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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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BLUE COAT SYSTEMS LLC :  
and FIREEYE, INC. :

Petitioner, : Patent No. 8,079,086  
v. : IPR2016-01444  
FINJAN INC., :

Patent Owner.

- - - - -x

Videotaped deposition of  
Azer Bestavros, Ph.D.  
Boston, Massachusetts  
November 10, 2017  
9:00 a.m.

Job No.: 218512  
Pages: 1 - 112  
Reported By: Alan H. Brock, RDR, CRR

<p style="text-align: right;">Page 2</p> <p>1 Videotaped deposition of Azer Bestavros, 2 Ph.D., held at the offices of: 3 4 Fish &amp; Richardson P.C 5 1 Marina Park Drive 6 Boston, Massachusetts 02109 7 8 before Alan H. Brock, RDR, CRR, Notary 9 Public in and for the Commonwealth of Massachusetts. 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p>1 TASHA M. THOMAS, ESQ. 2 WILSON SONSINI GOODRICH &amp; ROSATI, P.C. 3 1700 K Street, N.W. 4 Washington, D.C. 20006 5 6 7 8 ON BEHALF OF PATENT OWNER: 9 JEFFREY H. PRICE, ESQ. 10 KRAMER LEVIN NAFTALIS &amp; FRANKEL LLP 11 1177 Avenue of the Americas 12 New York, New York 10036 13 14 15 16 ALSO PRESENT: 17 Alex Daunanis, Videographer 18 19 20 21 22 23 24 25</p>
<p style="text-align: right;">Page 3</p> <p>1 A P P E A R A N C E S 2 3 4 ON BEHALF OF PETITIONER FIRBEYE, INC. 5 JOSEPH C. GRATZ, ESQ. 6 ANDREW L. PERITO, ESQ. 7 DURIE TANGRI LLP 8 217 Leidesdorff Street 9 San Francisco, California 94111 10 11 12 13 14 ON BEHALF OF PETITIONER BLUE COAT SYSTEMS LLP 15 ANDREW S. BROWN, ESQ. 16 WILSON SONSINI GOODRICH &amp; ROSATI, P.C. 17 701 Fifth Avenue, Suite 5100 18 Seattle, Washington 98104 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 5</p> <p>1 I N D E X 2 3 EXAMINATIONS 4 AZER BESTAVROS, Ph.D. 5 MR. PRICE 7 6 MR. GRATZ 110 7 8 EXHIBITS MARKED - None 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24</p>

<p style="text-align: right;">Page 6</p> <p>1 November 10, 2017 9:00 a.m. 2 P R O C E E D I N G S 3 THE VIDEOGRAPHER: We are on the record. 4 This is the videographer, Alex Daunanis, speaking. 5 Today's date is November 10th, 2017, and the time is 6 9:00 a.m. 7 We are here in Boston, Massachusetts, to 8 take the video deposition of Azer Bestavros, in the 9 matter of Blue Coat Systems and FireEye, Inc., 10 versus Finjan, Inc., Case No. IPR2016-01444. 11 Will the counsel please identify 12 themselves for the record. 13 MR. PRICE: Jeffrey Price, from Kramer 14 Levin Naftalis &amp; Frankel, representing patent owner 15 Finjan. 16 MR. GRATZ: Joe Gratz, from Durie 17 Tangri, representing petitioner FireEye. 18 MR. PERITO: Andrew Perito, from Durie 19 Tangri, representing petitioner FireEye. 20 MR. BROWN: Andy Brown, of Wilson 21 Sonsini, representing petitioner Blue Coat, and with 22 me is my colleague, Tasha Thomas. 23 THE VIDEOGRAPHER: And will the court 24 reporter please swear in the witness. 25 * * * * *</p>	<p style="text-align: right;">Page 8</p> <p>1 Q. And what is your opinion? 2 A. My opinion is that the challenged claims 3 are obvious under -- by considering the prior art. 4 Q. Does it remain your opinion that all of the 5 challenged claims that were challenged originally in 6 the petition are obvious over the cited prior art? 7 A. Yes. 8 Q. I'm going to hand you a document. And 9 we'll do what we did yesterday: We'll just use the 10 exhibit numbers that are on these exhibits -- 11 MR. PRICE: -- if that's okay with you. 12 MR. GRATZ: That's fine. 13 Q. Dr. Bestavros, this is Exhibit 1002, marked 14 in this case. Do you recognize this exhibit? 15 A. I do recognize this exhibit. 16 Q. What exhibit is this? 17 A. This is the declaration I provided 18 regarding the challenged claims. 19 Q. And did you sign this document? 20 A. I did. 21 Q. Is that your signature on Page 97? 22 A. Yes, that's my name, signature. 23 Q. Was it your understanding on July 15th, 24 2016, when you signed this declaration, that you 25 were supposed to put in all of your opinions that</p>
<p style="text-align: right;">Page 7</p> <p>1 AZER BESTAVROS, PH.D., 2 being first duly sworn or affirmed to testify to the 3 truth, the whole truth, and nothing but the truth, 4 was examined and testified as follows: 5 EXAMINATION 6 BY MR. PRICE: 7 Q. Good morning, Dr. Bestavros. Just to let 8 you know, some of the questions I'm going to ask you 9 in the beginning today might be similar to questions 10 that you have recently answered, so just bear with 11 me and we'll get through that. 12 Can you please state your full name and 13 address for the record. 14 A. My name is Azer Bestavros. My home address 15 is 46 Rice Road, Wayland, Massachusetts 01778. 16 Q. And do you understand why you're here 17 today? 18 A. I do. 19 Q. And why is that? 20 A. I'm giving a deposition regarding the 21 declaration I made regarding claims of the '086 22 patent. 23 Q. And in your declaration did you provide an 24 opinion for this case? 25 A. I did.</p>	<p style="text-align: right;">Page 9</p> <p>1 you had in this case? 2 A. Yes, I had. This declaration represents my 3 opinions as of that date. 4 Q. Do you have any other opinions about this 5 case that are not in your declaration? 6 A. As it relates to the asserted claims and 7 what I needed to show in terms of prior art and why 8 my opinion is that they're obvious, my declaration 9 was plenty. 10 Q. So you don't have anything to add at this 11 time? 12 A. Other than to mention that there are the 13 usual typos and moderate changes in the report, no. 14 Q. Do you have any typos that you'd like to 15 point out? 16 A. There are a number of them. Gee, 17 embarrassingly, in the table of contents and in the 18 title of one of the section, the word "brief" is 19 spelled wrong. Also, I believe Section 2 talks 20 about qualifications and material considered. It's 21 actually just qualifications. Also, I believe there 22 is a bunch of others in the text, but let me just 23 point to one. 24 Okay, so the claim I was looking for is 25 the one that doesn't require appending. Which claim</p>

<p style="text-align: right;">Page 10</p> <p>1 was that?</p> <p>2           Okay, maybe I should wait -- I'll bump</p> <p>3 into it, I'm sure.</p> <p>4           Q. Fair enough. Is there any reason that you</p> <p>5 can't give full and truthful testimony today? -</p> <p>6           A. No.</p> <p>7           Q. Did you write this declaration?</p> <p>8           A. I did.</p> <p>9           Q. Can you describe your process of writing</p> <p>10 the declaration for me.</p> <p>11           A. So this was more an intensive process where</p> <p>12 we had discussions with counsel in various phone</p> <p>13 calls, to sort of decide on overall structure of the</p> <p>14 document and the main, the key points to be made.</p> <p>15 And, you know, I wrote some of it as bullets or as</p> <p>16 paragraphs, and then where things landed and all</p> <p>17 that happened over time with different -- for</p> <p>18 different versions of this.</p> <p>19           Obviously there's parts of this that I</p> <p>20 was informed about, related to legal standards and</p> <p>21 so on, and these are included. Of course, I also</p> <p>22 got help from counsel with cut-and-paste and putting</p> <p>23 all the references and just making sure that it's</p> <p>24 tight. And I take responsibilities for the typos</p> <p>25 and all that. I should have discovered that.</p>	<p style="text-align: right;">Page 12</p> <p>1           A. Yeah.</p> <p>2           Q. And I'm asking if there was information in</p> <p>3 those documents that contradicted any of your</p> <p>4 opinions that you put into your declaration.</p> <p>5           A. No, no.</p> <p>6           Q. Are you currently employed?</p> <p>7           A. I am.</p> <p>8           Q. And how are you employed?</p> <p>9           A. I'm a professor of computer science at</p> <p>10 Boston University.</p> <p>11           Q. And how long have you been at BU?</p> <p>12           A. I've been at BU for just about a little bit</p> <p>13 over 26 years.</p> <p>14           Q. And what are your responsibilities at BU?</p> <p>15           A. I'm a professor of computer science. I</p> <p>16 teach. I conduct research. I do some service work.</p> <p>17 I'm also the director of the Hariri Institute For</p> <p>18 Computing and Computational Science and Engineering.</p> <p>19 And so that adds a bunch of other type of work I do.</p> <p>20           Q. And have you been teaching for that entire</p> <p>21 length of time, 26 years?</p> <p>22           A. Except for semesters where I'm on</p> <p>23 sabbatical, yes, I've been teaching every semester.</p> <p>24           Q. And how often have you been on sabbatical</p> <p>25 over the last 26 years?</p>
<p style="text-align: right;">Page 11</p> <p>1           Q. Fair enough. About how many hours would</p> <p>2 you say you spent preparing your declaration?</p> <p>3           A. I can't remember right now. I can go back</p> <p>4 to my records. But it's certainly, I would say,</p> <p>5 dozens of hours; I don't know, maybe 40 hours. I</p> <p>6 will have to go back. And obviously I was also</p> <p>7 involved in multiple declarations, so...</p> <p>8           Q. Can you please turn to Page 98. Is this</p> <p>9 the information considered in arriving at your</p> <p>10 opinions that you reference on Paragraph 20?</p> <p>11           MR. GRATZ: I'm not sure the witness is</p> <p>12 on that page yet.</p> <p>13           A. Yeah, these exhibits are the references</p> <p>14 that my declaration relied on and quoted from, et</p> <p>15 cetera. I had a few others, but I didn't feel like</p> <p>16 citing them since they -- I didn't use them or I</p> <p>17 didn't rely on them in forming my opinion.</p> <p>18           Q. Was there any of those documents that you</p> <p>19 didn't use to rely on for your opinion that</p> <p>20 contradicted what you -- that contradicted your</p> <p>21 final opinion?</p> <p>22           A. I don't understand the question. Can you</p> <p>23 repeat the question?</p> <p>24           Q. So you just told me that there were other</p> <p>25 documents that you did review; is that correct?</p>	<p style="text-align: right;">Page 13</p> <p>1           A. A couple of times. I have a bunch of</p> <p>2 deferred sabbaticals because of my current director</p> <p>3 position. They wouldn't let me go, but they give me</p> <p>4 credit for future sabbaticals.</p> <p>5           Q. Are you currently teaching classes?</p> <p>6           A. Currently I'm teaching two classes, as a</p> <p>7 matter of fact. I'm co-teaching them. The first</p> <p>8 class is CS350, Fundamentals of Computing Systems.</p> <p>9 That's a class I developed a while back, of which</p> <p>10 I'm very proud. And a second class is a more -- is</p> <p>11 a newer class that was just introduced a year ago.</p> <p>12 It's on the topics related to security and privacy.</p> <p>13 The title of it is Multiparty Computation at Scale.</p> <p>14           Q. What do you mean by "co-teach"?</p> <p>15           A. So the major in computer science has just</p> <p>16 gone through the roof. Just in the last four or</p> <p>17 five years we tripled the number of students. So in</p> <p>18 order to catch up with the enrollment, a lot of the</p> <p>19 courses have to be offered multiple times. There</p> <p>20 are multiple sections of the same course.</p> <p>21           Oftentimes when somebody like myself is</p> <p>22 listed in a course, all the students want to take it</p> <p>23 with me. I've been teaching the course for a long</p> <p>24 time. I have a Facebook group. I have a following.</p> <p>25           So if you put an instructor or new</p>

<p style="text-align: right;">Page 14</p> <p>1 faculty in a position of teaching a section of my 2 course, well, what happens is students don't 3 register for that as much. So the solution we have 4 is to co-teach, in which both names will appear on 5 both sections, and that's what we are doing with 350 6 this semester. The new faculty that is co-teaching 7 with me for the first time the other course, which 8 is privacy and security -- that's a fairly advanced 9 sort of graduate-student-level course; and because 10 of the research we do there, it's another scholar 11 who sort of teaches with me, because it brings in 12 aspect of cryptography as well as computing systems. 13 So you need both to teach it.</p> <p>14 Q. So do you not consider yourself an expert 15 in subjects like cryptography? Is that why you 16 would have a co-teacher?</p> <p>17 A. No, it's because the nature of the class is 18 to take cryptographic approaches, that actually I 19 worked on myself and have papers, that use 20 cryptography, but applying it in real systems. So 21 this is why the course is called Multiparty 22 Computation at Scale. In a sense it's not just the 23 hypothetical algorithmic-complexity-type results. 24 It's really about taking those and making them 25 practical and usable. It's a very unique class in</p>	<p style="text-align: right;">Page 16</p> <p>1 A. Formal specification and verification of 2 computing systems.</p> <p>3 Q. And what does that mean?</p> <p>4 A. So actually you can go back even to my 5 Ph.D. thesis from Harvard. The work I've done there 6 was, you know -- I write a program for a robot, and 7 I want to deploy the robot. How would I make sure 8 that the robot is not going to hit somebody and kill 9 them?</p> <p>10 Well, it's one thing to write code that 11 is going to, I don't know, play games on the screen. 12 That doesn't hurt anybody if there's a bug in it. 13 But if there's a bug in code that is going to fly an 14 AWACS or is going to do collision avoidance, you 15 really have to prove that the code is not going to 16 result in undesirable behavior.</p> <p>17 And so for that kind of code you need 18 proofs. You really need -- it's not enough to say I 19 tried it 100 times. So there are classes of 20 applications in critical cyber physical systems, 21 real-time systems, where programming is actually the 22 easy part. It's actually proving that the program 23 satisfies some properties is the hard part.</p> <p>24 And I've done work for the last 20 years 25 on that. And what we prove changes; right? So I</p>
<p style="text-align: right;">Page 15</p> <p>1 that sense, and both sides sort of feed off each 2 other, another way to say it.</p> <p>3 Q. Are any of the classes that you teach 4 related to the technology you described in the 5 subject patent, which I'll refer to today as the 6 '086 patent?</p> <p>7 A. Sure.</p> <p>8 Q. You're not sure?</p> <p>9 A. No, I said "sure."</p> <p>10 Q. In what ways?</p> <p>11 A. Well, the technology is related to 12 security. I have done security research for years. 13 I have grants from the National Science Foundation 14 on security topics. I have been researching 15 building proxies. I started a company back in the 16 1990s that was actually doing proxying and caching, 17 for example. So a lot of the technologies revealed 18 here in terms of analyzing code, et cetera, is very 19 related to research I've done.</p> <p>20 I've also done work in formal 21 specification verification. I have grants on that 22 and collaborations on that, and that has to do with 23 security as well as safety, which is slightly 24 different but quite related, as well as privacy.</p> <p>25 Q. What was that? Formal --</p>	<p style="text-align: right;">Page 17</p> <p>1 was to do robotics as a Ph.D. student, and now I'm 2 doing security and privacy, et cetera.</p> <p>3 Q. There's a big need for that kind of work 4 now, isn't there?</p> <p>5 A. Absolutely.</p> <p>6 Q. Can you turn to Paragraph 16 of your 7 declaration. Do you see the term "canonical 8 problems" is used in Paragraph 16?</p> <p>9 A. Yes.</p> <p>10 Q. What do you mean by "canonical problems"?</p> <p>11 A. So first of all, a word about this class. 12 This class is unlike many systems classes in the 13 sense that it doesn't focus on specific types of 14 systems, so it's not necessarily a networking 15 course, it's not necessarily an operating systems 16 course, it's not necessarily a distributed systems 17 course, it's not necessarily a performance 18 evaluation course.</p> <p>19 Rather, it takes a different approach to 20 pedagogical -- it just looks at the fundamental 21 problems, the key problems, if you wish, that are 22 almost independent of technology. Technology can 23 come and go. We can have DOS operating systems and 24 now we have very different operating systems. The 25 problem is the same.</p>

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