

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FINJAN, INC.,
Petitioner,

v.

FIREEYE, INC.,
Patent Owner.

Case IPR2014-00492
Patent 8,171,553 B2

Before BRYAN F. MOORE, LYNNE E. PETTIGREW, and
FRANCES L. IPPOLITO, *Administrative Patent Judges*.

IPPOLITO, *Administrative Patent Judge*.

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

I. INTRODUCTION

Finjan, Inc. filed a Corrected Petition (“Pet.”) on March 21, 2014, requesting an *inter partes* review of claims 1–30 of U.S. Patent No. 8,171,553 B2 (“the ’553 patent”). Paper 4. Patent Owner FireEye, Inc. filed a Preliminary Response (“Prelim. Resp.”) to the Petition. Paper 7. On July 25, 2014, we instituted an *inter partes* review of claims 1, 3–8, 12–14, 16–20, and 22–30 on the following grounds of unpatentability alleged in the Petition (Paper 8, “Dec.”):

- A. Claims 1, 5, 7, 17, 22, and 25–27 are unpatentable under 35 U.S.C. § 103 over Kaeo¹ and Venezia²;
- B. Claims 6, 8, 12–14, 16, 18, and 19 are unpatentable under 35 U.S.C. § 103 over Kaeo, Venezia, and Chen³;
- C. Claims 1, 3–5, 7, 17, and 22–28 are unpatentable under 35 U.S.C. § 103 over Kaeo and Liljenstam⁴; and
- D. Claims 18, 20, 29, and 30 are unpatentable under 35 U.S.C. § 103 over Kaeo, Liljenstam, and Dunlap⁵.

¹ Merike Kaeo, *Designing Network Security*, Cisco Press (2nd ed. Nov. 2003) (Ex. 1006, “Kaeo”).

² Paul Venezia, *NetDetector Captures Intrusions*, InfoWorld Issue 27 (July 14, 2003) (Ex.1005, “Venezia”).

³ Peter M. Chen and Brian D. Noble, *When Virtual Is Better Than Real*, Department of Electrical Engineering and Computer Science, University of Michigan (May 21, 2001) (Ex. 1009, “Chen”).

⁴ Michael Liljenstam et al., *Simulating Realistic Network Worm Traffic for Worm Warning System Design and Testing*, Institute for Security Technology studies, Dartmouth College (Oct. 27, 2003) (Ex. 1007, “Liljenstam”).

⁵ George W. Dunlap et al., *ReVirt: Enabling Intrusion Analysis through Virtual-Machine Logging and Replay*, Proceeding of the 5th Symposium on

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After institution of trial, Patent Owner filed a Patent Owner Response (“PO Resp.,” Paper 20) and Petitioner filed a Reply thereto (“Reply,” Paper 23). An oral argument was held on March 31, 2015. The transcript of the oral hearing has been entered into the record. Paper 28, “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) and 37 C.F.R. § 42.73.

Petitioner has shown, by a preponderance of the evidence, that claims 1, 3–7, 17, 18, 20, and 22–30 of the ’553 patent are unpatentable. Petitioner has not shown, by a preponderance of the evidence, that claims 8, 12–14, 16, and 19 are unpatentable.

A. Related Proceedings

Petitioner indicates that the parties are involved in a related proceeding, *Finjan, Inc. v. FireEye, Inc.*, No. 4:13-cv-03133-SBA, filed in the United States District Court for the Northern District of California. Paper 6, 1.

The parties also are involved in Case IPR2014-00344, directed to U.S. Patent No. 8,291,499 B2 (“the ’499 patent”), which shares a common disclosure with the ’553 patent.

B. The ’553 Patent

The ’553 patent describes an authorized activity capture or detection system that analyzes copied network data with a heuristic to determine if the copied network data has the characteristics of a computer worm. *See* Ex. 1001, Claim 1. If the compared network data has a characteristic of a computer worm, the system flags the compared network data for replay in an analysis environment. *Id.*

Operating Systems Design and Implementation, USENIX Association (Dec. 9–11, 2002) (Ex. 1008, “Dunlap”).

Figure 7 of the '553 patent is reproduced below.

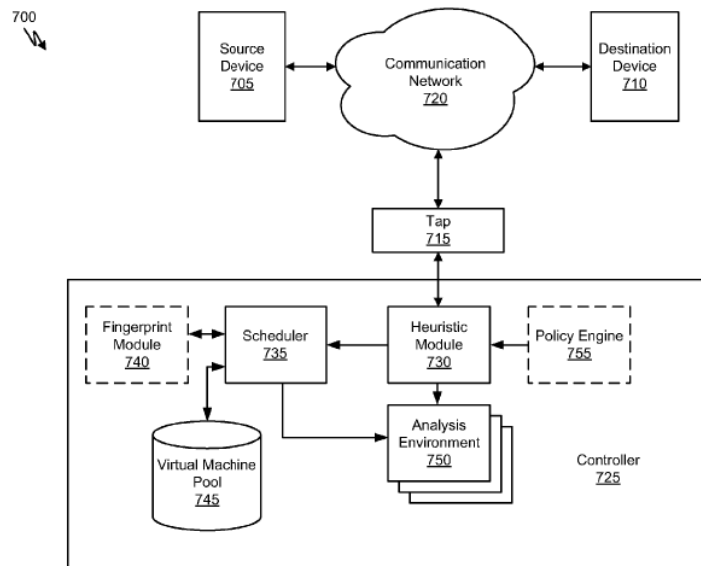


FIG. 7

Figure 7 depicts an embodiment of an unauthorized activity detection system described in the '553 patent. Unauthorized activity detection system 700 includes source device 705, destination device 710, and tap 715, each of which is coupled to communication network 720. *Id.* at 26:21–26. Tap 715 is further coupled to controller 725. *Id.* at 26:25–26. In operation, tap 715 monitors network data and provides a copy of the network data to controller 725. *Id.* at 26:35–37.

Figure 7 also shows controller 725, which “can be any digital device or software that receives network data from the tap 715.” Ex. 1001, 27:1–2. “In some embodiments, controller 725 is contained within computer worm sensor 105.” *Id.* at 27:2–4. Controller 725 also may be contained within separate traffic analysis device 135 or may be a stand-alone digital device. *Id.* at 27:4–6. Controller 725 can comprise virtual machine pool 745, analysis environment 750, heuristic module 730, and policy engine 755. *Id.*

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at 27:6–9. “[V]irtual machine pool 745 is configured to store virtual machines [and] . . . can be any storage capable of storing software.” *Id.* at 28:51–52. Additionally, “analysis environment 750 simulates transmission of the network data between the source device 705 and the destination device 710 to analyze the effects of the network data upon the destination device 710.” *Id.* at 28:59–62. Heuristic module 730 can receive copied network data from tap 715 and apply heuristic and/or probability analysis to determine if the network data contains suspicious activity. *Id.* at 27:12–15.

C. Illustrative Claim

Of the challenged claims, claims 1, 8, 17, and 28 are independent. Claim 1, reproduced below, is illustrative of the subject matter of the ’553 patent:

1. An unauthorized activity capture system comprising:

a tap configured to copy network data from a communication network; and

a controller coupled to the tap and configured to receive the copy of the network data from the tap, analyze the copy of the network data with a heuristic to determine if the copy of the network data has one or more characteristics of a computer worm, flag at least a portion of the copy of the network data as suspicious by flagging the at least a portion of the copy of the network data for replay in an analysis environment based upon the heuristic determination that the at least a portion of the analyzed copy of the network data has one or more characteristics of a computer worm, and replay transmission of the suspicious, flagged network data copied from the communication network to a destination device.

Ex. 1001, 31:60–32:8.

II. ANALYSIS

A. Claim Construction

During a review before the Patent Trial and Appeal Board (“Board”),

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