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FINJAN, INC.

10

11   IN THE UNITED STATES DISTRICT COURT

12   FOR THE NORTHERN DISTRICT OF CALIFORNIA

13   OAKLAND DIVISION

14

15 FINJAN, INC., | Case No.: 4:18-cv-07229-YGR

16   Plaintiff, | **DECLARATION OF MICHAEL T. GOODRICH, PH.D. REGARDING CLAIM CONSTRUCTION**

17   v.

18 QUALYS INC., | Date: May 1, 2020
                                          | Time: 10:00 AM
19   Defendant. | Place: Courtroom 1, 4th Floor
                                          | Before: Hon. Yvonne Gonzalez Rogers
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I, Michael T. Goodrich, Ph.D., declare as follows:

1.   I am a Distinguished Professor[1] in the Department of Computer Science at University of California, Irvine, where I have taught courses and performed research in Computer Science, including topics in Algorithms, Computer Security, Networking, Data Structures, and Parallel Computing, since 2001. I am a retained technical expert on behalf of Plaintiff, Finjan, Inc., ("Finjan") in the above captioned matter. I have personal knowledge of the facts disclosed herein and, if called as a witness, I could and would testify regarding the opinions disclosed herein.

2.   I submit this Declaration in support of Finjan's claim construction brief and to rebut certain opinions of Dr. Aviel Rubin, who has been retained on behalf of Defendant, Qualys, Inc. ("Qualys"). I have been asked to provide opinions regarding the understanding that a person of ordinary skill in the art ("POSITA") would have regarding the terms "receiver" and "transmitter" as they appear in U.S. Patent Nos. 8,141,154 ("the '154 Patent"), 8,677,494 ("the '494 Patent"), and 6,965,968 ("the '968 Patent").

3.   In summary, it is my opinion that a POSITA would understand the terms "receiver" and "transmitter" to have sufficiently definite meanings as the names of structures within the context of the specifications and claims of the '154, '494, and '968 Patents. Further, it is my opinion that the '154, '494, and '968 Patents disclose to a POSITA sufficient structures that correspond to the function of a receiver and transmitter in the claims of these patents.

I.   **EXPERIENCE AND QUALIFICATIONS**

A.   **Curriculum Vitae**

4.   Attached hereto as Appendix A is a true and correct copy of my Curriculum Vitae (CV). I summarize some of the relevant information regarding my CV as follows.

5.   I received a Bachelor of Arts degree in Mathematics and Computer Science from Calvin University in 1983 and a PhD in Computer Science from Purdue University in 1987.

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[1] "The Distinguished Professor title is a campus-level distinction and is reserved for Above Scale faculty who have achieved the highest levels of scholarship over the course of their careers. Distinguished Professors will typically have earned national and international level distinctions and honors of the highest level." https://ap.uci.edu/titles-of-distinction/distinguished-professor/ (last visited March 26, 2020).

6.   I am a Distinguished Professor in the Department of Computer Science at the University of California, Irvine, where I have been a faculty member since 2001. In addition, I am technical director for the Center for Algorithms and Theory of Computation in the Donald Bren School of Information and Computer Sciences at University of California, Irvine. I was a professor in the Department of Computer Science at Johns Hopkins University from 1987-2001. I have also served as an associate dean in the School of Information and Computer Sciences and as department chair for the Department of Computer Science, at University of California, Irvine.

7.   I have over 30 years' experience in computer science and I have authored or coauthored over 300 publications, including several widely adopted books, such as *Introduction to Computer Security* and *Algorithm Design and Applications*. My research includes contributions to data structures and algorithms, information security and privacy, networking, graph algorithms, computational geometry, distributed and parallel algorithms, and cloud security. For example, I have published peer-reviewed research articles, including (using the numbering scheme in my CV) publications J-63, J-71, J-78, C-80, C-83, C-85, C-91, C-100, and C-108, on stopping viruses in email attachments and on authenticating data downloaded from untrusted repositories. I have also published peer-reviewed research articles on the use of parallelism in computer systems, including publications J-5, J-7, J-12, J-16, J-19, and J-24. In addition, in my publication J-61, "Probabilistic Packet Marking for Large-Scale IP Traceback," I published a scheme for marking packets on the Internet, using network routers and other network devices in a packet-by-packet basis, so as to determine the source of distributed denial-of-service attacks. Furthermore, I have publications dealing with networking and mobile devices, including journal articles J- 56, J-61, J-62, J-66, J-69, J-78, and J-84, book chapter Ch-9, and peer-reviewed conference publications C-80, C-101, C-117, C-133, C-136, C-156, and C-181. For instance, in my journal article J-56, my coauthors and I study methods for partitioning data into push and pull regions so as to optimize communication costs between a server and several clients.

8.   In my capacity as a Distinguished Professor at University of California, Irvine, my responsibilities include teaching undergraduate and graduate students, performing research in computer science, mentoring PhD students and postdoctoral fellows, and serving on various university

committees. According to Google Scholar, I have an h-index of 66, meaning that I have at least 66 publications that have each been cited at least 66 times.

9.   My research has been supported by grants from the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA), the Office of Naval Research (ONR), the Army Research Office (ARO), and the National Science Foundation (NSF).

10.   In addition, I have consulting experience as an expert witness and/or technical expert in matters involving algorithms, cryptography, machine learning, digital rights management, computer security, networking, software, and storage technologies.

11.   I am a Fellow of the American Association for the Advancement of Science (AAAS), a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), and a Fellow of the Association for Computing Machinery (ACM), as well as being named as a Foreign Member of the Royal Danish Academy of Sciences and Letters. I am also a recipient of a Fulbright Scholarship (for senior specialist service to University of Aarhus, Denmark). In addition, I am a recipient of the IEEE Computer Society Technical Achievement Award and the Pond Award for Excellence in Undergraduate Teaching. Also, I am an ACM Distinguished Scientist.

12.   I am familiar with computer security, malware techniques, intrusion detection, virus detection, and anti-virus software around the time of the inventions of the patents-in-suit. For example, my study of computer security topics began in the 1980s as an undergraduate student and continued in graduate school, where my Ph.D. research involved the study of computer system components operating in parallel. My study and interest in computer security continued after my Ph.D., as detailed above and in my CV. In addition, I have reviewed and evaluated research papers on computer security, including cryptography, beginning with work as an associate editor for *Journal of Computer & System Sciences*, as well as my service on program committees of peer-reviewed Computer Science conferences, including the Conference on Electronic Publishing and the Information Superhighway and the ACM Symposium on Theory of Computing (STOC), the latter for which I chaired and edited the conference proceedings in 1994.

B.   Prior Testimony

13.   A list of cases in which I have testified at deposition or trial or in written reports and declarations during at least the past five years is part of Appendix A of this Declaration.

C.   Compensation

14.   My compensation for my work in this case is based solely on the amount of time that I devote to activity related to this case (I am paid on an hourly basis) and is in no way affected by any opinions that I render. I receive no other compensation from work on this action. My compensation is not dependent on the outcome of this matter. I have no financial interest in the outcome of this matter.

II.   MATERIALS CONSIDERED

15.   My opinions, expressed herein, are based on information I have reviewed to date including the materials referenced herein and in the exhibits attached to this declaration, and are based on my knowledge and experience in the fields of computer science, computer and network security, network optimization, Internet communications, and software development.

16.   In the process of forming my opinions, I have reviewed and considered documents and items including: the declaration of Dr. Rubin, including all documents cited in his declaration, the '154, '494, and '968 Patents and their file histories, and Finjan's Opening Claim Construction Brief and exhibits referenced therein.

III.   LEGAL STANDARDS

17.   Counsel for Finjan has informed me of the following legal standards that I have used as a framework in forming my opinions contained herein:

A.   Claim Construction

18.   I have been informed that claim construction is a legal issue for the Court to decide. I understand that patent claim terms are to be interpreted based on their meaning to a POSITA at the time of the invention. I further understand that, where the meaning of a term is not immediately apparent, one must look at those sources available to the public that show what a POSITA would have understood the claim language to mean, including the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific

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