts an encrypted communications channel connection with the client device, providing provisioning information required to initiate the creation of the encrypted communications channel between the client device and the target device such that the encrypted communications channel supports secure data communications transmitted between the two devices, the client device being a device at which a user accesses the encrypted communications channel.

Ex. 1001, 55:43–67.

C. Instituted Grounds of Unpatentability

We instituted on the following grounds asserted by Petitioner under 35 U.S.C. § 103: (1) claims 1–3, 6, 14, 16–25, 28, 31, 33, and 34 as obvious

[4] Patent Owner asserts "transmitted" was printed in error and that the limitation was amended to include "intercepted" instead of "transmitted." Prelim. Resp. 30 n.3 (citing Ex. 1002, 638–639, 641, 655–656). In our Order dated December 9, 2015 (Paper 24), we authorized Patent Owner to file a request for a certificate of correction changing the word "transmitted" in claims 1 and 21 to "intercepted." Paper 24, 3. In addition, we observed that the parties stipulated that the change of wording was not of patentable significance. *Id.* Patent Owner filed a Certificate of Correction. Ex. 2017.

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