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DECLARATION OF DR. MICHAEL MITZENMACHER

1
2 I, Michael Mitzenmacher, hereby declare that:

3 1. I have been asked by Plaintiff Finjan, Inc. to submit a supplemental expert declaration
4 on whether Juniper, Inc.’s SRX Gateways, Sky ATP and ATP Appliance products infringe claim 1 of
5 U.S. Patent No. 8,141,154 (the “’154 Patent”) when the Court’s construction of “content processor” is
6 applied from the claim construction order. Dkt. No. 369-1. I relied on the documents cited herein,
7 including the Court’s Order on Second Round of Early Motions for Summary Judgment and Motion to
8 Strike and Order to Show Cause, the ’154 Patent, the file history of the ’154 Patent, the source code,
9 the deposition transcripts of Juniper’s employees (including the transcripts of Tenorio, Manthena,
10 Nagarajan, Manocha, and Khurram Islah), the trial transcript for this case, exhibits thereto, Finjan’s
11 Infringement Contentions, and Juniper’s Discovery Responses. I have reviewed the opinions that I
12 provided in my previous declaration for the Second Round of Early Motions for Summary Judgment
13 and found that Juniper’s accused products still infringe Claim 1 of the ’154 Patent under the Court’s
14 construction of “content processor” as a “a processor that processes modified content.”

15 **I. EXPERIENCE AND QUALIFICATIONS**

16 2. I received a Ph.D degree in Computer Science from the University of California at
17 Berkeley in 1996. I am currently employed as a Professor of Computer Science at Harvard University.
18 I have published over 200 research papers in computer science conferences and journals, many of
19 which have explored computer securities and computer networks, such as algorithms and data
20 structures for communication networks and data transmission. I regularly serve on program
21 committees for conferences in networking, algorithms, and communication, including SIGCOMM,
22 NSDI, and CoNEXT. I have also taught graduate courses relating to computer networking.

23 3. My rate of compensation for my work in this case is \$750 per hour plus any direct
24 expenses incurred. My compensation is based solely on the amount of time that I devote to activity
25 related to this case and is in no way affected by any opinions that I render. I receive no other
26 compensation from work on this action. My compensation is not dependent on the outcome of this case.

27 **II. LEGAL STANDARDS**

28 4. Counsel for Finjan has informed me of the following legal standards that I have used as

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1 a framework in forming my opinions contained herein.

2 5. I have been informed that claim construction is a legal issue for the Court to decide. I
3 understand that the Court had construed “content processor” as “a processor that processes modified
4 content.”

5 6. I have been informed that infringement is determined on a claim by claim basis. A
6 product may infringe a claim either literally or under the doctrine of equivalents.

7 7. I have been further informed that literal infringement is found if an accused product,
8 system or method meets each and every element of a single claim. Direct infringement is found if a
9 party, or its agents, makes, uses, sells, or offers for sale a product or system that contains all elements
10 of a claimed system or performs all of the steps of a claimed method. I have been informed that a party
11 can be found to use the patented system even if that party does not exercise physical or direct control
12 over every element of the system. I have been informed that for elements that are not subject to the
13 physical or direct control of the party, that party is still deemed to be using that component or part of
14 the patented system where the party (i) puts the component into service – that is, the party causes it to
15 work for its intended purpose and (ii) receives the benefit of that purpose. I have been informed that
16 direct infringement can be found in a multinational system claim where elements of such system are
17 located in multiple countries, when the place where control of the accused system is exercised and
18 where beneficial use of the system is obtained are both within the United States.

19 8. I have been informed that infringement under the doctrine of equivalents is found if an
20 accused product, system or process contains parts or steps that are identical or equivalent to each and
21 every element of a single claim. A part or step is equivalent if a person of ordinary skill in the art
22 (“POSITA”) would conclude that, at the time of infringement, the differences between the product or
23 method step and the claim element were not substantial. One common test to determine if the difference
24 between a component or method step and a claim element is not substantial is to determine whether the
25 component or step performs substantially the same function, in substantially the same way, to achieve
26 substantially the same result.

27 9. Based on review of the Asserted Patents and consideration of the abovementioned
28 factors, it is my opinion that a person of ordinary skill in the art at the time of the invention of the

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1 Asserted Patents would be someone with a bachelor’s degree in computer science or related field, and
2 either (1) two or more years of industry experience and/or (2) an advanced degree in computer science
3 or related field. I understand that claim 1 of the ’154 Patent claims a priority date of December 12,
4 2005. But if the ’154 Patent is found to have another priority date it would not materially affect my
5 analysis.

6 **III. SUMMARY OF DECLARATION**

7 10. I have been asked by counsel for Finjan to consider if Juniper infringes claim 1 of the
8 ‘154 Patent. I have assumed that claim 1 of the ’154 Patent is valid and enforceable. I have not
9 considered damages related issues associated with this infringement.

10 11. The language of claim 1 is set forth in the ’154 Patent at 17:31-44.

11 12. I have been asked by counsel for Finjan to consider the following infringement scenarios
12 with respect to claim 1 of the ’154 Patent: (1) SRX Gateways (“SRX”) by themselves, (2) Sky ATP by
13 itself, (3) ATP Appliance by itself. My opinion on the current product features is based on the
14 information available, including source code, release notes, Juniper’s documents, and deposition
15 testimonies of Juniper’s employees. I have also considered the Court’s Order on Claim 1 of the ‘154
16 Patent and applied the Court’s construction is reaching my conclusion.

17 **IV. OVERVIEW OF THE ’154 PATENT**

18 13. The ’154 Patent describes protecting a computer system from dynamically generated
19 malicious content. *See* ’154 Patent, Abstract. Many types of documents (such as PDF, Office, HTML)
20 allow for generating content dynamically. As one example, a document may be modified so that it is
21 embedded with a JavaScript (“JS”) script, which is able to call a link from which to download a file. As
22 another example, an iFrame (which is another HTML document embedded into the main HTML page)
23 inserts external content into the main HTML page, and thereby allows for dynamically generated
24 malicious content. As a further example, an email or a document may be modified to include an HTTP
25 link to a site. The HTTP link by default is associated with an HTTP function (such as an HTTP GET
26 request), which allows a computer to automatically communicate with the site hosted by the HTTP link
27 upon the activation of the HTTP link.

28 14. The ability to dynamically generate content allows malicious code to evade detection

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1 through obfuscation. Obfuscation is a mechanism which allows malicious code to be encoded or
2 reformatted in a string that it appears to be benign, but the encoded or reformatted string is later decoded
3 or reformatted to generate the malicious code for execution. *See* '154 Patent at 3:31-64 (describing how
4 dynamically generated content would result in malicious code being inserted). Obfuscation is one way
5 in which activation of a seemingly benign link may result in malicious code being injected into a
6 document or causing a malware to be downloaded. Dynamically generated malicious content typically
7 comes in the form of a multi-stage attack such as a drive-by Download, or through a link on a webpage
8 or email. Dkt. No. 369-16, FINJAN-JN 045339 at 41 (describing the mechanism of a drive-by
9 Download attack); Ex. 7,¹ FINJAN-JN 045326 at 29-30 (describing different ways ransomware infects a
10 computing system). The dynamically generated malicious code cannot be detected by conventional
11 reactive content inspection or gateway level analysis because the malicious code is not present in the
12 content before runtime, which is when the malicious code is generated. '154 Patent at 3:65-4:8. Claim
13 1 of the '154 Patent describes the use of a content processor to process content which includes a call to a
14 first function and the call has an input. *See id.*, Claim 1. The '154 Patent also recites sending the input to
15 a security computer for inspection. *See id.* Claim 1 also recites invoking a second function with the
16 input only if a security computer indicates that it is safe to invoke the second function. *Id.* By utilizing
17 “behavioral analysis technologies,” Claim 1 of the '154 Patent allows a security system to detect “day-
18 zero” threats which escape the detections by traditional security technologies.

19 **V. OVERVIEW OF THE ACCUSED PRODUCTS**

20 **A. SRX Gateways**

- 21 15. [REDACTED]
- 22 [REDACTED]
- 23 [REDACTED]
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