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1
2 UNITED STATES PATENT AND TRADEMARK OFFICE
3 -----
4 BEFORE THE PATENT TRIAL
5 AND APPEAL BOARD
6 -----
7 SYMANTEC CORPORATION
8 Petitioner,
9 v.
10 FINJAN, INC.,
11 Patent Owner.
12 -----
13 Case IPR2015-01892
14 Patent 8,677,494
15 -----
16
17 DEPOSITION OF
18 JACK W. DAVIDSON
19 FRIDAY, MAY 27, 2016
20 9:00 a.m.
21
22
23
24
25 Reported by: Adrienne M. Mignano, RPR
Job Number: J0357928

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4
5 May 27, 2016
6 9:00 a.m.
7 New York, New York
8
9 Deposition of JACK W. DAVIDSON,
10 held at the offices of Bryan Cave, 1290
11 Avenue of the Americas, New York, New York,
12 pursuant to Notice, before Adrienne M.
13 Mignano, a Notary Public of the State of New
14 York.
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1
2 A P P E A R A N C E S:
3
4 BRYAN CAVE LLP
5 Attorneys for Petitioner
6 1290 Avenue of the Americas
7 #33
8 New York, New York 10104
9 BY: ALEX WALDEN, ESQ.
10 JOSEPH RICHETTI, ESQ.
11 FRANK M. FABIANI, ESQ.
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13 KRAMER LEVIN NAFTALIS & FRANKEL LLP
14 Attorneys for Patent Owner
15 1177 Avenue of the Americas
16 New York, New York 10036
17 BY: MICHAEL LEE, ESQ.
18 JEFFREY H. PRICE, ESQ.
19
20
21
22
23
24
25

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1 Davidson
2 J-A-C-K W. D-A-V-I-D-S-O-N, called as
3 a witness, having been duly sworn
4 by a Notary Public, was examined and
5 testified as follows:
6 EXAMINATION BY
7 MR. LEE:
8 Q Please state your full name and
9 address for the record.
10 A My name is Jack W. Davidson, and
11 I reside at 2040 Tremont Road,
12 Charlottesville, Virginia.
13 Q Do you understand why you're
14 here today?
15 A Yes, I do.
16 Q Why are you here today?
17 A I'm here to testify on behalf of
18 Symantec regarding the IPR, regarding
19 Patent '494.
20 Q Did you offer any opinions about
21 the '494 Patent?
22 A I did.
23 Q What is your opinion?
24 A Can you be more specific other
25 than what is my opinion?

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1 Davidson
2 Q Did you offer any opinions in
3 this case?
4 A Yes, I submitted a declaration.
5 Q What opinions does the
6 declaration --
7 A I'm sorry. What?
8 Q What are the opinions in your
9 declaration?
10 A I mean, again, can you be more
11 specific?
12 Q Would you be able to give me a
13 summary of the opinions in the
14 declaration?
15 A So I looked at the claim
16 language and I looked at the prior art,
17 and then I basically did an analysis of
18 the -- whether the prior art covered the
19 claim language, and my opinion was that
20 it, in fact, did.
21 Q Which prior art?
22 A There were several pieces that
23 are cited in my declaration.
24 There is a paper in the Virus
25 Bulletin by a person named Morton Swimmer,

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1 Davidson
2 I think that was.
3 Another piece of prior art that
4 I cited was a paper by Stephanie Forrest
5 about intrusion detection. There was a
6 patent, I think it is Patent '600 by Ji.
7 I'm not sure of the number of this one,
8 but we can refer to it, Cline.
9 I'm trying to think of other --
10 I looked at a lot of other prior art I
11 think in my declaration. I would have to
12 refer to it to see if I'm missing
13 anything. But those are certainly -- I
14 think, you know, those are certainly the
15 main ones.
16 (Whereupon, Declaration of Jack
17 W. Davidson, dated September 10, 2015,
18 was marked as Davidson Exhibit 1 for
19 identification, as of this date.)
20 BY MR. LEE:
21 Q You have been handed an Exhibit
22 marked as Exhibit number 1.
23 Do you recognize Exhibit number
24 1?
25 A Yes, I do. This is my

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1 Davidson
2 declaration in support of the Petitioner's
3 petition to the IPR Board regarding the
4 '494 Patent.
5 Q So this is the declaration you
6 were referring to earlier?
7 A Yes.
8 Q Can you go to page 96 of your
9 declaration?
10 A Yes.
11 Q Is that your signature?
12 A That is my signature.
13 Q Did you sign that on September
14 10, 2015?
15 A Yes, I did.
16 Q What is your understanding that,
17 as of September 10, 2015, you were
18 supposed to put into your declaration all
19 the opinions you had in this case?
20 A All the what?
21 Q All the opinions you had in this
22 case?
23 A I didn't understand. All the
24 dependents?
25 Q Opinions.

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1 Davidson
2 A Opinions?
3 Q Yes. Let me just rephrase it so
4 it will be clear for the record.
5 Was it your understanding that,
6 as of September 10, 2015, you were
7 supposed to put into your declaration all
8 of your opinions that you had in this
9 case?
10 A Yes, they are in here.
11 Q Do you have any other opinion
12 that is not in this declaration?
13 MR. WALDEN: Objection. Form.
14 A No. I mean these are my
15 opinions.
16 Q Are there any corrections that
17 you would like to make at this time?
18 A There are various typos in here.
19 I don't know if you want to go through
20 those, you know.
21 In rereading it in preparation
22 for this thing, I was going, oh, typo, oh,
23 you know, it must have been a cut and
24 paste error. So there are certainly those
25 kinds of errors, you know, typographical

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1 Davidson
2 errors. But in terms of the opinions, no,
3 they are complete and accurate.
4 Q Please describe for me the
5 process of writing your declaration.
6 A So, I mean the first step was
7 counsel provided me the patent, and I
8 first did a prior art search, you know, at
9 the time of the patent, and collected, you
10 know, lots of material, and read those,
11 read the patent and analyzed the various
12 pieces of prior art to define, you know,
13 did I feel like it was relevant, you know,
14 was it in the scope.
15 And then at some point, counsel
16 provided me a template, you know, with a
17 document that was kind of a framework, the
18 kind of formatting and that kind of thing.
19 I began writing. I wrote a lot. At some
20 point, I think -- well, at some point, I
21 came up here and, you know, spent time
22 with counsel. They were briefing me on
23 some of the aspects of patent law. I'm
24 not an attorney so they were explaining
25 pieces of that, you know, and I

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1 Davidson
2 incorporated some of that in my
3 declaration.
4 We also talked about the prior
5 art, you know, and I explained to them my
6 understanding of the patent, you know, and
7 read the patent. I explained some of the
8 prior art, you know, and why I thought it
9 may be relevant to this litigation or, you
10 know, this IPR. We discussed those, you
11 know, and then I would write more. I
12 would discuss what I was writing and
13 points with the attorney.
14 And that was kind of an
15 iterative process. I mean, it is almost a
16 hundred page document; well, you know,
17 several iterations. I think I made a
18 couple of trips up here.
19 Q You mentioned you performed a
20 prior art search?
21 A Yes.
22 Q Was any of the prior art that
23 you searched the Morton Swimmer reference?
24 A Say that again.
25 Q You say there was a prior art

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1 Davidson
2 reference by Morton Swimmer?
3 A Yes, and that's, you know, one
4 of the -- it's cited in my declaration.
5 Q Did you locate the Swimmer
6 reference or was that provided to you by
7 counsel?
8 A That's a good -- I don't know.
9 I don't remember, you know, who actually
10 found that. I do subscribe to the Virus
11 Bulletin, which is where the Morton
12 Swimmer paper appeared. It is a
13 publication I was very familiar with and
14 knew to go look in their archives.
15 At one point, I had subscribed
16 to it. It was kind of the place that
17 people -- when I was teaching, I taught a
18 course, and, you know, it is the place
19 that you go to, you know, to know what's
20 going on in this area.
21 So it is entirely possible, but,
22 sorry, I can't remember who, you know,
23 identified it. I might be able to answer
24 that if I got on my laptop and looked
25 back, you know, but off the top of my

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1 Davidson
2 head, I couldn't tell you.
3 Q Sitting here today, which are
4 the prior references that you personally
5 located as opposed to ones that counsel
6 provided to you?
7 A I think I located Forrest.
8 Again, you know, I think that I did, but,
9 again, I would have to go look at my
10 records, you know, to be absolutely sure.
11 Q Can you go to paragraph 9 of
12 your declaration?
13 A I'm on paragraph 9.
14 Q Do you see where you talk about
15 "innovative security solutions targeted
16 mainly for U.S. Department of Defense
17 applications"?
18 A Yes, sir.
19 Q Can you describe these computer
20 security solutions?
21 A So right now, Zephyr Software
22 has two contracts that we're working on.
23 One is with the -- with DARPA. DARPA is
24 the Defense Advanced Research Project
25 Agency. And this project is looking at

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1 Davidson
2 securing embedded systems and industrial
3 control systems, and I think that would be
4 of interest to the military. And so this
5 project is looking at how to analyze the
6 code for those things, identify
7 vulnerability. Vulnerability is a
8 weakness in code that can be exploited by
9 a malicious adversary, who would like to
10 potentially take over the system.
11 The kinds of systems that we
12 would be talking about here might be the
13 power grid, or, you know, a system for
14 controlling water purification, or that
15 kind of thing. And so, you know, we're
16 developing solutions that analyze that
17 code, find vulnerabilities, and patch
18 those vulnerabilities.
19 The other project I have is
20 being funded by ONR, the Office of Naval
21 Research. And there we are looking at a
22 different kind of system, mainly servers,
23 you know, web servers or critical servers
24 that are providing service to the
25 military, and, again, similarly analyzing

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1 Davidson
2 the code and attempting to -- here it is
3 very specific, we're looking at trying to
4 prevent a certain kind of exploiting
5 called "program hijacking", and this is
6 where an adversary is able to take control
7 of the program, you know, and then carry
8 out malicious actions.
9 Q These computer security
10 solutions related the '494 Patent?
11 A They are related in the sense
12 that the '494 Patent discusses a
13 downloadable scanner that parses code, and
14 that is one of the things that locate
15 these vulnerabilities that I mentioned
16 that you would certainly do, you know, and
17 analyze the code. So in that sense, yes,
18 very related.
19 Q What do you mean by "parses the
20 code"?
21 A So to be able to understand the
22 code in the context of my project, you
23 know, these two projects, as I said, we're
24 looking to identify vulnerabilities in the
25 code. These are weaknesses that, again,

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1 Davidson
2 may be exploited by a malicious adversary.
3 So we are analyzing code, and to
4 do that, you have to parse the code to
5 determine the structure, to determine what
6 the program is attempting to do, you know,
7 and that requires different kinds of
8 analysis. So, again, we are looking for
9 what are called "unintentional weaknesses"
10 in the code.
11 I'll make a distinction between
12 the '494 Patent and the techniques they
13 used, but there is a difference in terms
14 of the '494 in the specification is really
15 talking -- it seems to be focused on what
16 I'll call "malicious code" that
17 intentionally, you know, has code in it
18 that is going to do something maybe bad in
19 some way. And that's not in scope for,
20 you know, the projects that I'm working
21 on. The projects that I'm working on, it
22 is assumed that the code is, you know --
23 it doesn't include stuff that's been added
24 by, let's say, a malicious adversary.
25 Q I'm looking to understand what

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1 Davidson
2 you meant by parses or parsing.
3 How would you explain what
4 parsing is to a layperson?
5 A So, let's see, let me think
6 about that. How would I explain that to a
7 layperson?
8 So are you asking me in the
9 context of the '494 Patent, you know, or
10 are you just talking about, again, in
11 general to not paying any -- you know,
12 relevant to the '494? Because the term
13 "parsing", you know, can have, depending
14 on the context, different meanings.
15 Q How is it different in the '494
16 Patent as opposed to outside the '494
17 Patent?
18 A So, in the '494, they are
19 talking about parsing a downloadable. So,
20 you know, that's the context of that
21 patent.
22 Q How is parsing different if it
23 is not downloadable?
24 A Well, I can parse a sentence. I
25 mean, this is a common thing like, you



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1 Davidson
2 know, children learn how to parse a
3 sentence. So, you know, that might be
4 something you would say to a layperson.
5 Q How would you explain what it
6 means to parse a downloadable to a
7 layperson?
8 A I think, you know, I would do it
9 in very -- for a layperson, I would do it
10 in general terms that I would explain what
11 a downloadable was in this context.
12 So a downloadable is information
13 that includes program code, code that
14 could be executed. And then, in this
15 case, you know, in that context, the
16 parsing would be to take that code and
17 analyze it in some way, which means you
18 would have to, you know, again try to --
19 for instance, if it was machine code, you
20 might want to, again in the context of the
21 patent, decode the instructions for the
22 particular machine, and, you know,
23 understand what those functions are that
24 would, you know, apply for what I'll call
25 a "binary program".

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1 Davidson
2 Q You mentioned a decoding.
3 What is decoding?
4 A Again, in the context of the
5 patent and some of the prior art, and
6 specifically Swimmer, you're looking at
7 what I will call a binary executable.
8 So it consists of instructions
9 for a specific processor, and they are
10 encoded using basically a mapping, so,
11 say, a number, you know, that is the op
12 code might indicate a particular function
13 that is to be performed by the processor.
14 So the process of decoding is,
15 you know, taking that binary and first
16 determining kind of, okay, which groups of
17 bits correspond to an instruction. And
18 then once you have done that in
19 determining, okay, what does this
20 instruction do, what is the operation it's
21 going to perform, and what are the
22 operands, O-P-E-R-A-N-D-S.
23 So that would be very common,
24 you know, to analyze a binary operation
25 process that you would do, you know, to

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1 Davidson
2 identify the operation that this
3 downloadable in this case would
4 potentially carry out.
5 Q I think you mentioned that
6 Swimmer is regarding binary executable
7 programs?
8 A So Swimmer in the paper
9 discusses doing virus detection on
10 programs that are received, and the
11 examples that he discusses are yes, for
12 the 8086 processor.
13 Q What do you mean by a binary?
14 A So normally a binary -- when
15 we're talking about a binary program, that
16 typically would mean a program that is
17 designed on a particular processor at that
18 level, I mean at the level of the
19 processor.
20 So, for instance, there are many
21 different processors, but in the context
22 of the Swimmer paper, he discusses the
23 8086. That's a processor that's made by
24 Intel, manufactured by Intel. So we're
25 talking about, you know, a program that is

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1 Davidson
2 going to run directly on that -- designed
3 to run directly on that particular
4 processor, designed to run.
5 Q What does it mean when a
6 program, a file, is in binary format?
7 A In some sense -- again, the
8 question is difficult to answer because,
9 you know, in some sense, everything on the
10 computer is binary. That's the way our
11 digital computers work. So, you know, it
12 is difficult to answer your question
13 without being more specific, but
14 everything ultimately is a binary.
15 Q What do you mean by --
16 MR. LEE: Strike that.
17 Q What does "binary" mean?
18 A Binary means there are two
19 states of a bit, zero and one.
20 Q So would it be fair to say that
21 binary means a mathematical representation
22 where there is only two states, one or
23 zero?
24 A Again, you know, it depends on
25 the context. I mean typically you group



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