UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE, INC.,

Petitioner,

v.

VIRNETX, INC.,

Patent Owner.

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Case IPR2017-00337
Patent 9,038,163 B2

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Before KARL D. EASTHOM, KEVIN W. CHERRY[1], and
KEVIN C. TROCK, *Administrative Patent Judges*.

TROCK, *Administrative Patent Judge*.

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

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[1] Judge Cherry replaced Judge Bisk on the panel following the hearing.

I.   INTRODUCTION

Apple, Inc., ("Petitioner") filed a request for an *inter partes* review of claims 1–10, 12–18, 21–31, 33–39, and 42 (the "challenged claims") of U.S. Patent No. 9,038,163 B2 (Ex. 1001, "the '163 patent"). Paper 1 ("Pet."). VirnetX, Inc. ("Patent Owner") filed a Preliminary Response to the Petition. Paper 7 ("Prelim. Resp."). We instituted an *inter partes* review of the challenged claims of the '163 patent. Paper 8 ("Dec. Inst."). Patent Owner filed a Patent Owner Response (Paper 17, "PO Resp.") and Petitioner filed a Petitioner Reply (Paper 21, "Pet. Reply"). On February 27, 2018, a hearing was held, a transcript of which has been entered into the record. Paper 30 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. We base our decision on the preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Having reviewed the arguments of the parties and the supporting evidence, we find that Petitioner has demonstrated by a preponderance of the evidence that each of challenged claims, 1–10, 12–18, 21–31, 33–39, and 42, of the '163 patent are unpatentable.

A. The '163 Patent

The '163 patent's specification (the "Specification") focuses on techniques for securely communicating over the Internet based on a protocol called the "Tunneled Agile Routing Protocol" or "TARP." Ex. 1001, 3:20–23. According to the Specification, TARP allows for secure and anonymous communications by using tunneling, an IP address hopping scheme where the IP addresses of the end devices and routers participating in the system can change over time, and a variety of other security

techniques. Ex. 1001, 1:38–40, 3:20–6:14. Two sections of the Specification—primarily spanning columns 39 to 42 and 49 to 53—are directed to techniques for establishing secure communications in response to DNS requests specifying a secure destination. *See* Ex. 1001, 39:26–42:16, 49:27–53:35. These portions of the Specification discuss the idea of modifying a "conventional DNS server" to include additional functionality that allows it to support the creation of virtual private networks. *See* Ex. 1001, 40:21–54. According to the Specification, a "modified DNS server" (*id.*, 40:25–29) receives a request to look up a network address associated with a domain name (*id.*, 39:26–31, 40:4–20, 4:31–49), determines whether a secure site has been requested (for example, by checking an internal table of sites) (*id.*, 40:33–37, 51:37–41), and then performs additional steps to support establishing a "virtual private network" with the secure site. *See* Ex. 1001, 41:22–39, 51:60–66. The Specification also describes several optional features of this system, such as using "IP hopblocks" to create a VPN or incorporating user authentication. Ex. 1001, 40:21–30, 49:41–51, 52:53–57. The Specification also describes different ways of implementing this "modified DNS server," including through a single standalone DNS server as well as a distributed system incorporating a "conventional DNS server function" and a DNS proxy server. *Id.* at 40:21–30.

B. *Challenged Claims of the '163 Patent*

Petitioner challenges claims 1–10, 12–18, 21–31, 33–39, and 42 of the '163 patent. Challenged claims 1 and 22 are independent. Although similar, Claim 1 is directed to a method and claim 22 is directed to a system. Claim 1 is illustrative and is reproduced below.

1. A method of connecting a first network device and a second network device over a communication network, the method comprising:

receiving, from the first network device over the communication network, a request to look up a network address of the second network device based on an identifier associated with the second network device;

evaluating the request to determine whether the identifier is registered with a name service, connected to the communication network, that facilitates resolving the identifier and that further facilitates establishing direct encrypted communication links;

determining, based on the evaluation, whether the second network device is available to communicate through a direct encrypted communication link facilitated by the name service; and

based on a determination that the second network device is available, facilitating the establishment of the direct encrypted communication link between the first network device and the second network device, the facilitating the establishment of the direct encrypted communication link including provisioning the first network device or the second network device with one or more resources for the direct encrypted communication link,

wherein the established direct encrypted communication link carries encrypted data communicated between the first network device and the second network device, and the first network device is a user device.

Ex. 1001, 56:9–28.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct.

2131, 2144–46 (2016) (upholding the use of the broadest reasonable construction as the standard to be applied for claim construction in *inter partes* reviews). "Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). Only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

In our Decision on Institution, we did not find it necessary at that point in the proceeding to construe expressly any claim terms or to adopt any proposed constructions. *See* Dec. Inst. 6. Rather, we applied the terms' plain and ordinary meanings, as understood by one of ordinary skill in the art in light of the specification. *Id.* Patent Owner did not respond to Petitioner's constructions presented in the Petition. PO Resp. 2. For purposes of this Final Written Decision, we continue to apply the plain and ordinary meanings of the claim terms.

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

Petitioner argues a person of ordinary skill in the art in the field of the '163 patent

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