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1	APPEARANCES OF COUNSEL	1	VIDEO TECHNICIAN: This is tape number
2	On behalf of the Petitioners	2	one to the videotaped deposition of Dr. David
3	JAMES L. DAVIS, ESQ.	3	Karger. This is in the matter of Activision
4	ROPES & GRAY	4	Blizzard Inc. versus Acceleration Bay, LLC.
5	1900 University Avenue - 6th Floor	5	This is being heard before the United States
6	East Palo Alto, CA 94303	6	Patent and Trademark Office, before the Patent
7	650-617-4000	7	Trial and Appeal Board, case IPRs 201501970 and
8	james.l.davis@ropesgray.com	8	case IPR 201501972 U.S. patent number 6,701,344.
9	MICHAEL TOMASULO, ESQ.	9	This deposition is being held at the firm of
10	DAVID K. LIN, ESQ.	10	Ropes & Gray, at 800 Boylston Street, Boston,
11	WINSTON & STRAWN	11	Massachusetts, on July 7, 2016, beginning at 9:50
12	333 Grand Avenue - 38th floor	12	a.m.
13	Los Angeles, CA 90071	13	My name David Woodford. I am the
14	213-615-1973	14	videographer, and the reporter today is Gena
15	dlin@winston.com	15	Nardone, both here on behalf of Esquire Solutions.
16	mtomasullo@winston.com	16	Will counsel present please introduce
17	On behalf of the Patent Owner	17	yourselves and your affiliations and the witness
18	JAMES HANNAH, ESQ.	18	will be sworn.
19	MICHAEL LEE, ESQ.	19	MR. HANNAH: James Hannah, from Kramer
20	KRAMER LEVIN	20	Levin, representing Acceleration Bay.
21	990 Marsh Road	21	MR. LEE: Michael Lee, from Kramer
22	Menlo Park, CA 94025	22	Levin, representing Acceleration Bay.
23	650-752-1712	23	MR. DAVIS: Jim Davis of Ropes & Gray,
24	mhlee@kramerlevin.com	24	representing petitioners, Activision Blizzard,
	jhannah@kramerlevin.com		
	Also Present:		
	David Woodford, Videographer		

<p style="text-align: right;">Page 5</p> <p>1 Electronic Arts, Take-Two Interactive Software, 2 2K Sports and Rockstar Games. 3 And also present are Michael Tomasulo and Dave 4 Lin of Winston & Strawn. 5 I think we just have one preliminary matter, 6 similar to what we covered yesterday, Mr. Hannah. 7 Today's deposition is going to be covering the 344 8 patent. Yesterday's was about the 634 patent and 9 tomorrow will be the 966 patent? 10 MR. HANNAH: That's correct. And it's 11 based on the understanding we will have a 12 similar arrangement when we do our witnesses, 13 that we will be limiting it to three days and 14 doing, you know, each patent on the day. 15 MR. DAVIS: I don't think we've 16 discussed that, but we can address that at a 17 later time off the record. 18 MR. HANNAH: Sure. 19 DR. DAVID KARGER, 20 having been satisfactorily identified by the 21 production of his driver's license, and duly sworn 22 was examined and testified as follows: 23 EXAMINATION BY MR. HANNAH: 24 Q. Can you please state your name for the</p>	<p style="text-align: right;">Page 7</p> <p>1 Turning to my other declaration for IPR 2 1972. Again, paragraph 41 where it reads that there are 3 eight nodes numbered one to eight which are connected by 4 seven links, the correction is that there are seven 5 nodes numbered one to five and seven to eight which are 6 connected by six links. 7 Paragraph 220, in my opinion for at least 8 the reasons discussed above claim 17 is what it 9 currently reads, and it should read claim 19. 10 And, finally, at paragraph 247, line 11 three, the challenge claims are obvious under 103 over 12 DirectPlay and Shoubridge. It then goes on to read that 13 claims 1 to 7, 10 to 11 and 16 to 17 are anticipated 14 under 102 by Shoubridge. That should be struck, that 15 claims 1 to 7, 10 to 11 and 16 to 17 are anticipated 16 under 102 by Shoubridge should be struck. Continuing, 17 it reads that -- and that claims 6 to 10 and 17 are 18 obvious under 103 by Shoubridge. That should be 19 corrected to claims 1 to 11 and 16 to 19 are obvious 20 under 103 by Shoubridge. So those are the typos that I 21 found in this read through. 22 Q. Any other corrections do you have? 23 A. Not at this time. 24 Q. All right. So, Doctor, what do you do as</p>
<p style="text-align: right;">Page 6</p> <p>1 record? 2 A. My name is David Karger. 3 Q. And where do you work, Dr. Karger? 4 A. I'm a professor of computer science at 5 MIT. 6 Q. What do you do as a professor of computer 7 science at MIT? 8 A. So perhaps as a preliminary to answering 9 that I can go through and correct a few typos in the 10 declaration that I -- that I found as I was reading, 11 so that I don't forget later. 12 So in paragraph 41 of my declaration, 13 this is the DirectPlay and Lin declaration for IPR 1970 14 in paragraph 41 -- 15 Q. Give me a second to get there, Doctor. 16 Okay. Paragraph 41. 17 A. Paragraph 41 where it currently reads that 18 there are eight nodes numbered one to eight which 19 are connected by seven links, the correction is that 20 there are seven nodes numbered one to five and seven 21 to eight which are connected by six links. 22 At paragraph 213, in my opinion for at 23 least reasons discussed above it currently reads claim 24 17 and it should read claim 19.</p>	<p style="text-align: right;">Page 8</p> <p>1 a professor at MIT? 2 A. I do a mixture of teaching and research. 3 Q. What does your research focus on? 4 A. Do you mean at present? 5 Q. Yeah. 6 A. So at present I am primarily engaged in 7 studying human to computer interaction databases, 8 network reliability, graph connectivity. Those are 9 some of the more recent papers that I've published. 10 Q. How long have you been a professor at MIT? 11 A. I've been a professor at MIT for roughly 12 21 years. 13 Q. What other areas of research have you 14 focused on during your tenure at MIT? 15 A. So in addition to the areas that I just 16 mentioned, I have also done work in theoretical 17 computer science, primarily in algorithms, network 18 optimizations, combinatorial optimization more 19 broadly, scheduling theory, graph algorithms, the 20 study of randomization as a technique that can be 21 used in all of those domains. I've done work on 22 machine learning, coding theory and communication, 23 the semantic web, some web science, social media. I 24 may have left a few out.</p>

<p style="text-align: right;">Page 9</p> <p>1 Q. Have you ever done any research specific</p> <p>2 to gaming?</p> <p>3 MR. DAVIS: Objection. Form.</p> <p>4 THE WITNESS: I've done some research</p> <p>5 on game theory and mechanism design -- there is</p> <p>6 -- there aren't other things that I can recall</p> <p>7 at this point.</p> <p>8 Q. You said game theory and what was the</p> <p>9 other one?</p> <p>10 A. Mechanism design.</p> <p>11 Q. Do either of -- do either of these relate</p> <p>12 to video games that are played by, like, players?</p> <p>13 A. Well, game theory is a general theoretical</p> <p>14 study of games and strategies how to choose -- how</p> <p>15 to choose good strategies against other players and</p> <p>16 so forth.</p> <p>17 Q. Have you ever done any programming of --</p> <p>18 of gaming applications?</p> <p>19 MR. DAVIS: Objection. Form.</p> <p>20 THE WITNESS: I have programmed some</p> <p>21 games. I'm not sure if you would call those</p> <p>22 gaming applications.</p> <p>23 Q. What do you mean you programmed some</p> <p>24 games?</p>	<p style="text-align: right;">Page 11</p> <p>1 Q. Sitting here today, can you think of any?</p> <p>2 A. No.</p> <p>3 Q. Do you teach any classes regarding gaming</p> <p>4 applications?</p> <p>5 A. What do you mean by regarding?</p> <p>6 Q. What don't you understand about regarding?</p> <p>7 A. Well, I teach a lot of classes that teach</p> <p>8 material that could be useful for people who are</p> <p>9 developing game applications.</p> <p>10 Q. Have you ever taught a class about</p> <p>11 developing game applications?</p> <p>12 A. So with that focus?</p> <p>13 Q. Yes.</p> <p>14 A. No.</p> <p>15 Q. Do you play games?</p> <p>16 A. Not very often.</p> <p>17 Q. When is the last time that you've played a</p> <p>18 Play Station game?</p> <p>19 A. Oh, I've never used a Play Station.</p> <p>20 Q. How about an Xbox?</p> <p>21 A. Never -- for some reason Xbox was probably</p> <p>22 at one of the Microsoft developer -- Microsoft IT</p> <p>23 tech fares every once in a while and they sometimes</p> <p>24 demo Xbox games there.</p>
<p style="text-align: right;">Page 10</p> <p>1 A. Well, sometimes -- you know small games</p> <p>2 are useful to -- to create as -- as exercises for</p> <p>3 students or to -- to exercise program activities and</p> <p>4 such. So I've done some of that.</p> <p>5 Q. So can you give me an example of a game</p> <p>6 that you've programmed?</p> <p>7 A. So, an example is a simple sort of</p> <p>8 textual -- sort of one of our classes, long ago, we</p> <p>9 had a -- we had a game that was somewhat like the</p> <p>10 old Zork/adventure-type interactive fiction games</p> <p>11 where you would, you know, use text to walk a</p> <p>12 character around and visit an environment.</p> <p>13 Q. Any other games that you can think of?</p> <p>14 A. Not that I can recall at present.</p> <p>15 Q. Have you ever done any programming of</p> <p>16 gaming applications involving multi-player games?</p> <p>17 A. Not that I can recall at present.</p> <p>18 Q. Have you ever received any funding from</p> <p>19 gaming companies for your research?</p> <p>20 A. So I've received funding from a lot of</p> <p>21 sources in 21 years. There's no way I'll be able to</p> <p>22 recall all of those sources. I also don't know</p> <p>23 whether, of the sources I can recall, whether any of</p> <p>24 them might have been involved in gaming.</p>	<p style="text-align: right;">Page 12</p> <p>1 Q. So how long did you demo the game for?</p> <p>2 A. Oh, I don't remember. Half an hour or</p> <p>3 something.</p> <p>4 Q. You don't own an Xbox?</p> <p>5 A. Uh-uh.</p> <p>6 Q. You don't own a Play Station?</p> <p>7 A. No, I don't.</p> <p>8 Q. Do you own any type of gaming console?</p> <p>9 A. I play my -- I do my gaming on a standard</p> <p>10 computer. I mean, I -- I do play games. There</p> <p>11 are -- I'm a big fan of some of the -- the dance</p> <p>12 games, dance pattern based games, for example.</p> <p>13 Q. How about any on-line multi-player games?</p> <p>14 A. I have played some on-line multi-player</p> <p>15 games.</p> <p>16 Q. When?</p> <p>17 A. Oh, I don't recall the exact dates.</p> <p>18 Sometime in the past ten years.</p> <p>19 Q. How often would you say that you play</p> <p>20 on-line multi-player games?</p> <p>21 A. Not frequently.</p> <p>22 Q. Have you have ever developed any source</p> <p>23 code for multi-player games?</p> <p>24 A. So, again, in the 21 years that I've been</p>

<p style="text-align: right;">Page 13</p> <p>1 teaching at MIT it is within the realms of</p> <p>2 possibility that I have done so, but all the game</p> <p>3 code development that I can recall at present was</p> <p>4 for a single player game.</p> <p>5 Q. Did you play games -- strike that.</p> <p>6 Were you involved in gaming</p> <p>7 applications in any way in the 1999 time frame?</p> <p>8 A. Can you explain what you mean by involved</p> <p>9 in? I mean, I was playing games at that time.</p> <p>10 Q. Were you playing multi-player games in</p> <p>11 1999?</p> <p>12 A. So I certainly recall playing multi-player</p> <p>13 games at what might have been the 1999 time frame,</p> <p>14 but I can't accurately recall the dates at which I</p> <p>15 was playing those games.</p> <p>16 Q. Did any of your research focus on</p> <p>17 multi-player games in 1999?</p> <p>18 A. So, again, there's some ambiguity about</p> <p>19 what multi-player games meant -- means. I did</p> <p>20 mention I had done some research on game theory,</p> <p>21 which involves multi-player games in the</p> <p>22 mathematical sense. Is that encompassed by what</p> <p>23 you're asking about or do you have a narrower</p> <p>24 question in mind?</p>	<p style="text-align: right;">Page 15</p> <p>1 experience and I had that experience.</p> <p>2 Q. Any other experience besides playing the</p> <p>3 games?</p> <p>4 MR. DAVIS: Same objection.</p> <p>5 THE WITNESS: I guess reading about</p> <p>6 them would be some of their -- another kind of</p> <p>7 experience. You know, they were certainly a</p> <p>8 well-known popular activity. I had a general</p> <p>9 interest in the ways computers were being used.</p> <p>10 So it certainly was part of my -- of my reading</p> <p>11 consumption to learn some about them.</p> <p>12 Q. Any other experience you can think of?</p> <p>13 MR. DAVIS: Same objection.</p> <p>14 THE WITNESS: Any other experience?</p> <p>15 Nothing comes to mind right now.</p> <p>16 Q. When you said you had playing experience</p> <p>17 in 1999, what games did you play?</p> <p>18 A. Also, again, what I said was that I've had</p> <p>19 playing experience and it might have been in 1999.</p> <p>20 Q. Do you remember anything specific?</p> <p>21 A. I really enjoyed Doom and some of its</p> <p>22 descendants, Hexen and -- shoot, I forgot the name</p> <p>23 of the other one. There were various on-line board</p> <p>24 games that I enjoyed playing in a multi-player</p>
<p style="text-align: right;">Page 14</p> <p>1 Q. I think game theory is a little different.</p> <p>2 I'm asking about gaming applications that would be</p> <p>3 involved, like similar to the ones that are involved</p> <p>4 in the 344 patent.</p> <p>5 A. Okay. So if that's what you mean by</p> <p>6 multi-player games, can you reask the question?</p> <p>7 Q. Sure. Were you involved in multi-player</p> <p>8 games in 1999?</p> <p>9 A. Okay. So, again, I believe I was playing</p> <p>10 them. And that's a kind of involvement. I don't</p> <p>11 recall that I was doing any research in them at the</p> <p>12 time.</p> <p>13 Q. Did you write any code for multi-player</p> <p>14 games? And we can limit it to the subject matter of</p> <p>15 the 344 patent in 1999.</p> <p>16 A. Well, I certainly didn't write any codes</p> <p>17 for those games. I would remember that. Again, I</p> <p>18 don't recall having done so.</p> <p>19 Q. Did you have any experience at all with</p> <p>20 multi-player games and limited to the subject matter</p> <p>21 of the 6 -- of the 344 patent in 1999?</p> <p>22 MR. DAVIS: Objection. Form.</p> <p>23 THE WITNESS: So I would again posit</p> <p>24 that playing these games is a kind of</p>	<p style="text-align: right;">Page 16</p> <p>1 setting. Of course, interactive fiction-type games,</p> <p>2 which included some multi-user -- what are called</p> <p>3 MUDS, multi user dungeons. There was a game -- you</p> <p>4 want me to list names of games?</p> <p>5 Q. That -- that you can think of that are</p> <p>6 related to the technology --</p> <p>7 A. Wild Metal, I think, was sort of a tank</p> <p>8 battle game, Painkiller, you know that one. MYST,</p> <p>9 Riven, I mean those are not on-line at the time.</p> <p>10 Yeah, there's others I remember playing, but I</p> <p>11 can't draw up their names at present.</p> <p>12 Q. And what type of reading experience did</p> <p>13 you have with regard to games for the technology</p> <p>14 described in the 344 patent?</p> <p>15 A. Well, I consume information pretty</p> <p>16 broadly, you know. I read the Popular Press. I'll</p> <p>17 read the sort of technical press, Wired and PC</p> <p>18 magazine and so on and so forth. I read technical</p> <p>19 papers in a variety of domains, a lot of different</p> <p>20 things sort of cross my -- cross my screen, cross my</p> <p>21 eyes. I'm sort of an information omnivore with, of</p> <p>22 course, a skew towards things that are related to</p> <p>23 what I work on.</p> <p>24 Q. Anything specific that you can remember</p>

<p style="text-align: right;">Page 17</p> <p>1 reading in 1999?</p> <p>2 A. Snow Crash? No. I don't know what was</p> <p>3 published specifically in 1999.</p> <p>4 Q. So you understand you're here testifying</p> <p>5 about the 344 patent, but for the record that's</p> <p>6 United States patent 6,701,344?</p> <p>7 A. Yes.</p> <p>8 Q. And in particular you're testifying</p> <p>9 regarding depositions -- the deposition for IPR 2015-1970</p> <p>10 and 1972; is that right?</p> <p>11 A. Correct.</p> <p>12 Q. And -- and the 1970 IPR that involves your</p> <p>13 opinion as it relates to DirectPlay and Lin; is that</p> <p>14 right?</p> <p>15 A. As well as -- that's one of the grounds is</p> <p>16 DirectPlay and Lin, yes.</p> <p>17 Q. What's the other ground?</p> <p>18 A. Obviousness by -- by Lin.</p> <p>19 Q. But it's those two references, DirectPlay</p> <p>20 and Lin, correct?</p> <p>21 A. Yes.</p> <p>22 Q. Then the 1972 case involved your opinions</p> <p>23 with regard to Shoubridge; is that right?</p> <p>24 A. And DirectPlay.</p>	<p style="text-align: right;">Page 19</p> <p>1 right ones numbered?</p> <p>2 Doctor, we just marked Exhibit-1.</p> <p>3 Exhibit-1 is the declaration of David R. Karger in</p> <p>4 support of the petition for inter partes review of</p> <p>5 United States patent number 6,701,344. This has</p> <p>6 later been assigned the number 2015-1970 in terms of</p> <p>7 the IPR. Can you look through this declaration and</p> <p>8 verify that this is a declaration that you prepared</p> <p>9 and signed?</p> <p>10 A. It appears to be.</p> <p>11 Q. And for ease of reference, we'll either</p> <p>12 refer to this as the 1970 declaration or the</p> <p>13 DirectPlay and Lin declaration; is that fair?</p> <p>14 A. Yes.</p> <p>15 Q. We also marked Exhibit-2. Exhibit-2 is</p> <p>16 another declaration of yours entitled declaration of</p> <p>17 David R. Karger in support of the petition for the</p> <p>18 inter partes review of United States Patent Number</p> <p>19 6,701,344. This is a declaration that was submitted</p> <p>20 in the later document numbered IPR 2015-1972. Can</p> <p>21 you look through Exhibit-2 and verify that this is</p> <p>22 your declaration?</p> <p>23 A. Again, it appears to be.</p> <p>24 Q. Again, this is a declaration you signed?</p>
<p style="text-align: right;">Page 18</p> <p>1 Q. Thank you. So DirectPlay and Shoubridge,</p> <p>2 those two references?</p> <p>3 A. As well as a separate ground of</p> <p>4 obviousness under Shoubridge.</p> <p>5 Q. But the DirectPlay and Shoubridge</p> <p>6 reference is correct?</p> <p>7 A. Correct.</p> <p>8 Q. When is the first time you became aware of</p> <p>9 the DirectPlay reference as indicated in your</p> <p>10 declaration?</p> <p>11 A. Sorry. I'm shutting it off. Okay. That</p> <p>12 won't happen again.</p> <p>13 Sorry, can you repeat the question?</p> <p>14 Q. Sure. So let's look at your 19 -- we'll</p> <p>15 look at your 1970 declaration.</p> <p>16 A. Yes.</p> <p>17 Q. Is that what you have in front of you?</p> <p>18 A. Yes.</p> <p>19 Q. Actually, can I take a look to see --</p> <p>20 A. Sure.</p> <p>21 (Whereupon documents were marked as</p> <p>22 Exhibit-1 and 2 for Identification.)</p> <p>23 Q. Actually, do you mind if I see those two</p> <p>24 exhibits real quick, just to make sure I've got the</p>	<p style="text-align: right;">Page 20</p> <p>1 A. It appears to be.</p> <p>2 Q. For ease of reference, is it okay if we</p> <p>3 refer to this as the 1972 declaration or the</p> <p>4 Shoubridge declaration?</p> <p>5 A. Yes.</p> <p>6 Q. So looking at Exhibit-1 -- there's a</p> <p>7 reference to DirectPlay in this declaration. And if</p> <p>8 you look at page three of the declaration,</p> <p>9 Exhibit-1003 references DirectPlay.</p> <p>10 A. Yes.</p> <p>11 Q. When is the first time you became aware of</p> <p>12 the DirectPlay reference?</p> <p>13 MR. DAVIS: And to the extent that</p> <p>14 this involves, you know, any communications</p> <p>15 with counsel, that would be privileged but you</p> <p>16 can answer as to time frame.</p> <p>17 THE WITNESS: Yeah, it's a difficult</p> <p>18 question to answer. Obviously DirectPlay is</p> <p>19 something that I've given a lot of attention</p> <p>20 to during these proceedings -- I mean during</p> <p>21 preparation for these proceedings, but I can't</p> <p>22 recall -- I can't say with a hundred percent</p> <p>23 certainty what was the first time I became</p> <p>24 aware of it. I can't even say with certainty</p>

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<p>1 that the first time I became aware of it was</p> <p>2 at -- was after I began serving as an expert on</p> <p>3 this case. I may have been aware of it before,</p> <p>4 since it was a publicly known tool.</p> <p>5 Q. So is it fair to say, sitting here today,</p> <p>6 you can't remember whether you became aware of</p> <p>7 DirectPlay before you were engaged in this IPR?</p> <p>8 A. That's correct.</p> <p>9 Q. Did you provide DirectPlay to counsel?</p> <p>10 MR. DAVIS: Again, any communications</p> <p>11 with counsel would be privileged. And I'll</p> <p>12 instruct you not to answer.</p> <p>13 THE WITNESS: Sorry, was that a</p> <p>14 conditional instruction or was that an</p> <p>15 instruction?</p> <p>16 MR. DAVIS: No, it was -- it was an</p> <p>17 instruction.</p> <p>18 THE WITNESS: Okay. In that case, I</p> <p>19 won't answer.</p> <p>20 MR. HANNAH: So I've got to make this</p> <p>21 clear for the record. You're going to instruct</p> <p>22 him not to answer whether he was the one that</p> <p>23 found DirectPlay?</p> <p>24 MR. DAVIS: You can ask him if he --</p>	<p>1 referenced here in this IPR or was it provided to</p> <p>2 you?</p> <p>3 MR. DAVIS: And, again, same</p> <p>4 instruction, outside of any conversation with</p> <p>5 counsel.</p> <p>6 THE WITNESS: So I'm trying to</p> <p>7 remember but we went through a lot of</p> <p>8 potentially related work.</p> <p>9 MR. DAVIS: Again, your answer needs</p> <p>10 to be scoped. So it's not involving any</p> <p>11 conversations with counsel.</p> <p>12 THE WITNESS: I understand. Not</p> <p>13 involving any conversation with counsel. So I</p> <p>14 cannot recall whether I found DirectPlay or</p> <p>15 whether it was provided to me.</p> <p>16 Q. All right. Same question with regard to</p> <p>17 the Lin reference, as you can see, if you look at</p> <p>18 Exhibit-1, on page three, there's a reference to</p> <p>19 Exhibit-1004 and it has Lin there. Do you see that?</p> <p>20 A. Uh-huh.</p> <p>21 Q. Do you recall whether you were provided</p> <p>22 Lin or whether you found it?</p> <p>23 MR. DAVIS: Same instructions.</p> <p>24 Outside of any conversations or communications</p>
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<p>1 that's a different question, right? You can</p> <p>2 ask him if he found DirectPlay, right, but</p> <p>3 anything relating to communications with</p> <p>4 counsel, that would call into question work</p> <p>5 product or attorney-client privilege, either</p> <p>6 for these matters or for the co-pending</p> <p>7 litigation would be privileged.</p> <p>8 MR. HANNAH: Okay. So that was a</p> <p>9 broad instruction not to answer, which I think</p> <p>10 is improper. You can condition -- you can</p> <p>11 condition his -- his answer.</p> <p>12 MR. DAVIS: You can rephrase your</p> <p>13 question.</p> <p>14 MR. HANNAH: I will rephrase the</p> <p>15 question, but I'm just noting for the record</p> <p>16 that it is improper to have such a broad</p> <p>17 instruction not to answer, if it's not</p> <p>18 involving communications with counsel. So</p> <p>19 I'll -- I'll rephrase it.</p> <p>20 MR. DAVIS: Rephrase your question.</p> <p>21 Q. So, Doctor, outside of any communications</p> <p>22 with counsel, I don't want to -- I don't want to</p> <p>23 talk about anything that you told the attorneys, but</p> <p>24 did you find the DirectPlay reference that is</p>	<p>1 with counsel.</p> <p>2 THE WITNESS: So, again, I would need</p> <p>3 to say that I do not recall.</p> <p>4 Q. Also referring to Exhibit-1, there's a</p> <p>5 reference to Shoubridge, which is Exhibit-1005. Do</p> <p>6 you see that?</p> <p>7 A. Yes.</p> <p>8 Q. Do you remember or do you recall whether</p> <p>9 you were provided Shoubridge or whether you found</p> <p>10 it?</p> <p>11 MR. DAVIS: Same instruction, outside</p> <p>12 of any conversations or communications with</p> <p>13 counsel.</p> <p>14 THE WITNESS: No, I do not recall.</p> <p>15 Q. Do you recall the first time that you saw</p> <p>16 the Lin reference?</p> <p>17 MR. DAVIS: Same instruction, outside</p> <p>18 of any conversations or communications with</p> <p>19 counsel.</p> <p>20 THE WITNESS: Yeah, so once again, I</p> <p>21 have to say that this is the type of reference</p> <p>22 that I, quite possibly, could have encountered</p> <p>23 prior to beginning work on this case. And at</p> <p>24 this point having spent so much time looking at</p>

<p style="text-align: right;">Page 25</p> <p>1 it, I can't really accurately recall at which 2 point I became aware of it. 3 Q. So is it fair to say that you don't -- you 4 can't recall one way or the other whether you saw 5 Lin before you got engaged with this IPR? 6 A. That's correct. 7 Q. How about the Shoubridge reference, when 8 was the first time you saw that? 9 MR. DAVIS: Same instruction. 10 THE WITNESS: And the same answer. 11 Q. So it's fair to say that you can't recall 12 whether you saw Shoubridge before you got engaged in 13 this case? 14 A. Correct. 15 (Whereupon a document was marked as 16 Exhibit-3 for Identification.) 17 Q. All right. Doctor, we just marked 18 Exhibit-3. Do you recognize Exhibit-3? 19 A. I do. 20 Q. What is it? 21 A. This is selected portions of a book inside 22 Direct X, focusing on the DirectPlay portion of the 23 Direct X system. 24 Q. Is Exhibit-3 the Direct -- DirectPlay</p>	<p style="text-align: right;">Page 27</p> <p>1 MR. DAVIS: Objection. Form. 2 THE WITNESS: Are you using teach 3 about in the sort of plain language sense? 4 Q. Yup. 5 A. Yes, it certainly does provide some 6 guidance about things that you should consider when 7 developing a game. 8 Q. Like what? 9 MR. DAVIS: Objection to form. 10 THE WITNESS: Well, so, as some 11 examples, it teaches that you properly want to 12 think about how people are going to be joining 13 a game, if there's more than one player. It 14 also teaches that you may want to think about 15 what happens if a computer that's being used to 16 play the game, if that player leaves or if that 17 computer is shut off or otherwise disconnects. 18 Q. Anything else about specifically game 19 development? 20 MR. DAVIS: Objection. Form. 21 THE WITNESS: It's just that you may 22 want to have more than one session of a game in 23 progress at the same time. It teaches that you 24 may want to allow players to find players of</p>
<p style="text-align: right;">Page 26</p> <p>1 reference that we've been talking about today? 2 A. I believe so. 3 Q. All right. Can you tell me what is 4 DirectPlay? 5 A. Could you restate the question? 6 Q. What is DirectPlay? 7 A. All right. So DirectPlay is a software 8 component and application programming interface that 9 supports developers aiming to develop on-line games. 10 Q. What do you mean it's a software 11 component? 12 A. It is -- a blob is not a technical term. 13 It is a -- it is a collection of software. It is -- 14 it is -- it is software libraries, software elements 15 that can be combined with code developed by a game 16 developer to provide functionality that is of use to 17 that game developer. 18 Q. What type of code would it be combined 19 with that would be developed by game developers? 20 A. What type of code? I mean a game 21 developer is going to write code defining the game 22 that they wish to develop. 23 Q. Does DirectPlay teach about game 24 development?</p>	<p style="text-align: right;">Page 28</p> <p>1 similar skill. It suggests that you might want 2 to use a web page as a way for people to find 3 other players. I believe it teaches other 4 things, but I haven't specifically prepared a 5 list of them. So I would have to start reading 6 the document if you wanted me to continue to 7 find others. 8 Q. All right. Anything else? I mean you 9 were looking through your declaration. Anything 10 else as you review your declaration? 11 MR. DAVIS: Objection. Form. 12 THE WITNESS: Sorry, what was the 13 question? Anything else as to what? 14 Q. So you -- you testified that the 15 DirectPlay related to the software component related 16 to an API. And when I asked you about the software 17 component, and you said that it was libraries and 18 that they can work with code for -- that a game -- 19 that a game developer would write, correct? 20 A. Yes. 21 MR. DAVIS: Objection to form. 22 Q. And I asked you specifically what type of 23 game development is taught by DirectPlay. You said 24 joining a game, disconnecting a game, having more</p>

<p style="text-align: right;">Page 29</p> <p>1 than one session and finding other players. 2 Anything else that you can think of that DirectPlay 3 teaches in terms of game development? 4 MR. DAVIS: Objection. Form. 5 THE WITNESS: I have a -- I do -- I do 6 believe that it teaches other things in terms 7 of game development. If you want me to 8 identify them, it will take me some time to 9 read through the document to pull them all out. 10 Q. Anything else that's -- that's relevant to 11 your opinion and to your declaration in this matter? 12 MR. DAVIS: Objection. Form. 13 THE WITNESS: Again, I'm -- I -- I 14 strongly suspect there are other relevant 15 things in here. The only way for me to answer 16 that question with certainty would be to go 17 through my declaration looking for all of them. 18 Q. Can you identify any of them without 19 reading through your entire declaration right now? 20 A. I've already done -- 21 MR. DAVIS: Objection. 22 THE WITNESS: I've already done so. 23 Q. You also mentioned that DirectPlay teaches 24 an API. What's an API?</p>	<p style="text-align: right;">Page 31</p> <p>1 capability without getting -- without having to 2 get too tangled up in the details of the 3 particular transport media that's supporting 4 the game. 5 Q. Is that using the API? 6 A. Is that using the API? Yes, using -- 7 using DirectPlay API is how you would be able to do 8 this. 9 Q. Have you ever used DirectPlay? 10 A. Not that I recall. 11 Q. Have you ever used the DirectPlay API? 12 A. Again, not that I recall. 13 (Whereupon a document was marked as 14 Exhibit-4 for Identification.) 15 Q. Doctor, we just marked Exhibit-4. 16 Exhibit-4 is a declaration of Glenn Little and 17 attached is -- as Exhibit-B is Gossip Versus 18 Deterministic Flooding Low Message Overhead and High 19 Reliability for Broadcasting on Small Networks. A 20 paper by Meng-Jang Lin. Do you see that? 21 A. Yes, I do. 22 Q. Is this the Lin reference that we've been 23 discussing today? 24 A. Yes, it is.</p>
<p style="text-align: right;">Page 30</p> <p>1 A. An API is an application programming 2 interface. 3 Q. Is the API relevant to your opinion in 4 this matter -- strike that. Let me make a clear 5 question. 6 Is the API that's taught in DirectPlay 7 relevant to your opinion in this matter? 8 MR. DAVIS: Objection. Form. 9 THE WITNESS: Yes, it is. 10 Q. Why? 11 A. Well, because I discuss it at various 12 places in my declaration. 13 Q. What does the API in DirectPlay allow a 14 developer to do? 15 MR. DAVIS: Objection. Form. 16 THE WITNESS: All right. Could you 17 repeat the question? 18 MR. HANNAH: Can you repeat it? 19 (Reporter read back.) 20 MR. DAVIS: Same objection. 21 THE WITNESS: So as you can see, in my 22 declaration in paragraph 80, DirectPlay 23 provides a layer that allows a developer 24 creating a game to provide multi-participant</p>	<p style="text-align: right;">Page 32</p> <p>1 Q. So what is the Lin reference? 2 A. So Lin is a technical paper from UCSD that 3 discloses techniques for broadcasting messages to 4 all of the computers in a computer network. 5 Q. Who is the intended audience of the Lin 6 paper? 7 MR. DAVIS: Objection. Form. 8 THE WITNESS: I don't know that I can 9 get inside the mind of the authors to know who 10 the intended audience is. 11 Q. Have you seen a paper like this before? 12 A. Like this? 13 Q. Like the Lin paper, that describes rumor 14 mongering and gossip and flooding, things of that 15 nature? 16 A. I have seen papers that describe rumor 17 mongering, gossip and flooding. 18 Q. And have you seen papers that are 19 formatted in a similar -- in a similar way as the 20 Lin paper? 21 A. Yes, I have. 22 Q. So who is the target audience of papers 23 that you've seen in the past that are similar to 24 Lin?</p>

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<p>1 MR. DAVIS: Objection to form.</p> <p>2 THE WITNESS: It is a slightly odd</p> <p>3 question. I mean the question is who you would</p> <p>4 like to read this and presumably people would</p> <p>5 like lots of people to read their work.</p> <p>6 Q. So you can't identify a target audience</p> <p>7 for --</p> <p>8 A. It depends what you mean by a target</p> <p>9 audience.</p> <p>10 Q. Who would typically read the Lin paper?</p> <p>11 A. Ah, okay.</p> <p>12 MR. DAVIS: Objection to form.</p> <p>13 THE WITNESS: So I would expect the</p> <p>14 Lin paper would quite plausibly be read by</p> <p>15 academic and industrial workers in -- in the</p> <p>16 computer -- in the computer domain.</p> <p>17 Q. Computer domain seems awfully broad. Is</p> <p>18 there any specific computer domain that you would</p> <p>19 expect would read the Lin paper?</p> <p>20 MR. DAVIS: Objection. Form.</p> <p>21 THE WITNESS: So without intending</p> <p>22 to -- so I want to be clear that I'm not</p> <p>23 cutting any -- anything off from the</p> <p>24 characterization I'm going to give. As I</p>	<p>1 Q. Doctor, we just marked Exhibit-5.</p> <p>2 Exhibit-5 is titled Hybrid Routing in Dynamic</p> <p>3 Networks by Peter Shoubridge. Do you recognize</p> <p>4 Exhibit-5?</p> <p>5 A. Yes, I do.</p> <p>6 Q. Is Exhibit-5 the Shoubridge reference that</p> <p>7 we've been referring to today?</p> <p>8 A. Yes, it is.</p> <p>9 Q. So what does the Shoubridge reference</p> <p>10 discuss?</p> <p>11 A. So Shoubridge discusses techniques for</p> <p>12 routing messages to participants in communication</p> <p>13 networks.</p> <p>14 Q. What type of communication networks?</p> <p>15 A. What type of communication networks?</p> <p>16 MR. DAVIS: Objection. Form.</p> <p>17 Q. I'll just direct you to the first sentence</p> <p>18 of the abstract in Lin. It says, in mobile radio</p> <p>19 communication networks the distribution of traffic</p> <p>20 loads and network topologies may vary from nearly</p> <p>21 static to very dynamic. Do you see that?</p> <p>22 A. I do see that.</p> <p>23 Q. So is it fair to say that Shoubridge</p> <p>24 reference is direct to mobile radio communication</p>
Page 34	Page 36
<p>1 mentioned before, I think of myself of</p> <p>2 something as an omnivore, who is broadly</p> <p>3 interested in computing, finds things in many</p> <p>4 places and reads them. You know, the people</p> <p>5 who I would think more likely than others to</p> <p>6 read this work are people who are interested in</p> <p>7 networking, people who are interested in</p> <p>8 information dissemination, people who are --</p> <p>9 yeah, I mean, you know, that -- that sort of is</p> <p>10 the -- the domain of this work. So people</p> <p>11 closer to that domain would perhaps be more</p> <p>12 likely to read it than people farther away.</p> <p>13 Q. Do you know what type of work Lin does?</p> <p>14 A. What type of work Lin does?</p> <p>15 Q. In research, the research that Lin does?</p> <p>16 A. Well, I'm aware of this research by Lin.</p> <p>17 Q. Are you aware of any other research?</p> <p>18 A. By Lin? Not that I can recall at present.</p> <p>19 Q. Do you have any idea what his research</p> <p>20 focus is on?</p> <p>21 A. No, I don't know what his research focus</p> <p>22 is on.</p> <p>23 (Whereupon a document was marked as</p> <p>24 Exhibit-5 for Identification.)</p>	<p>1 networks?</p> <p>2 MR. DAVIS: Objection. Form.</p> <p>3 THE WITNESS: Well, it draws</p> <p>4 extensively to work towards more general</p> <p>5 computer networking.</p> <p>6 Q. So you would disagree that this Shoubridge</p> <p>7 reference isn't directed to mobile radio</p> <p>8 communication networks?</p> <p>9 MR. DAVIS: Objection. Form.</p> <p>10 THE WITNESS: So I would disagree that</p> <p>11 it is directed exclusively to mobile radio</p> <p>12 communication networks.</p> <p>13 Q. Would you agree with me that the focus of</p> <p>14 this paper is mobile radio communication networks?</p> <p>15 MR. DAVIS: Same objection.</p> <p>16 THE WITNESS: No, I would not agree</p> <p>17 that the focus is mobile communication</p> <p>18 networks.</p> <p>19 Q. Why?</p> <p>20 A. Because I would say that the focus of this</p> <p>21 paper is techniques for routing messages.</p> <p>22 Q. Isn't it techniques for routing messages</p> <p>23 in mobile radio communication networks?</p> <p>24 MR. DAVIS: Objection to form.</p>

<p style="text-align: right;">Page 37</p> <p>1 THE WITNESS: Again, I think that's</p> <p>2 too restrictive. What he's studying here is</p> <p>3 work. That makes sense broadly when thinking</p> <p>4 about computer networks and routing messages in</p> <p>5 them.</p> <p>6 Q. So what do you take from the first line of</p> <p>7 the abstract of Shoubridge?</p> <p>8 A. I take that this is an example of a</p> <p>9 network where he believes that the work that he's</p> <p>10 doing would be applicable.</p> <p>11 Q. Does Shoubridge talk about any other types</p> <p>12 of -- any other specific types of communication</p> <p>13 networks other than mobile radio communication</p> <p>14 networks?</p> <p>15 A. So having read -- just read the first two</p> <p>16 sections of Shoubridge to check, that entire</p> <p>17 discussion, as far as I can see in this short time,</p> <p>18 is addressing networks in general terms. Issues</p> <p>19 such as transmission capacity and flooding and</p> <p>20 dynamism are things that are all relevant to a broad</p> <p>21 variety of networks. And that is the way Shoubridge</p> <p>22 articulates his problem setting in these first two</p> <p>23 sections.</p> <p>24 Q. Does he mention any other specific type of</p>	<p style="text-align: right;">Page 39</p> <p>1 science community to read it.</p> <p>2 Q. Anything more specific than networking and</p> <p>3 information dissemination?</p> <p>4 MR. DAVIS: Same objection.</p> <p>5 THE WITNESS: I don't think so. I</p> <p>6 mean from a -- this is really quite an</p> <p>7 accessible paper. One doesn't need a lot of</p> <p>8 specialized knowledge in order to understand</p> <p>9 it.</p> <p>10 Q. Have you ever tested the algorithm that's</p> <p>11 disclosed in the Shoubridge reference?</p> <p>12 A. No, I have not.</p> <p>13 Q. Have you ever tested the algorithm that's</p> <p>14 disclosed in the Lin reference?</p> <p>15 A. No, I have not.</p> <p>16 Q. Turning back to Exhibit-4, the Lin</p> <p>17 reference. Would you agree with me that the Lin</p> <p>18 reference is a math paper?</p> <p>19 MR. DAVIS: Objection to form.</p> <p>20 THE WITNESS: I wouldn't characterize</p> <p>21 the Lin paper as a math paper.</p> <p>22 Q. Why not?</p> <p>23 A. Well, it's certainly a paper that uses</p> <p>24 math.</p>
<p style="text-align: right;">Page 38</p> <p>1 communication network other than mobile radio</p> <p>2 communication network in what you just read?</p> <p>3 MR. DAVIS: Objection to form.</p> <p>4 THE WITNESS: Actually -- actually, in</p> <p>5 the first two sections, as far as I can see, he</p> <p>6 doesn't mention any specific type of network.</p> <p>7 Q. Except for in the abstract?</p> <p>8 A. Right. I'm talking about the first two</p> <p>9 sections of the article where he frames the problem.</p> <p>10 Q. Who is the intended audience of the</p> <p>11 Shoubridge?</p> <p>12 MR. DAVIS: Objection to form.</p> <p>13 Q. Or strike that.</p> <p>14 Who do you believe would read the</p> <p>15 Shoubridge reference?</p> <p>16 MR. DAVIS: Same objection.</p> <p>17 THE WITNESS: So my answer is as it</p> <p>18 was with the Lin reference, that there isn't a</p> <p>19 hard and fast rule for who would read this type</p> <p>20 of work, but that, you know, people in the</p> <p>21 computer domain would be more likely to read it</p> <p>22 than people not, and people who are concerned</p> <p>23 with networking information dissemination would</p> <p>24 be the more likely people in the computer</p>	<p style="text-align: right;">Page 40</p> <p>1 Q. Extensively, right?</p> <p>2 MR. DAVIS: Objection.</p> <p>3 THE WITNESS: As does much of computer</p> <p>4 science. It's a paper that uses math, but it</p> <p>5 also is motivated by real world problems, which</p> <p>6 a math paper sometimes is not and it also</p> <p>7 includes simulation work which is another thing</p> <p>8 that would not be typical of math papers.</p> <p>9 (Whereupon a document was marked as</p> <p>10 Exhibit-6 for Identification.)</p> <p>11 Q. Doctor, we just marked Exhibit-6.</p> <p>12 Exhibit-6 bears Bates -- strike that. Exhibit-6 is</p> <p>13 United States Patent 6,701,344, entitled Distributed</p> <p>14 Game Environment. Have you seen Exhibit-6 before?</p> <p>15 A. I believe so.</p> <p>16 Q. And what is Exhibit-6?</p> <p>17 A. Exhibit-6 is U.S. Patent 6,701,344,</p> <p>18 distributed game environment.</p> <p>19 Q. What does the 344 patent disclose?</p> <p>20 MR. DAVIS: Objection. Form.</p> <p>21 THE WITNESS: The patent discloses a</p> <p>22 computer network for providing a game</p> <p>23 environment for a plurality of participants.</p> <p>24 Q. What's a game environment in the</p>

<p style="text-align: right;">Page 41</p> <p>1 context -- in the context of the 344 patent?</p> <p>2 MR. DAVIS: Objection. Form.</p> <p>3 THE WITNESS: So I haven't been asked</p> <p>4 to provide a meaning for a game environment.</p> <p>5 It's sort of a -- it's a -- it's a broad term</p> <p>6 that has somewhat of a context dependent</p> <p>7 meaning. What I focused on was whether some of</p> <p>8 this prior art can be seen as disclosing a game</p> <p>9 environment.</p> <p>10 Q. So in the context of the 344 patent,</p> <p>11 what's a game environment?</p> <p>12 MR. DAVIS: Objection. Form.</p> <p>13 THE WITNESS: So, again, I haven't</p> <p>14 been asked to define what a game environment</p> <p>15 is. I've been asked whether certain things,</p> <p>16 obviously, fit the definition -- fit the notion</p> <p>17 of a game environment.</p> <p>18 Q. So what's the notion of a game</p> <p>19 environment --</p> <p>20 MR. DAVIS: Same objection.</p> <p>21 Q. -- in the context of the 344 patent?</p> <p>22 MR. DAVIS: Same objection.</p> <p>23 THE WITNESS: Again, I haven't been</p> <p>24 asked to specifically define it. I've been</p>	<p style="text-align: right;">Page 43</p> <p>1 environment is when you applied it in this case.</p> <p>2 A. Well, so would you like to ask me about a</p> <p>3 specific thing which I determined to be a game --</p> <p>4 providing a game environment? Because that's how</p> <p>5 I -- that's what I did. I looked at specific things</p> <p>6 and said, does this provide a game environment.</p> <p>7 Q. No, I want to know just within the context</p> <p>8 of the 344 patent, if you have any understanding of</p> <p>9 what a game environment means.</p> <p>10 MR. DAVIS: Objection. Form.</p> <p>11 Q. And you can look at Exhibit-6, it's claim</p> <p>12 one.</p> <p>13 A. So once again, I have looked at certain</p> <p>14 potential prior art, such as DirectPlay, which</p> <p>15 describes a gaming universe and to me it is clear</p> <p>16 that a game universe fits the characterization of a</p> <p>17 game environment.</p> <p>18 Q. All right. What's a game universe?</p> <p>19 MR. DAVIS: Objection. Form.</p> <p>20 THE WITNESS: So as you can see in</p> <p>21 page 19 of the DirectPlay reference, DirectPlay</p> <p>22 describes a vision where in the network world</p> <p>23 hundreds or even thousands of players are</p> <p>24 participating in a single gaming universe.</p>
<p style="text-align: right;">Page 42</p> <p>1 asked whether certain things are -- provide or</p> <p>2 are game environments.</p> <p>3 Q. Well, how can you determine if something's</p> <p>4 a game environment if you don't know what the</p> <p>5 definition is?</p> <p>6 MR. DAVIS: Objection. Form.</p> <p>7 THE WITNESS: Well, as with many</p> <p>8 things, there are context dependent, I can look</p> <p>9 at a specific -- a specific thing and say is</p> <p>10 this clearly a game environment and the answer</p> <p>11 is yes, this clearly is a game environment</p> <p>12 without defining the boundaries of what exactly</p> <p>13 a game environment is.</p> <p>14 Q. So when you applied -- when you -- strike</p> <p>15 that.</p> <p>16 When you analyzed the 344 patent, you</p> <p>17 didn't come up with the bounds in terms of what a</p> <p>18 game environment would be?</p> <p>19 MR. DAVIS: Objection. Form.</p> <p>20 THE WITNESS: I did not provide a</p> <p>21 construction of what a game environment is.</p> <p>22 Q. I understand you didn't provide a</p> <p>23 construction in your declaration. I want -- I want</p> <p>24 to understand what your understanding of a game</p>	<p style="text-align: right;">Page 44</p> <p>1 Q. So that's the definition of game</p> <p>2 environment that you applied in this case?</p> <p>3 MR. DAVIS: Objection. Form.</p> <p>4 THE WITNESS: No, I did not attempt to</p> <p>5 create a definition of gaming environment, but</p> <p>6 looking at this sentence where they describe</p> <p>7 hundreds or even thousands of players</p> <p>8 participating in a single gaming universe, for</p> <p>9 me that fits the language of claim one which</p> <p>10 talks about a game environment.</p> <p>11 Q. Why does that fit the language?</p> <p>12 A. Why does that fit the language? So I</p> <p>13 believe that it fits the language because a -- a</p> <p>14 network world with hundreds or thousands of players</p> <p>15 participating in a single gaming universe is a kind</p> <p>16 of gaming environment.</p> <p>17 Q. What other types of gaming environments</p> <p>18 are there based on the context of the 344 patent?</p> <p>19 MR. DAVIS: Objection to form.</p> <p>20 THE WITNESS: Well, I haven't gone out</p> <p>21 to try to identify other types of game</p> <p>22 environments. I was asked to form an opinion</p> <p>23 on whether, for example, this DirectPlay</p> <p>24 reference does disclose providing a gaming</p>

<p style="text-align: right;">Page 45</p> <p>1 environment.</p> <p>2 Q. And you did that without an understanding</p> <p>3 of the definition of gaming environment?</p> <p>4 MR. DAVIS: Objection to form.</p> <p>5 THE WITNESS: I did that without</p> <p>6 trying to define the boundaries of what would</p> <p>7 fit the definition of a gaming environment.</p> <p>8 Q. So sitting here today, can you tell me</p> <p>9 what the boundaries of what a gaming environment is</p> <p>10 in the context of the 344 patent?</p> <p>11 MR. DAVIS: Objection. Form.</p> <p>12 THE WITNESS: No, that would require</p> <p>13 me to spend quite a bit of time investigating</p> <p>14 the uses of -- all of the other potential uses</p> <p>15 of game environments, which I have not yet</p> <p>16 done.</p> <p>17 Q. You've read the 344 patent though, right?</p> <p>18 A. I have.</p> <p>19 Q. More than once?</p> <p>20 A. Yes.</p> <p>21 Q. In your reading of the 344 patent, can you</p> <p>22 provide me any type of understanding of what a</p> <p>23 gaming environment is in the context of the 344</p> <p>24 patent?</p>	<p style="text-align: right;">Page 47</p> <p>1 MR. DAVIS: Same objection.</p> <p>2 THE WITNESS: I don't see it as a</p> <p>3 description of a gaming environment. I see it</p> <p>4 as a description of one thing that these</p> <p>5 patent -- that the authors of this patent</p> <p>6 believe fits their characterization of a gaming</p> <p>7 environment.</p> <p>8 Q. So how would you -- what would you add to</p> <p>9 this description in order to meet your definition of</p> <p>10 a gaming environment in the context of the 344</p> <p>11 patent?</p> <p>12 MR. DAVIS: Objection. Form.</p> <p>13 THE WITNESS: So I don't think, at</p> <p>14 this time, I don't think that I would need to</p> <p>15 add anything to this description in order for</p> <p>16 what they outline here to fit within the bounds</p> <p>17 of what I would consider to be a game</p> <p>18 environment.</p> <p>19 Q. So turn back to claim one.</p> <p>20 A. Actually, can we take a break before the</p> <p>21 next question?</p> <p>22 Q. Let me ask you one more.</p> <p>23 A. Okay.</p> <p>24 Q. Two more questions. But if you can turn</p>
<p style="text-align: right;">Page 46</p> <p>1 MR. DAVIS: Objection to form.</p> <p>2 THE WITNESS: So would you like to</p> <p>3 direct me to a specific part of the 344 patent</p> <p>4 that talks about gaming environments or shall I</p> <p>5 look for it?</p> <p>6 Q. How about on column 16, where it says a</p> <p>7 distributed game environment, column 16, line 30.</p> <p>8 MR. DAVIS: Objection to form.</p> <p>9 THE WITNESS: Which line?</p> <p>10 Q. Thirty. So why don't you read from 30 to</p> <p>11 that first -- that paragraph and let me know when</p> <p>12 you've had a chance to?</p> <p>13 A. Sure. All right. I've read the</p> <p>14 paragraph.</p> <p>15 Q. Is that a fair description of a gaming</p> <p>16 environment?</p> <p>17 MR. DAVIS: Objection to form.</p> <p>18 THE WITNESS: So this is a description</p> <p>19 of one embodiment of some of the ideas in this</p> <p>20 patent, which provides a game environment using</p> <p>21 broadcast channels and a game application</p> <p>22 program computing on each player's computer.</p> <p>23 Q. So is it a fair description of a gaming</p> <p>24 environment, in your opinion?</p>	<p style="text-align: right;">Page 48</p> <p>1 back to claim one.</p> <p>2 See how the first sentence says, a</p> <p>3 computer network for providing a game environment</p> <p>4 for a plurality of participants? Do you see that?</p> <p>5 A. Yes, I do.</p> <p>6 Q. Do the plurality of participants have to</p> <p>7 be participants in the game environment, in your</p> <p>8 opinion?</p> <p>9 MR. DAVIS: Objection. Form.</p> <p>10 THE WITNESS: Can you reask the</p> <p>11 question?</p> <p>12 (Reporter read back.)</p> <p>13 THE WITNESS: So in the prior art that</p> <p>14 we're looking at today, the participants are</p> <p>15 participants in the gaming environment.</p> <p>16 Q. That's not my question. My question is,</p> <p>17 reading claim one, in your opinion, that first line,</p> <p>18 a computer network for providing a game environment</p> <p>19 for a plurality of participants, do the participants</p> <p>20 have to be participants in the game environment?</p> <p>21 MR. DAVIS: Same objection.</p> <p>22 THE WITNESS: It's a question I</p> <p>23 haven't had to think about before because in</p> <p>24 the prior art that we were examining, they</p>

<p style="text-align: right;">Page 49</p> <p>1 were. So I didn't have to think about whether</p> <p>2 it was a necessary condition for the claim.</p> <p>3 And so to -- to opine now, I would need to do</p> <p>4 quite a bit of thinking and reading in order to</p> <p>5 decide whether that was the case.</p> <p>6 Q. So sitting here today you can't tell me</p> <p>7 one way or another whether it's your opinion whether</p> <p>8 a participant has to be a participant in the game</p> <p>9 environment according to claim one?</p> <p>10 MR. DAVIS: Objection to form.</p> <p>11 THE WITNESS: Sitting here today, I</p> <p>12 would like to take more time before trying to</p> <p>13 opine on that question.</p> <p>14 Q. Okay. We can take a break.</p> <p>15 VIDEO TECHNICIAN: This is the end of</p> <p>16 tape number one. Off the record at 11:20 a.m.</p> <p>17 (Recess taken.)</p> <p>18 VIDEO TECHNICIAN: This is the</p> <p>19 beginning of tape number two. On the record,</p> <p>20 11:31 am.</p> <p>21 Q. All right.</p> <p>22 Dr. Karger, let's take a look at claim</p> <p>23 one of the 344 patent. So claim one reads, a</p> <p>24 computer network providing a game environment for a</p>	<p style="text-align: right;">Page 51</p> <p>1 plurality of participants each having connections to</p> <p>2 three neighbor participants.</p> <p>3 Q. I was.</p> <p>4 A. So regarding that phrase, yes, Lin and</p> <p>5 Shoubridge both have participants connecting to a</p> <p>6 plurality -- connecting to three neighbor</p> <p>7 participants.</p> <p>8 Q. Are they gaming participants --</p> <p>9 MR. DAVIS: Objection to form.</p> <p>10 Q. -- in Lin and Shoubridge?</p> <p>11 MR. DAVIS: Same objection.</p> <p>12 THE WITNESS: Lin and Shoubridge do</p> <p>13 not specify that they are.</p> <p>14 Q. So in the context of the 344 patent,</p> <p>15 what's a -- what's a connection?</p> <p>16 MR. DAVIS: Objection to form.</p> <p>17 THE WITNESS: That isn't a term I've</p> <p>18 been asked to define, but the sort of computer</p> <p>19 network connections of the players in</p> <p>20 DirectPlay and the processors in Lin and the</p> <p>21 processors in Shoubridge are connections.</p> <p>22 Q. So how do you know they are connecting if</p> <p>23 you don't have and understanding of what it is</p> <p>24 within the 344 patent?</p>
<p style="text-align: right;">Page 50</p> <p>1 plurality of participants, each participant having</p> <p>2 connections to at least three neighbor participants.</p> <p>3 Do you see that?</p> <p>4 A. Yes, I do.</p> <p>5 Q. What's your understanding of each</p> <p>6 participant having connections to at least three</p> <p>7 neighbor participants?</p> <p>8 A. So, once again, my understanding is by way</p> <p>9 of example in the sense that the DirectPlay</p> <p>10 reference discloses a -- a four -- a set of four</p> <p>11 computers that are all interconnected in which case</p> <p>12 it sort of makes sense to consider that the players</p> <p>13 are participants and they are -- they have</p> <p>14 connections to the other players in their network.</p> <p>15 There are similar sort of examples in Lin and</p> <p>16 Shoubridge of -- of the things that sort of fit this</p> <p>17 description.</p> <p>18 Q. So, in your opinion, there's a description</p> <p>19 of Lin and the game participant -- and each</p> <p>20 participant having connection to gaming</p> <p>21 participants?</p> <p>22 MR. DAVIS: Objection to form.</p> <p>23 Q. Is that your opinion?</p> <p>24 A. Sorry, I thought you were asking about a</p>	<p style="text-align: right;">Page 52</p> <p>1 MR. DAVIS: Objection to form.</p> <p>2 THE WITNESS: So, once again, I do</p> <p>3 have an understanding of -- I do have an</p> <p>4 understanding of it meaning sufficient to be</p> <p>5 confident that the things that I have described</p> <p>6 fit that meaning.</p> <p>7 Q. So what's --</p> <p>8 A. I haven't tried to scope out exactly what</p> <p>9 the boundaries of that meaning are.</p> <p>10 Q. So I want to know what your understanding</p> <p>11 is when you applied your opinion in this case.</p> <p>12 A. So --</p> <p>13 MR. DAVIS: Objection to form.</p> <p>14 THE WITNESS: Again, my understanding</p> <p>15 is that the set of players described in</p> <p>16 DirectPlay whose computers are networked</p> <p>17 together for a game, those network connections</p> <p>18 are connections per the 344 patent. And</p> <p>19 similarly that the connections in Lin and</p> <p>20 Shoubridge are also connections in the setting</p> <p>21 of the 344 patent -- sort of fill that</p> <p>22 characterization.</p> <p>23 Q. So within the setting of the 344 patent</p> <p>24 itself, what's a connection?</p>

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1 MR. DAVIS: Same objection.
2 THE WITNESS: Again, that's not
3 something I've been asked to formally define.
4 Q. How much time have you spent reading the
5 344 patent?
6 A. A lot.
7 Q. More than 20 hours?
8 A. Probably.
9 Q. More than fifty hours?
10 A. I don't know.
11 Q. But between 20 and 50 hours?
12 A. This is all sort of likelihoods. I'm
13 pretty confident it's more than 20. I really don't
14 know what the number is.
15 Q. And in your study of the 344 patent, you
16 never came to an understanding of what a connection
17 is in terms of claim one?
18 MR. DAVIS: Objection to form.
19 THE WITNESS: Well, again, I wasn't
20 asked to.
21 Q. Did you think that that would be relevant
22 in your analysis when you're applying claim one to
23 the prior art?
24 MR. DAVIS: Objection. Form.

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1 THE WITNESS: Well, again, what's
2 important in my analysis is to be able to look
3 at some prior art and decide whether it fits
4 this character -- it fits this description.
5 Q. How do you know if it fits the
6 description, if you don't know what the definition
7 is within the context of the 344 patent?
8 MR. DAVIS: Objection to form.
9 THE WITNESS: How do I know what --
10 sorry, could you repeat that question?
11 (Reporter read back.)
12 THE WITNESS: So for something like a
13 connection, we're talking about connections
14 here. When we're talking about something like
15 a connection, there are things that --
16 connection is a term -- a generally used term.
17 It's used in many different ways, in many
18 different contexts, by many different people.
19 And there are some things that I can look at
20 and have confidence that everybody, or nearly
21 everybody, would agree that this thing which
22 we're talking about now, in this context, is a
23 connection. It -- it -- I can have that
24 confidence about things which are clearly

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1 connections without having to define exactly
2 what a connection is.
3 Q. Do you have the same answer with game
4 environment? You're able to know what a game
5 environment is without defining what it is in the
6 context of the 344 patent?
7 MR. DAVIS: Objection to form.
8 THE WITNESS: So, once again, I'm not
9 claiming that I know what a game environment
10 is. I'm claiming that I can know that certain
11 things, obviously, are game environments.
12 Q. Do you know what a game environment is in
13 the context of the 344 patent?
14 MR. DAVIS: Objection to form.
15 THE WITNESS: So, again, I know that
16 certain prior art provides a game environment.
17 Q. And I'm not asking about the prior art.
18 I'm asking about the 344 patent by itself.
19 MR. DAVIS: Same objection.
20 THE WITNESS: I was not asked to
21 decide what a game environment is in the
22 context of the 344 patent.
23 Q. And do you have a definition of game
24 environment sitting here today?

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1 A. You mean did I make one?
2 Q. Yes.
3 A. No, I did not. I wasn't asked to.
4 Q. Reading claim one, is it your opinion that
5 the connections to the neighbor participants need to
6 be connections within the game environment?
7 MR. DAVIS: Objection. Form.
8 THE WITNESS: Well, so, once again,
9 given that the prior art that I was looking at
10 fulfilled that criterion, I was not called upon
11 to decide whether it must be true always.
12 Q. So sitting here looking and based on your
13 analysis of the 344 patent and reading claim one, is
14 it your opinion that the connections to the three
15 neighbor participants need to be connections within
16 the game environment?
17 A. I haven't formed --
18 MR. DAVIS: Same objection.
19 THE WITNESS: I haven't formed an
20 opinion on that.
21 Q. Continuing on in claim one it says,
22 wherein an originating participant sends data to the
23 other participants by sending the data through each
24 of its connections to its neighbor participants. Do

<p style="text-align: right;">Page 57</p> <p>1 you see that?</p> <p>2 A. Yes, I do.</p> <p>3 Q. What type of data is sent according to</p> <p>4 your understanding of claim one?</p> <p>5 A. What kind of data?</p> <p>6 Q. Yeah. Does it have to be gaming data?</p> <p>7 MR. DAVIS: Objection to form.</p> <p>8 THE WITNESS: Claim one does not</p> <p>9 specify the kind of data that needs to be sent.</p> <p>10 Q. So in applying your opinion did you define</p> <p>11 the type of data that needed to be sent?</p> <p>12 A. Did I define the type of data that needed</p> <p>13 to be sent?</p> <p>14 MR. DAVIS: Objection. Form.</p> <p>15 THE WITNESS: Again, this is</p> <p>16 something -- this is not something that I was</p> <p>17 asked to define.</p> <p>18 Q. Do you have an opinion, sitting here</p> <p>19 today, whether the data that's sent, according to</p> <p>20 claim one, is gaming data or not?</p> <p>21 MR. DAVIS: Same objection.</p> <p>22 THE WITNESS: I wasn't asked to form</p> <p>23 that opinion.</p> <p>24 Q. So do you have -- so my question is a</p>	<p style="text-align: right;">Page 59</p> <p>1 says, where M is the exact number of neighbor</p> <p>2 participants of each participant and further wherein</p> <p>3 the number of participants is at least two greater</p> <p>4 than M resulting in a non-complete graph. Do you</p> <p>5 see that?</p> <p>6 A. Yes, I do.</p> <p>7 Q. Do the participants -- strike that.</p> <p>8 Do the number of participants that</p> <p>9 have to be at least two greater than M that result</p> <p>10 in a non-complete graph have to be participants in</p> <p>11 the gaming environment, in your opinion, in the</p> <p>12 context of claim -- of the 344 patent?</p> <p>13 MR. DAVIS: Objection to form.</p> <p>14 THE WITNESS: So, once again, in the</p> <p>15 prior art I examined they were. And so I did</p> <p>16 not need to form an opinion about whether they</p> <p>17 had to be in all cases.</p> <p>18 Q. In which prior art are the participants</p> <p>19 gaming participants?</p> <p>20 MR. DAVIS: Objection. Form.</p> <p>21 THE WITNESS: In particular, in the</p> <p>22 DirectPlay prior art, DirectPlay discloses a</p> <p>23 collection of gaming participants.</p> <p>24 Q. Take a look at claim four. Claim four</p>
<p style="text-align: right;">Page 58</p> <p>1 little bit more specific. But to make it clear for</p> <p>2 the record, do you have an opinion sitting here</p> <p>3 today whether the data that's sent is gaming data or</p> <p>4 not?</p> <p>5 A. I haven't -- I haven't formed an opinion</p> <p>6 on that question.</p> <p>7 MR. DAVIS: Same objection.</p> <p>8 Q. The claim continues on. It says, further</p> <p>9 within the network is M regular. Do you see that?</p> <p>10 A. Yes, I do.</p> <p>11 Q. Is the reference to the network the same</p> <p>12 reference to a computer network for providing a game</p> <p>13 environment, in your opinion?</p> <p>14 A. Well, so once again, in the prior art I</p> <p>15 considered it was. And so I haven't had to form an</p> <p>16 opinion on whether it must be.</p> <p>17 Q. So you don't have an opinion one way or</p> <p>18 another whether the network that's referenced in the</p> <p>19 phrase, further wherein the network is M regular, is</p> <p>20 the computer network for providing a game</p> <p>21 environment, right?</p> <p>22 MR. DAVIS: Same objection.</p> <p>23 THE WITNESS: That's correct.</p> <p>24 Q. All right. Continuing on on the claim it</p>	<p style="text-align: right;">Page 60</p> <p>1 says that the computer network of claim one wherein</p> <p>2 the network is M connected where M is the number of</p> <p>3 neighbor participants of each participant. Do you</p> <p>4 see that?</p> <p>5 A. Yes, I do.</p> <p>6 Q. Do the participants within the gaming</p> <p>7 environment need to be M connected in order to</p> <p>8 satisfy claim four, in your opinion?</p> <p>9 MR. DAVIS: Objection to form.</p> <p>10 THE WITNESS: Sorry, could you restate</p> <p>11 the question?</p> <p>12 (Reporter read back.)</p> <p>13 THE WITNESS: Do the participants need</p> <p>14 to be M connected? So claim four specifies</p> <p>15 that the network is M connected. I'm not sure</p> <p>16 what you mean by the participants being M</p> <p>17 connected.</p> <p>18 Q. What's the difference between the</p> <p>19 participants and the network?</p> <p>20 A. Well, the difference is that they are</p> <p>21 talked about separately. They are two separate</p> <p>22 words, that appear in two separate places in the</p> <p>23 claims, right, there is the computer network and</p> <p>24 there's the participants.</p>

<p style="text-align: right;">Page 61</p> <p>1 Q. Do the participants form the network, in 2 your opinion? 3 A. Participants form the network? I wouldn't 4 be comfortable having an opinion on whether the 5 participants form the network because form is such a 6 vague term. I would want my opinion to be more 7 precise. 8 Q. So can you explain what you mean? 9 A. I just said, asking whether the 10 participants form the network is quite a vague -- a 11 vague opinion. It's not -- it's not an opinion that 12 I would -- it's not something that I have formed an 13 opinion on. In order to form an opinion on it at 14 all I would have to have it -- a more specific -- a 15 more precise description of what it is that I am 16 forming an opinion on. 17 Q. Is claim one claiming a network of 18 participants, in your opinion? 19 A. So, again, that's not something that I 20 needed to form an opinion on in order to draw the 21 conclusions that are in these declarations. What I 22 needed to draw an opinion on was whether -- to opine 23 on was whether there was -- these other pieces of 24 work showed a -- disclosed a computer network</p>	<p style="text-align: right;">Page 63</p> <p>1 there's an underlying network such as the 2 TCP/IP network, which is being used for 3 transport by DirectPlay and there also is a 4 network that is formed by DirectPlay for an 5 overlay network for the participant in a 6 particular game. 7 Q. What do you mean the underlying network 8 that is provided for transport? 9 A. So if you look at paragraph three of page 10 19 of DirectPlay, DirectPlay asserts that DirectPlay 11 allows the developer to provide multi-participant 12 capability without getting tangled up in the details 13 of the specific transport media. DirectPlay handles 14 different transfer media identically whether you're 15 using TCP/IP network, an IPX network or a modem. So 16 that what they are referring to is this underlying 17 TCP/IP network which can serve as a transport media. 18 Q. So when you say transport, are you 19 referring to -- what were you referring to or what 20 do you believe DirectPlay is referring to? 21 MR. DAVIS: Objection to form. 22 THE WITNESS: I believe DirectPlay is 23 referring to the media which its used to 24 transport information regarding a game.</p>
<p style="text-align: right;">Page 62</p> <p>1 providing a game environment for a plurality of 2 participants. 3 Q. So is it fair to say that you don't 4 believe claim one is limited to a network of 5 participants? 6 MR. DAVIS: Objection to form. 7 THE WITNESS: I didn't form a belief 8 one way or another on that. It wasn't 9 necessary. 10 Q. Well, sitting here, reading the claim, and 11 based on all of your diligence with regard to the 12 344 patent, is the 344 patent claiming a network of 13 participants? 14 MR. DAVIS: Objection to form. 15 THE WITNESS: I would -- I have not 16 aimed at forming that opinion previously. And 17 so I would need a lot of time in order to form 18 it. 19 Q. So, in your opinion, what is the network 20 in DirectPlay? 21 A. Sorry, could you repeat the question? 22 (Reporter read back.) 23 THE WITNESS: So DirectPlay talks 24 about at least two different networks, right,</p>	<p style="text-align: right;">Page 64</p> <p>1 Q. And why do you say that the transport 2 layer is an underlying network in DirectPlay? 3 A. I'm sorry, the question again? 4 (Reporter read back.) 5 THE WITNESS: Well, because that is 6 the network that DirectPlay relies on to 7 actually transport information between 8 different participants. 9 Q. So does claim one claim the overlay 10 network or the underlying network, in your opinion? 11 MR. DAVIS: Objection to form. 12 THE WITNESS: Sorry, the question 13 again? 14 (Reporter read back.) 15 THE WITNESS: Well, so, once again, 16 each of the three pieces of prior art that are 17 under consideration today disclose both. So I 18 didn't need to form an opinion on which one was 19 being claimed. 20 Q. So in regard to claim one, as you applied 21 it, did you apply it to the overlay network or the 22 underlying network? 23 MR. DAVIS: Objection to form. 24 THE WITNESS: Once again, I found that</p>

<p style="text-align: right;">Page 65</p> <p>1 all three pieces of prior art disclosed both an</p> <p>2 overlay network and an underlay network, which</p> <p>3 meant that the -- the prior art applied either</p> <p>4 way.</p> <p>5 Q. Is that in your declaration?</p> <p>6 A. That each of these pieces of prior art is</p> <p>7 describing an overlay on an underlying network?</p> <p>8 Q. That describes both an overlay network and</p> <p>9 an underlying network.</p> <p>10 MR. DAVIS: Objection. Form.</p> <p>11 THE WITNESS: So I can take -- I have</p> <p>12 to take these one at a time, but regarding</p> <p>13 DirectPlay, in my overview, page 39 of the 1970</p> <p>14 declaration, I describe how DirectPlay talks</p> <p>15 about service providers that are plugged in</p> <p>16 underneath to handle specific transport media.</p> <p>17 And I also, two pages on -- or sorry one page</p> <p>18 on, describe how DirectPlay defines certain</p> <p>19 networks, for example, in figure 18-3 which are</p> <p>20 networks that are clearly overlaid on that</p> <p>21 underlying media.</p> <p>22 Turning to Lin, in my overview of Lin,</p> <p>23 paragraph 83, I talk about how Lin describes a well</p> <p>24 known technique for implementing broadcast</p>	<p style="text-align: right;">Page 67</p> <p>1 A. Again, to be clear, I didn't say that Lin</p> <p>2 is the underlying network. I said that Lin</p> <p>3 discloses an underlying network.</p> <p>4 Q. Can you show me where that's in your</p> <p>5 declaration because everywhere in your declaration</p> <p>6 that I read it says that it's an overlay network.</p> <p>7 MR. DAVIS: Objection. Form.</p> <p>8 Q. I just want to make sure that we're clear</p> <p>9 on the record if you're changing your opinion.</p> <p>10 MR. DAVIS: Same objection.</p> <p>11 THE WITNESS: So if you look at my</p> <p>12 declaration in paragraph 83, I assert that Lin</p> <p>13 provides a well known technique implementing</p> <p>14 these broadcast protocols wherein a</p> <p>15 communications graph is overlaid on the</p> <p>16 processors that form the network. What I'm</p> <p>17 saying there is that there is a network, there</p> <p>18 are processors on it and you are now overlaying</p> <p>19 a communications graph on that network. The --</p> <p>20 that network that you are overlaying the</p> <p>21 communications graph on is the underlying</p> <p>22 network.</p> <p>23 Q. I understand that it says that it's</p> <p>24 overlaying a network. But for purposes of applying</p>
<p style="text-align: right;">Page 66</p> <p>1 protocols by overlaying a communications graph on</p> <p>2 the processors that form a network.</p> <p>3 Q. So where does Lin -- so you just opined,</p> <p>4 though, that you thought Lin now describes an</p> <p>5 underlying network, right?</p> <p>6 MR. DAVIS: Objection to form.</p> <p>7 Q. So does it -- is that right?</p> <p>8 A. Sorry, what was the question again?</p> <p>9 Q. You just testified that Lin also describes</p> <p>10 an underlying network, correct?</p> <p>11 MR. DAVIS: Objection to form.</p> <p>12 THE WITNESS: Yes.</p> <p>13 Q. But your declaration says that it overlays</p> <p>14 another network?</p> <p>15 A. Yes.</p> <p>16 Q. So where in your -- in your declaration</p> <p>17 does it say that Lin is the underlying network?</p> <p>18 A. I didn't say that Lin is the underlying</p> <p>19 network.</p> <p>20 Q. Okay.</p> <p>21 A. So what's your question?</p> <p>22 Q. That clears it -- that clears it up. I</p> <p>23 mean if you don't think that Lin is the underlying</p> <p>24 network, that's fine.</p>	<p style="text-align: right;">Page 68</p> <p>1 your opinion to claim one, are you applying your</p> <p>2 opinion to the overlay network that's in Lin or this</p> <p>3 underlying network that you just identified?</p> <p>4 A. Applying my opinion to claim one. What --</p> <p>5 what opinion?</p> <p>6 Q. So, in -- in your opinion, Lin teaches</p> <p>7 aspects of claim one, correct?</p> <p>8 A. Correct.</p> <p>9 Q. Now, you just pointed out that Lin</p> <p>10 discloses -- or you read from your report that Lin</p> <p>11 provides a well known technique for implementing</p> <p>12 these broadcast protocols when a communication graph</p> <p>13 is overlaid on the processor that formed the</p> <p>14 network, correct?</p> <p>15 A. Yes.</p> <p>16 Q. Is it the communication graph that's</p> <p>17 overlaid on the processors that's relevant to your</p> <p>18 opinion or is it this -- the network that's</p> <p>19 referenced here, the underlying network that's</p> <p>20 relevant to your opinion in regard to claim one?</p> <p>21 A. Well, again, since they both exist and are</p> <p>22 disclosed, it didn't matter which one was relevant</p> <p>23 here. And so I didn't need to form an opinion on</p> <p>24 that.</p>

<p style="text-align: right;">Page 69</p> <p>1 Q. Sitting -- tell me your opinion, is it 2 based on the overlaying network in Lin or the 3 underlying network in Lin? 4 A. It's based on the existence of both. 5 Q. So is it your opinion that the underlying 6 network in Lin is M regular? 7 MR. DAVIS: Objection. Form. 8 THE WITNESS: Lin does not specify 9 that the underlying network is M regular. 10 Q. All right. Well, let's continue -- 11 A. Actually, if I can take another short 12 break. 13 Q. Well, I want to -- I want to finish 14 up on -- because you were going through the process 15 of identifying -- 16 A. Sure, that's fine. 17 Q. -- DirectPlay, then Lin, now Shoubridge. 18 A. Okay. Sure. I can continue. 19 Q. So I want to know what -- where in your 20 declaration do you discuss Shoubridge having both an 21 overlay network and underlying network? 22 A. So I believe I misspoke in the way I 23 answered the question previously. The question that 24 we were starting with was which -- or sorry, the</p>	<p style="text-align: right;">Page 71</p> <p>1 case -- 2 A. Uh-huh. 3 Q. -- was the -- is the computer network part 4 of the overlay network or the underlying network? 5 A. Sorry, can I have the question again? 6 (Reporter read back.) 7 THE WITNESS: So, once again, as 8 regards to DirectPlay and Lin combination, both 9 DirectPlay and Lin disclosed both an overlay 10 network and an underlying network and, 11 therefore, I didn't need to decide which one to 12 apply because both were available. 13 Q. So in your analysis of claim one for a 14 computer network you didn't specify which one it 15 was, whether the network in DirectPlay or the 16 network in Lin? 17 MR. DAVIS: Objection to form. 18 THE WITNESS: The network in direct -- 19 so, again, claim one -- where you say computer 20 network, you're talking about the first line of 21 claim one where it talks about a computer 22 network for providing a game environment to a 23 plurality of participants. And my point was 24 that Lin discloses both an overlay network and</p>
<p style="text-align: right;">Page 70</p> <p>1 question I was answering was which network in these 2 disclosures corresponds to the network in claim one. 3 And the point I made was that both in Lin and in 4 DirectPlay there are these two different networks 5 disclosed, the overlay and the underlay network, and 6 that I wasn't prepared to opine on which of them was 7 the network because they were both disclosed, and so 8 either way was fine. Shoubridge does not emphasize 9 an overlay network. Shoubridge simply describes a 10 network and that is the network that I mapped to the 11 claim one -- to claim one in this -- in my 12 investigation. 13 Q. We can take that break. 14 A. Great. Thanks. This one should be short. 15 VIDEO TECHNICIAN: Off the record, 16 12:17 p.m. 17 (Recess taken.) 18 VIDEO TECHNICIAN: Back on the record, 19 12:26 p.m. 20 Q. All right. Doctor, let's turn back to 21 claim one of the 344 patent. 22 A. All right. 23 Q. In claim one, when you applied it to the 24 DirectPlay and Lin combination, which is in 1970</p>	<p style="text-align: right;">Page 72</p> <p>1 an underlay network and, therefore, since it 2 discloses both an overlay network and an 3 underlay network, I didn't need to decide which 4 of those two I was going to associate with as 5 the computer -- I didn't need to decide whether 6 this computer network statement he was 7 referring to was an overlay or underlay network 8 because both are disclosed. 9 Q. So you don't have an opinion one way or 10 another whether a computer network for providing a 11 game environment is an overlay network or an 12 underlying network when you applied DirectPlay and 13 Lin in combination, correct? 14 MR. DAVIS: Objection. Form. 15 THE WITNESS: I did not need to form 16 that opinion, that is correct. 17 Q. Are the participants in -- strike that. 18 In your analysis of DirectPlay and 19 Lin, in regard to claim one, are the participants 20 part of the overlay network or the underlying 21 network? 22 MR. DAVIS: Objection. Form. 23 THE WITNESS: Part of -- part of the 24 overlay. So, again, for -- in order to</p>

<p style="text-align: right;">Page 73</p> <p>1 evaluate claim one I had to decide, for 2 example, whether the prior art disclosed each 3 participant having connections to at least 4 three neighbor participants. In order to 5 evaluate claim one, I did not have to determine 6 whether participants were part of the overlay 7 or underlay network. 8 Q. So sitting here today you don't have an 9 opinion one way or the other whether the 10 participants are part of the overlay network or the 11 underlying network, correct? 12 MR. DAVIS: Objection to form. 13 THE WITNESS: I don't have an opinion 14 about whether the participants have to be part 15 of the overlay network or the underlay network 16 or whether the claim can be fulfilled either 17 way. 18 Q. I want to know when you applied DirectPlay 19 and Lin in combination to claim one, is it your 20 opinion that the participants are part of the 21 overlay network or the underlying network? 22 MR. DAVIS: Objection. Form. 23 THE WITNESS: So if you look at 24 paragraph 81 of my DirectPlay declaration,</p>	<p style="text-align: right;">Page 75</p> <p>1 to this, but correct me if I'm wrong, when you 2 analyzed DirectPlay and Lin in combination, it's 3 your opinion that the participants are part of the 4 overlay network, correct? 5 A. No, that's not what I said. What I said 6 was that this particular example that I just read to 7 you is an example in which the participants are 8 participating in an overlay network. I did not say 9 that that had to be the case, that this was the only 10 way to fulfill the claim and so forth. 11 Q. So show me in your declaration where you 12 say in the combination of DirectPlay and Lin where 13 the participants are part of the underlying network. 14 MR. DAVIS: Objection. Form. 15 THE WITNESS: So I do not recall 16 asserting that the participants were part of 17 the underlying network. The point that I'm 18 making here is that I also don't think I ruled 19 out the possibility. 20 Q. So you understand that you're limited to 21 the opinions in your declaration in this matter, 22 right? 23 A. Yes, I do. 24 Q. And that's for both the 1970 declaration</p>
<p style="text-align: right;">Page 74</p> <p>1 there I'm explaining how DirectPlay presents an 2 example in which the four players are connected 3 to each of the other players and, therefore, 4 provides prior art to the claim that each 5 participant has connections to at least three 6 neighboring participants. Now, in this 7 particular case, the network that has been 8 drawn in the figure is what I would call the 9 overlay network. However, I did not have to 10 form an opinion about whether it must be the 11 overlay network in order to fulfill claim one 12 or whether there might be some other way to 13 fulfill claim one by looking at the underlying 14 network. 15 Q. And I understand that you're -- you don't 16 have an opinion in terms of, you know, the meaning 17 of claim one or certain definitions, but you said 18 you did have an opinion when you applied the prior 19 art references to claim one, right? 20 MR. DAVIS: Objection to form. 21 THE WITNESS: I had an opinion that 22 these did serve as prior art for claim one, 23 yes. 24 Q. And so -- and I believe you just testified</p>	<p style="text-align: right;">Page 76</p> <p>1 and the 1972 declaration, correct? 2 A. Yes. 3 Q. So if you don't provide an opinion in 4 these declarations that the participants are part of 5 the underlying network in regard to DirectPlay and 6 Lin in combination, then you can't offer that 7 opinion, right? 8 MR. DAVIS: Objection. Form. 9 Q. In these proceedings, any way? 10 A. Can you restate the question? 11 (Reporter read back.) 12 THE WITNESS: So since you're asking a 13 legal question about what opinions I'm 14 permitted to offer and there -- there may be 15 legal aspects that I'm not aware of, what I do 16 understand is that there are certain ways for 17 me to determine that prior art has disclosed a 18 feature of a claim. I have applied those ways 19 and have found that the prior art does disclose 20 features under consideration. Now, I found 21 some ways that the prior art discloses those 22 features. I am not asserting that there are no 23 other ways that the prior art discloses those 24 features. And, indeed, if you look at</p>

<p style="text-align: right;">Page 77</p> <p>1 paragraph 241 of my declaration, I am reserving 2 the right to supplement my opinions later 3 should that become necessary. So this 4 declaration describes opinions that I have and 5 that's the subject for the deposition today, 6 not other opinions I might formulate later. 7 Q. Okay. So let's just make this clear for 8 the record. Does Exhibit-1 contain all of your 9 opinions that you intend to offer in the 1970 case? 10 MR. DAVIS: Objection to form. 11 THE WITNESS: Once again, I have 12 reserved the right to offer other opinions. 13 And so I can't say with certainty that it -- it 14 contains all of the opinions that I intended to 15 offer for this declaration, but I may end up 16 offering other opinions to respond to arguments 17 that are raised by Acceleration Bay or its 18 experts or take into account new information 19 that becomes available. 20 Q. So let me ask it a different way. Does -- 21 does Exhibit-1 contain all of the opinions you 22 intend to offer in the 1970 case sitting here today? 23 A. Does it contain all the opinions that I 24 intend to offer? I mean it contains the opinions</p>	<p style="text-align: right;">Page 79</p> <p>1 now you're asking about just whether it -- 2 there was no mention of intent in this 3 question. 4 Q. So I'll just ask the question to you. 5 Does Exhibit-2 contain all of the opinions that you 6 intend to offer with regard to the 1972 case? 7 MR. DAVIS: Objection. Form. 8 THE WITNESS: And so to that question 9 my answer is the same. It contain -- with the 10 recognition that sometimes intents are not 11 fulfilled. At present I intend to offer the 12 opinions that are in this deposition. 13 Q. In this declaration you mean? 14 A. I'm sorry, in this declaration. 15 Q. All right. So turning back to claim one. 16 Using the Lin reference by itself, you have an 17 opinion that the Lin reference itself teaches claim 18 one of the 344 patent, correct? 19 A. Yes. 20 Q. So in claim one is the computer network 21 for providing a game environment part of the overlay 22 network or the underlying network in regard to your 23 opinion regarding Lin by itself? 24 A. Read out the question again.</p>
<p style="text-align: right;">Page 78</p> <p>1 that I have offered. And I'm -- and I'm -- I'm not 2 going to try to form any new opinions on the fly 3 without time to -- to think about them and form 4 them. 5 Q. So is the answer to my question yes, that 6 you -- Exhibit-1 contains all of the opinions as you 7 sit here today with regard to the 1970 case? 8 MR. DAVIS: Objection. Form. 9 THE WITNESS: Well, with the 10 recognition that what I intend may not play 11 out. That is my intention at present. 12 Q. So the same question with regard to 13 Exhibit-2. Does Exhibit-2 contain all of the 14 opinions, as you sit here today, with regard to the 15 1972 case? 16 MR. DAVIS: Objection to form. 17 THE WITNESS: I don't think that was 18 the same question. Could you read it again? 19 THE COURT REPORTER: Which one do you 20 want me to read? The one he just read -- 21 MR. HANNAH: They were both exactly 22 the same. 23 THE WITNESS: You asked me about 24 something about intending to offer, no, no, but</p>	<p style="text-align: right;">Page 80</p> <p>1 (Reporter read back.) 2 THE WITNESS: So the opinion that I 3 give regarding Lin shows a mapping of the 4 overlay network to this computer network for 5 providing a game environment, which again does 6 not exclude the possibility that there may be 7 some other mapping which maps the underlying 8 network, but in the opinion I give that mapping 9 is from the overlay network. 10 Q. In your opinion with regard to Lin by 11 itself is the participant part of the overlay 12 network or the underlying network? 13 A. So in the opinion that I've given and, 14 again, in the mapping that I am considering for this 15 opinion, the participants are actually part of both. 16 Q. Where is that in your declaration? 17 A. Well, in my declaration what I'm thinking 18 about as the participants, from the perspective of 19 Lin, are the processors and nodes of the network. 20 And as characterized by Lin these processors are 21 part of a network and we then create an overlay 22 network which incorporates these processors. 23 Q. So just to clarify, the participants, in 24 your opinion, are part of both the overlay network</p>

<p style="text-align: right;">Page 81</p> <p>1 and the underlying network in Lin?</p> <p>2 A. I would say that in the mapping that I am</p> <p>3 considering from Lin to the claims, the entities</p> <p>4 that I am considering to be the participants, which</p> <p>5 are the processors are -- happen to be part of both</p> <p>6 the overlay and the underlay network.</p> <p>7 Q. Turning to Shoubridge and your opinion</p> <p>8 with Shoubridge by itself, what is the computer</p> <p>9 network for providing a game environment? Is that</p> <p>10 part of the overlay network or the underlying</p> <p>11 network?</p> <p>12 A. Also, as we discussed previously,</p> <p>13 Shoubridge doesn't really articulate this framing of</p> <p>14 things in terms of an overlay and an underlay</p> <p>15 network. Shoubridge simply describes a network and</p> <p>16 flooding algorithms over that network. And so this</p> <p>17 is the network that I considered and the</p> <p>18 participants in that network are the nodes of that</p> <p>19 network.</p> <p>20 Q. So the partici -- in your opinion with</p> <p>21 regard to Shoubridge the participants are part of</p> <p>22 the same network as the computer network for</p> <p>23 providing a game environment, correct?</p> <p>24 A. Sorry, I need it again.</p>	<p style="text-align: right;">Page 83</p> <p>1 map to the notion of a game environment for a</p> <p>2 plurality of -- a computer network for providing a</p> <p>3 game environment for a plurality of participants,</p> <p>4 then -- so computer network in general as described</p> <p>5 by Shoubridge in his opening paragraph would satisfy</p> <p>6 that mapping. As claim one goes on to talk about</p> <p>7 each participant having connections to at least</p> <p>8 three neighbor participants, for that I focus on</p> <p>9 Shoubridge's disclosure in particular of the torus,</p> <p>10 which does satisfy that and other claims -- other</p> <p>11 parts of claim one.</p> <p>12 Q. So -- and I just want to be perfectly</p> <p>13 clear for the record. We're talking about claim one</p> <p>14 and we're talking about Shoubridge by itself, in</p> <p>15 your opinion, the only network that we're talking</p> <p>16 about is the torus as described in Shoubridge,</p> <p>17 correct?</p> <p>18 A. So in my declaration the network that I</p> <p>19 select in order to show that Shoubridge discloses</p> <p>20 these elements of the claim one is the torus network</p> <p>21 that Shoubridge discloses.</p> <p>22 Q. Let's look at claim six of the 344 patent,</p> <p>23 please. Claim six discusses wherein all the</p> <p>24 participants are peers. Do you see that?</p>
<p style="text-align: right;">Page 82</p> <p>1 (Reporter read back.)</p> <p>2 THE WITNESS: In the mapping that I'm</p> <p>3 considering from Shoubridge to claim one,</p> <p>4 Shoubridge has a network which is this torus.</p> <p>5 Those participants are the nodes of the network</p> <p>6 and the -- that torus is the network that we</p> <p>7 are considering.</p> <p>8 Q. And the torus is the computer network for</p> <p>9 providing a game environment, in your opinion?</p> <p>10 A. So not uniquely the torus but rather the</p> <p>11 communication network in general that Shoubridge is</p> <p>12 disclosing.</p> <p>13 Q. Which is the torus, right, the Manhattan</p> <p>14 grid?</p> <p>15 A. Well, Shoubridge does disclose a Manhattan</p> <p>16 grid, but he speaks about networks more generally,</p> <p>17 and the goal of disseminating information,</p> <p>18 delivering information in these networks. He's not</p> <p>19 saying that you can only do this with a torus.</p> <p>20 Q. But in your mapping, in your opinion, to</p> <p>21 claim one, you're mapping a computer network for</p> <p>22 providing a game environment to the torus that's</p> <p>23 described in Shoubridge, right?</p> <p>24 A. All right. So if all I needed to do was</p>	<p style="text-align: right;">Page 84</p> <p>1 A. I see that.</p> <p>2 Q. What's your understanding of peers in the</p> <p>3 context of claim six of the 344 patent?</p> <p>4 MR. DAVIS: Objection to form.</p> <p>5 THE WITNESS: Well, once again, peers</p> <p>6 is not a term that I was asked to formally</p> <p>7 define or form an opinion on in any exact</p> <p>8 boundaries of what makes a peer. So my</p> <p>9 opinions for this case were focused on whether</p> <p>10 the participants that I mapped from Lin and</p> <p>11 Shoubridge and DirectPlay were peers. And I</p> <p>12 found that, in all cases, they were.</p> <p>13 Q. So in just the context of the 344 patent,</p> <p>14 do you have any understanding of what a peer is?</p> <p>15 MR. DAVIS: Objection to form.</p> <p>16 THE WITNESS: I have an understanding</p> <p>17 of certain things which clearly are peers.</p> <p>18 Q. In the context of the 344 patent what are</p> <p>19 they?</p> <p>20 A. Well, so, for example, I understand that</p> <p>21 the DirectPlay participants are peers because they</p> <p>22 talk about a peer to peer networking system that the</p> <p>23 players could be in and disclose an example in which</p> <p>24 those players are in a peer to peer arrangement. I</p>

<p style="text-align: right;">Page 85</p> <p>1 similarly understand that the nodes in Shoubridge 2 are peers. And in a similar way I understand that 3 the nodes in Lin are peers. 4 Q. So, Doctor, my question was focused on the 5 344 patent, not in reference to the prior art. 6 A. Yes. 7 Q. What understanding of peer did you apply 8 in your opinion -- in forming your opinions, I 9 should say? 10 A. So -- 11 MR. DAVIS: Objection. Form. 12 THE WITNESS: Again, my -- my goal was 13 to -- I didn't -- I wasn't asked to consider 14 the 344 patent in isolation. I was asked to 15 consider the 344 patent in light of this prior 16 art. And so I formed my opinions regarding 17 peers in light of this prior art and whether -- 18 I'm sorry, I formed my opinions about whether 19 the prior art fulfilled the claims by looking 20 at whether these elements of the prior art fit 21 the definition of peers -- I'm sorry, fit the 22 concept of being peers. 23 Q. So what is the definition of a peer in the 24 344 patent?</p>	<p style="text-align: right;">Page 87</p> <p>1 patent in order to render an opinion in this case? 2 A. Again, I didn't need to define the exact 3 boundaries of what made a peer to peer connection in 4 order to determine that the prior art mappings 5 provided things that clearly were peer to peer 6 connections. 7 Q. How about -- looking at claim ten -- 8 strike that. 9 Looking at claim nine, how about a 10 process executing on a computer? Did you come up 11 with an understanding or a definition of a process 12 executing on a computer when forming your opinion 13 with regard to the 344 patent? 14 A. The question again? 15 (Reporter read back.) 16 THE WITNESS: So, once again, I wasn't 17 required or requested to come up with a 18 definition of a process. I was asked to 19 determine whether the prior art would disclose 20 this idea of having a process executed on a 21 computer. And if, for example, you look at 22 paragraph 136 of my declaration, I outline why 23 a person of ordinary skill would have 24 understood that there is a process executing on</p>
<p style="text-align: right;">Page 86</p> <p>1 A. I don't recall whether the 344 provided a 2 definition. Would you like to point me to one to 3 look at or should I go hunting? 4 Q. No, I want to know what the basis for your 5 opinion is. So what was the basis for your opinion 6 that the prior art contained a peer, and in forming 7 that basis, I would think that you would have to 8 define what a peer means in your mind? 9 A. Well, as we discussed before, peer is 10 another example of a term which is widely used in 11 many contexts, by many people and not everybody 12 necessarily -- people don't necessarily mean -- all 13 mean the same thing when they talk about a peer. 14 However, it was my opinion looking at this prior 15 art, that your canonical person of ordinary skill in 16 the art would understand that the participants 17 described in DirectPlay and those described in Lin 18 and in Shoubridge were peers. 19 Q. Based on what definition? 20 A. Again, I didn't need a definition of peer 21 in order to make that determination. 22 Q. How about peer to peer connection as in 23 claim seven, did you need to have a definition of 24 peer to peer connection in the context of the 344</p>	<p style="text-align: right;">Page 88</p> <p>1 the computer. This provides sort of evidence 2 that that would have been understood without 3 giving a formal definition -- without me having 4 to come up with a formal definition of a 5 process. 6 Q. Looking at claim ten, did you come up with 7 a definition or an understanding of a computer host 8 in the context of the 344 patent in rendering your 9 opinions in this case? 10 A. I wasn't asked to come up with such a 11 definition. 12 Q. So you didn't come up with one? 13 MR. DAVIS: Objection to form. 14 THE WITNESS: Correct, I didn't opine 15 on what that term means. 16 Q. How about looking at claim 12, the phrase 17 interconnections of participants form a broadcast 18 channel for a game of interest. Did you come up 19 with an understanding or a definition of that phrase 20 in the context of the 344 patent in rendering your 21 opinions in this case? 22 MR. DAVIS: Objection. Form. 23 THE WITNESS: So, again, my task was 24 to determine whether the prior art could be</p>

<p style="text-align: right;">Page 89</p> <p>1 mapped into this phrase. And that did not 2 require me come up with a precise definition of 3 what that phrase means exactly. 4 Q. Should we go off record and break for 5 lunch? 6 VIDEO TECHNICIAN: This is the end of 7 tape number one. Off the record, 1:09 p.m. 8 (Recess taken.) 9 VIDEO TECHNICIAN: This is the 10 beginning of tape number three. On the record 11 at 2:04 p.m. 12 (Whereupon a document was marked as 13 Exhibit-7 for Identification.) 14 Q. Doctor, I just handed you what's been 15 marked as Exhibit-7. Exhibit-7 is a declaration of 16 Virgil Bourassa and attached to it is Exhibit A, 17 which is an admission disclosure form. Have you 18 seen Exhibit-7 before? 19 A. I do not recall having seen this, no. 20 Q. Why don't you take a look at page 11 for 21 me? 22 A. Uh-huh. 23 Q. And read that first -- the first full 24 paragraph on that page underneath the figure.</p>	<p style="text-align: right;">Page 91</p> <p>1 is that it is a description. Well, I can't 2 tell if it's real or hypothetical, a 3 communications library that allows computers to 4 share information over a point to point 5 network. 6 Q. And you see also that -- the sort of 7 technology referenced here is Swan. Do you see 8 that? 9 MR. DAVIS: Same objection. 10 THE WITNESS: Yes, I do. 11 Q. You also see where it says the Swan is -- 12 has its connections into a 4 regular graph? 13 MR. DAVIS: Same objections. 14 THE WITNESS: I see where it says 15 that. 16 Q. Do you recognize figure two as being a 4 17 regular graph? 18 MR. DAVIS: Objection, form and scope, 19 incompleteness. 20 THE WITNESS: I can't really tell for 21 sure. Some of the nodes that I'm looking at 22 seem to have degree less than four. 23 Q. Okay. Turn your attention to page 15 of 24 the document. It says page 20 at the bottom.</p>
<p style="text-align: right;">Page 90</p> <p>1 A. Out loud? 2 Q. To yourself, please. 3 A. All right. 4 Q. Do you have an understanding of what's 5 being said here? 6 MR. DAVIS: Objection to form and an 7 objection to scope. 8 THE WITNESS: I would say that I 9 understand it in a general sense. 10 Q. What's it disclosing? 11 MR. DAVIS: Objection to form and 12 scope. 13 THE WITNESS: It's -- what is it 14 disclosing? 15 MR. DAVIS: And also to 16 incompleteness. 17 THE WITNESS: Are you asking about 18 disclosure in the sort of sense that we've been 19 using it in these proceedings, as in this 20 discloses the following claim? 21 Q. I'm just asking what this -- as you read 22 this, what does this mean to you? 23 MR. DAVIS: Same objection. 24 THE WITNESS: So what it means to me</p>	<p style="text-align: right;">Page 92</p> <p>1 A. Wait, page 15 says -- my page fifteen says 2 page ten at the bottom. 3 Q. So, yeah, page 15, page 15. 4 A. Oh, okay, sorry. I inverted the numbers. 5 I see it. 6 Q. So can you please read that paragraph 7 underneath broadcasting and the paragraph underneath 8 the figure? And let me know when you've had a 9 chance to do so. 10 MR. DAVIS: Same objections. 11 THE WITNESS: All right. 12 Q. Looking at this disclosure and comparing 13 it to claim one of the 344 patent, would you say 14 that it matches all of the elements of claim one of 15 the 344? 16 MR. DAVIS: Objection, form and scope, 17 incompleteness. Also, object to foundation. 18 VIDEO TECHNICIAN: Off the record, 19 2:16 p.m. 20 (Recess taken.) 21 VIDEO TECHNICIAN: This is the 22 beginning of number four. On the record, 23 2:18 p.m. 24 THE WITNESS: All right. Can you ask</p>

<p style="text-align: right;">Page 93</p> <p>1 the question again?</p> <p>2 (Reporter read back.)</p> <p>3 MR. DAVIS: Object. It's beyond the</p> <p>4 scope. And I object to the form and</p> <p>5 foundation, incompleteness.</p> <p>6 THE WITNESS: So I don't feel prepared</p> <p>7 to say that what I have read discloses all of</p> <p>8 the claims -- all of the elements of claim one</p> <p>9 as given here.</p> <p>10 Q. Well, which elements do you think are</p> <p>11 missing?</p> <p>12 MR. DAVIS: Objection. Beyond the</p> <p>13 scope, foundation, form, incompleteness.</p> <p>14 THE WITNESS: So the first element I</p> <p>15 encountered that concerned me is the stated</p> <p>16 computer network for providing a game</p> <p>17 environment.</p> <p>18 Q. Any others?</p> <p>19 MR. DAVIS: Same objections.</p> <p>20 THE WITNESS: So that's a new</p> <p>21 question. Once I found one, I felt I had the</p> <p>22 answer to your previous question. I'll need to</p> <p>23 go back and look some more, to see if</p> <p>24 there's -- if there's more. Is there some</p>	<p style="text-align: right;">Page 95</p> <p>1 form an opinion like you asked. I'm just reading to</p> <p>2 develop an understanding of this material.</p> <p>3 MR. DAVIS: Same objection as before.</p> <p>4 This is beyond the scope.</p> <p>5 Q. Where are you reading now, Doctor?</p> <p>6 A. Oh, right now I'm on page ten.</p> <p>7 MR. DAVIS: Same objection. This is</p> <p>8 beyond the scope.</p> <p>9 Q. What page are you on now, Doctor?</p> <p>10 A. I'm back on article page fifteen.</p> <p>11 Q. So you read pages 7 through 15 of</p> <p>12 Exhibit-7 now?</p> <p>13 MR. DAVIS: Again, this is beyond the</p> <p>14 scope of Dr. Karger's declaration. Also object</p> <p>15 to foundation, form.</p> <p>16 THE WITNESS: I haven't read them</p> <p>17 completely.</p> <p>18 Q. Again, my question is directed to page 15,</p> <p>19 the first two paragraphs with the figure in the</p> <p>20 middle of them.</p> <p>21 A. Uh-huh.</p> <p>22 Q. Does that sufficiently describe or</p> <p>23 disclose all of the elements in claim one, except</p> <p>24 for the identified element that you talked about</p>
<p style="text-align: right;">Page 94</p> <p>1 background meaning I can do on what a Swan</p> <p>2 Herald is?</p> <p>3 Q. Do you need that information to answer my</p> <p>4 question?</p> <p>5 MR. DAVIS: Objection. This is beyond</p> <p>6 the scope of Dr. Karger's declaration.</p> <p>7 THE WITNESS: So since this material</p> <p>8 is discussed under -- in the paragraph you</p> <p>9 asked me about, I feel like I should try to</p> <p>10 understand what it is talking about before I</p> <p>11 answer.</p> <p>12 Q. Sure. Go to -- go to page seven of the</p> <p>13 document, under the heading contact. It says,</p> <p>14 participating Swan processes initiates Swan Herald</p> <p>15 objects to act as communication agents.</p> <p>16 A. Sorry, when you said page seven, which</p> <p>17 numbering were you referring to?</p> <p>18 Q. The page number of the document itself.</p> <p>19 Did you have a chance to read that paragraph,</p> <p>20 Doctor?</p> <p>21 A. I've started. I'm working on interpreting</p> <p>22 it.</p> <p>23 Q. What are you reading now, Doctor?</p> <p>24 A. Oh, I'm sorry, I'm still -- I'm trying to</p>	<p style="text-align: right;">Page 96</p> <p>1 earlier which was a computer network for providing a</p> <p>2 game environment?</p> <p>3 MR. DAVIS: And, again, objection,</p> <p>4 beyond the scope of Dr. Karger's declaration,</p> <p>5 foundation, form, incompleteness.</p> <p>6 THE WITNESS: You know, in the time</p> <p>7 I've had, I'm not sure I'm comfortable forming</p> <p>8 an opinion, there are -- there are issues, such</p> <p>9 as figure nine, which shows a non-four regular</p> <p>10 graph in the same article and talks about Swan</p> <p>11 operating in that state.</p> <p>12 Q. All right. So, Doctor, let's turn to page</p> <p>13 15 of the document. And we'll take this in pieces.</p> <p>14 So claim one requires a plurality of participants</p> <p>15 where each participant has a connection to at least</p> <p>16 three neighboring participants. Looking at page 15,</p> <p>17 would you agree that this is disclosed when it says</p> <p>18 that with the four regular, four connected -- four</p> <p>19 connected low latency Swan graph this broadcasting</p> <p>20 can be done reliably and quickly. Any Swan Herald</p> <p>21 with a message to share that -- share sends that</p> <p>22 message to each of its four neighbors.</p> <p>23 MR. DAVIS: Are you finished with the</p> <p>24 question?</p>

<p style="text-align: right;">Page 97</p> <p>1 MR. HANNAH: Yes.</p> <p>2 MR. DAVIS: Objection. Beyond the</p> <p>3 scope of Dr. Karger's declaration, foundation,</p> <p>4 form, incompleteness.</p> <p>5 Q. Doctor, does that language line up?</p> <p>6 MR. DAVIS: Same objections.</p> <p>7 THE WITNESS: You're asking if the</p> <p>8 language lines up? So are you asking me to</p> <p>9 line up the language or do you have a</p> <p>10 particular mapping between elements of what's</p> <p>11 discussed in the Swan document and the -- the</p> <p>12 patent that you'd like me to consider?</p> <p>13 Q. I just read it to you. I said, page</p> <p>14 fifteen of the document says with the 4 regular, 4</p> <p>15 connected low latency Swan graph this broadcasting</p> <p>16 can be done reliably and quickly. Does that -- what</p> <p>17 does that sentence mean to you?</p> <p>18 MR. DAVIS: Objection. Same -- same</p> <p>19 objections.</p> <p>20 THE WITNESS: Well, we have</p> <p>21 constructions for the meaning of regular and</p> <p>22 connected. The other terms, latency</p> <p>23 broadcasting, I mean I've encountered them</p> <p>24 before. I have a general sense of what they</p>	<p style="text-align: right;">Page 99</p> <p>1 Q. What does that mean to you?</p> <p>2 MR. DAVIS: Again, same objections,</p> <p>3 beyond the scope, form, incompleteness and</p> <p>4 foundation.</p> <p>5 THE WITNESS: Well, this is talking</p> <p>6 about these things called Swan Heralds. And,</p> <p>7 again, a specialized term of this document</p> <p>8 which I haven't really had time to assess</p> <p>9 exactly what it is. And it asserts that one of</p> <p>10 these objects, whatever a Swan Herald is, that</p> <p>11 wishes to -- that has a message to share. And,</p> <p>12 again, I'd have to dig through the document to</p> <p>13 see if there's some special meaning to share</p> <p>14 here, that it sends that message to each of its</p> <p>15 four neighbors and that these three neighbors</p> <p>16 forward the message to their other three</p> <p>17 neighbors.</p> <p>18 Q. Now, looking at claim one of the 344</p> <p>19 patent, in your opinion, would claim one cover</p> <p>20 what's being described on page 15 in those sentences</p> <p>21 we just read?</p> <p>22 MR. DAVIS: Objection. Beyond the</p> <p>23 scope, form, incompleteness and foundation.</p> <p>24 THE WITNESS: Well, it's not entirely</p>
<p style="text-align: right;">Page 98</p> <p>1 might mean.</p> <p>2 Q. So what does it mean? What does that</p> <p>3 sentence mean to you?</p> <p>4 MR. DAVIS: Same objections. Beyond</p> <p>5 the scope of Dr. Karger's declaration, form,</p> <p>6 incompleteness and foundation.</p> <p>7 THE WITNESS: Well, just working from</p> <p>8 the plain English, this sentence asserts that</p> <p>9 there is a Swan graph, that it is 4 regular,</p> <p>10 that it's 4 connected and that it has low</p> <p>11 latency and it asserts that -- I'm not sure why</p> <p>12 they are quoting broadcasting. I'd have to go</p> <p>13 back and read to see if that has a special --</p> <p>14 special meaning. And they are asserting that</p> <p>15 whatever this is in quotes can be done reliably</p> <p>16 and quickly.</p> <p>17 Q. And then the next line it says, any Swan</p> <p>18 Herald with a message to share sends that message to</p> <p>19 each of its four neighbors. Do you see that?</p> <p>20 A. Yes, I do.</p> <p>21 Q. And then it says, these neighbor forward</p> <p>22 the message in turn to their other three neighbors</p> <p>23 as in figure 11. Do you see that?</p> <p>24 A. Yes, I do.</p>	<p style="text-align: right;">Page 100</p> <p>1 clear. The -- again, to sort of make that</p> <p>2 determination requires doing a mapping, you</p> <p>3 know, figuring out what -- what are we calling</p> <p>4 the participants in the language of the patent.</p> <p>5 You know, for example, in this paragraph this</p> <p>6 says that the -- the Herald that has the</p> <p>7 message to share sends its -- that message to</p> <p>8 its four neighbors and that each of these</p> <p>9 neighbors forwards the message to their three</p> <p>10 neighbors, but that's all. Whereas the patent</p> <p>11 asserts that each participant that receives</p> <p>12 data forwards it to its other neighbors. So</p> <p>13 the -- the Swan article is not entirely clear</p> <p>14 on whether this is done by each participant,</p> <p>15 again, because it doesn't explicitly say what</p> <p>16 the participants are.</p> <p>17 Q. So what's your understanding of what</p> <p>18 participant in light of the 344 patent?</p> <p>19 MR. DAVIS: Objection. Form.</p> <p>20 THE WITNESS: Well, I haven't tried to</p> <p>21 form one, in the context of this new -- new</p> <p>22 article that you've just presented me with.</p> <p>23 Q. So I didn't ask in light of this article.</p> <p>24 I asked just in light of the 344 patent, do you have</p>

<p style="text-align: right;">Page 101</p> <p>1 any understanding of what a participant is?</p> <p>2 MR. DAVIS: Objection. Form.</p> <p>3 THE WITNESS: Well, I have an</p> <p>4 understanding that the prior art which I</p> <p>5 previously examined, Lin and DirectPlay and</p> <p>6 Shoubridge, have mappings that I understand</p> <p>7 between the elements of that prior art and the</p> <p>8 term participant in this claim.</p> <p>9 Q. But do you have an understanding or a</p> <p>10 definition of participant as it is used in the 344</p> <p>11 patent by itself?</p> <p>12 MR. DAVIS: Same objection.</p> <p>13 THE WITNESS: So if you look at, for</p> <p>14 example, section five of my Lin declaration</p> <p>15 I've -- I've been informed of the meaning of --</p> <p>16 been asked to assume certain instructions for</p> <p>17 certain terms, but participant is not one of</p> <p>18 the terms I've been asked to assume or define.</p> <p>19 So I haven't attempted to define what a</p> <p>20 participant is. And all I've needed to do for</p> <p>21 my work so far is assess whether a particular</p> <p>22 element of each piece of prior art fits into</p> <p>23 the notion of participant in the claims.</p> <p>24 Q. So based on your review of pages 7 through</p>	<p style="text-align: right;">Page 103</p> <p>1 Q. So the language that each -- any Swan</p> <p>2 Herald with a message to share, that -- strike that.</p> <p>3 The language on page fifteen says, any</p> <p>4 Swan Herald with a message to share sends that</p> <p>5 message to each of its four neighbors. That doesn't</p> <p>6 satisfy your concerns with claim one?</p> <p>7 MR. DAVIS: Same objection. Beyond</p> <p>8 the scope, foundation, form, incompleteness.</p> <p>9 THE WITNESS: Again, that -- it is not</p> <p>10 clear to me that that fulfills the claim</p> <p>11 language that says that each participant sends</p> <p>12 data that it receives from a neighbor</p> <p>13 participant to its other neighbor participants.</p> <p>14 Q. The sentence after it, which says, these</p> <p>15 neighbors forward the message in turn to their other</p> <p>16 three neighbors, that doesn't satisfy your concerns?</p> <p>17 MR. DAVIS: Same objections.</p> <p>18 THE WITNESS: Correct, that does not</p> <p>19 satisfy my concerns.</p> <p>20 Q. Would you agree that the disclosure on</p> <p>21 page 15 discloses a regular network?</p> <p>22 MR. DAVIS: Objection. Beyond the</p> <p>23 scope, form, incompleteness and foundation.</p> <p>24 THE WITNESS: So page 15 does have a</p>
<p style="text-align: right;">Page 102</p> <p>1 15 of Exhibit-7 -- and when you specifically asked</p> <p>2 to see what a Swan Herald was, is a Swan Herald a</p> <p>3 participant?</p> <p>4 MR. DAVIS: Objection. Beyond the</p> <p>5 scope, form, foundation, incompleteness.</p> <p>6 THE WITNESS: Well, again, I think</p> <p>7 it's really premature for me to say. Pages 7</p> <p>8 to 15 are not the entirety of this article.</p> <p>9 Q. Any other elements that you have issue</p> <p>10 with with claim one? So you've identified the</p> <p>11 computer network for providing a game environment</p> <p>12 and now a participant. Anything else that's not</p> <p>13 disclosed?</p> <p>14 MR. DAVIS: Objection to form and</p> <p>15 beyond the scope and foundation,</p> <p>16 incompleteness.</p> <p>17 THE WITNESS: Well, I wasn't only</p> <p>18 talking about this -- I wasn't talking only</p> <p>19 about the notion of what a participant is, but</p> <p>20 in my answer to my last question, I raised some</p> <p>21 concern about whether the element that each</p> <p>22 participant sends data that it receives from a</p> <p>23 neighbor participant to other neighbors</p> <p>24 participants is disclosed or not.</p>	<p style="text-align: right;">Page 104</p> <p>1 sentence that leads with a statement 4 regular,</p> <p>2 4 connected low latency Swan graph. And --</p> <p>3 well, does that disclose -- I mean if I say a</p> <p>4 flying car, am I disclosing a flying car? So</p> <p>5 I'm a little concerned about declaring now</p> <p>6 that -- what is disclosed or not disclosed here</p> <p>7 because, again, I have an understanding of what</p> <p>8 things my prior art discloses, but perhaps</p> <p>9 there are meanings of disclosure that are not</p> <p>10 known to me and perhaps this discloses things</p> <p>11 in that way.</p> <p>12 Q. So, in your opinion, does the disclosure</p> <p>13 of a 4 regular Swan graph meet the limitation of an</p> <p>14 M regular network as described in the 344 patent or</p> <p>15 M equals 4?</p> <p>16 MR. DAVIS: Same objections.</p> <p>17 THE WITNESS: All right. Sorry, could</p> <p>18 you reask your question?</p> <p>19 (Reporter read back.)</p> <p>20 MR. DAVIS: Same objections.</p> <p>21 THE WITNESS: So my understanding of</p> <p>22 disclosure was described in the legal standards</p> <p>23 section of my declaration. And there you can</p> <p>24 see that my understanding of disclosure is</p>

<p style="text-align: right;">Page 105</p> <p>1 about disclosing a claim of a prior art 2 reference. And I don't think this is being 3 taken as a prior art reference. It's not being 4 used to show invalidity of a patent, but if I 5 were to use the same criterion, right, in 6 paragraph 67, I have been advised that prior 7 art reference can disclose a claim feature if 8 that feature is expressly described. And 9 the -- and the paragraph that you've pointed me 10 at does describe a 4 regular graph. So with 11 those caveats, it appears that it does 12 disclose, according to the -- to the -- to my 13 understanding of what disclosure is a 4 regular 14 graph. 15 Q. Does the -- do those two paragraphs in 16 Figure 11 also disclose a incomplete graph or 17 non-complete graph as stated in claim one of the 18 344? 19 MR. DAVIS: Objection. Beyond the 20 scope, form, foundation, incompleteness. 21 THE WITNESS: Well, the paragraph 22 doesn't say anything about a complete or an 23 incomplete graph. The figure -- the figure is 24 a little mysterious. It shows a graph which is</p>	<p style="text-align: right;">Page 107</p> <p>1 Q. In the, I guess, fourth paragraph, it 2 starts, potential licensing opportunities. Do you 3 see that? 4 A. Yes, I do. 5 Q. It says, potential licensing opportunities 6 would also exist with software game vendors for whom 7 shared gaming is very popular. Do you see that? 8 A. Yes, I do. 9 Q. Would that indicate to you that the system 10 described in Exhibit-7 could potentially be used 11 with game vendors? 12 MR. DAVIS: Objection. Beyond the 13 scope, form, foundation, incompleteness. 14 THE WITNESS: Could be used? What 15 exactly do you mean by could be used? 16 Q. Well, I mean, does this sentence convey to 17 you that the authors of this document contemplated 18 that this Swan system could be used with software 19 game vendors or be used by software game vendors? 20 MR. DAVIS: Objection. Beyond the 21 scope, form, foundation, incompleteness. 22 THE WITNESS: Well, I'd have to back 23 up a little because I don't know what potential 24 licensing opportunities they are talking about</p>
<p style="text-align: right;">Page 106</p> <p>1 partially directed, partially undirected. It's 2 not clear if that is a regular graph by the 3 language that they are discussing. Regularity 4 is often -- or is -- I'm very familiar with the 5 notion of regularity for underactive graphs. 6 And you have to be more careful talking about 7 directed graphs. Thinking about the figure as 8 a graph, sort of in isolation from the 9 paragraph, it is -- it is a figure of an 10 incomplete graph. 11 Q. In your opinion, if you have a 4 regular 12 graph and six nodes, that means that it's by virtue 13 of -- strike that. 14 If you have a 4 regular graph and six 15 nodes, does that necessarily mean that the graph is 16 incomplete? 17 MR. DAVIS: Objection. Form. 18 THE WITNESS: Yes, I would agree that 19 a 4 regular graph -- that a six node graph that 20 is 4 regular cannot be a complete graph. 21 Q. Let me turn your attention to the last 22 page of this document, on the document itself is 23 page 19. 24 A. Yes.</p>	<p style="text-align: right;">Page 108</p> <p>1 or what it is they are talking about 2 potentially licensing. Remember I haven't seen 3 this document before. So... 4 Q. Well, as you read -- as you read this 5 paragraph, what does it mean to you? 6 MR. DAVIS: Objection. Beyond the 7 scope, form, foundation, incompleteness. 8 THE WITNESS: Well, what this 9 paragraph conveys to me is that there's 10 something that they could potentially license 11 to software game vendors. 12 Q. Are you an inventor on any patents? 13 A. Yes, I am. 14 Q. Have you ever filled out an invention 15 disclosure form? 16 A. So I have certainly -- 17 MR. DAVIS: I object, to the extent 18 that that calls for any privileged information 19 or communication between Dr. Karger and 20 somebody else. 21 THE WITNESS: I have certainly 22 disclosed my inventions. By invention 23 disclosure form, is that a specific legal 24 document or a class of documents?</p>

<p style="text-align: right;">Page 109</p> <p>1 Q. Well, at MIT, I assume, well -- strike</p> <p>2 that.</p> <p>3 Does MIT have a form that you fill out</p> <p>4 when you come up with an invention to submit it to</p> <p>5 the department?</p> <p>6 MR. DAVIS: To the extent there's any</p> <p>7 privileged information being called for between</p> <p>8 you and MIT, I'll object to that.</p> <p>9 THE WITNESS: So MIT does have a</p> <p>10 process for notifying the organization of an</p> <p>11 invention.</p> <p>12 MR. DAVIS: I'll also caution the</p> <p>13 witness not to reveal any privileged</p> <p>14 information that may exist between him and MIT.</p> <p>15 THE WITNESS: Understood. There is a</p> <p>16 process. It's been a long time since I've made</p> <p>17 use of that process. So I can't recall whether</p> <p>18 there is a specific form called an invention</p> <p>19 disclosure form as part of that process.</p> <p>20 Q. Are you familiar with a concept called</p> <p>21 conception, in terms of inventions?</p> <p>22 MR. DAVIS: Object to form.</p> <p>23 THE WITNESS: So I'm familiar with the</p> <p>24 vocabulary term conception. I don't say -- I</p>	<p style="text-align: right;">Page 111</p> <p>1 scope.</p> <p>2 THE WITNESS: So, again, I would say</p> <p>3 that I've only a layman's understanding of that</p> <p>4 term. I'm -- I understand that it is a term</p> <p>5 that has specific meaning in the legal</p> <p>6 profession, but as a -- as a layman, my general</p> <p>7 understanding is that it reflects the idea that</p> <p>8 you have to -- that you can sort of have an</p> <p>9 idea and then you -- you want to sort of</p> <p>10 execute that idea, make it real.</p> <p>11 Q. So let's turn to the -- actually, it</p> <p>12 doesn't have a page number. So I'll refer to the</p> <p>13 Bates stamp. It's page six of Exhibit-7. If you</p> <p>14 look at row c of the document, you see where it says</p> <p>15 date conceived, date built, date satisfactorily</p> <p>16 tested and in production. Do you see that?</p> <p>17 A. Yes, I do.</p> <p>18 MR. DAVIS: Objection. Beyond the</p> <p>19 scope, foundation, form.</p> <p>20 Q. As one of skill in the art, what does that</p> <p>21 row mean to you when you read it?</p> <p>22 MR. DAVIS: Objection. Beyond the</p> <p>23 scope, form, foundation, incompleteness.</p> <p>24 THE WITNESS: I'm not sure what you</p>
<p style="text-align: right;">Page 110</p> <p>1 don't think I can say that I -- I suspect that</p> <p>2 there are significant legal ramifications</p> <p>3 associated with that term. And I do not think</p> <p>4 I can say that I am familiar with all of those</p> <p>5 legal ramifications.</p> <p>6 Q. What's your understanding of conception?</p> <p>7 MR. DAVIS: Objection to form.</p> <p>8 THE WITNESS: It's a vocabulary idea</p> <p>9 -- it's a vocabulary term. You can conceive of</p> <p>10 a child -- you can conceive a child. You can</p> <p>11 conceive of an idea.</p> <p>12 Q. What does it mean to conceive of an idea</p> <p>13 to you?</p> <p>14 MR. DAVIS: Objection. Form.</p> <p>15 THE WITNESS: Conceive in --</p> <p>16 MR. DAVIS: Excuse me.</p> <p>17 THE WITNESS: I mean I can give you</p> <p>18 synonyms for it, to come up with an idea, to</p> <p>19 think of an idea.</p> <p>20 Q. Have you heard the term reduction to</p> <p>21 practice?</p> <p>22 A. Yes, I've heard the term.</p> <p>23 Q. What does that term mean to you?</p> <p>24 MR. DAVIS: Objection. Form and</p>	<p style="text-align: right;">Page 112</p> <p>1 mean. The art that I would need to be skilled</p> <p>2 in to answer that question would seem to be</p> <p>3 law, right?</p> <p>4 Q. Does it mean anything to you looking at it</p> <p>5 as it is without a law degree?</p> <p>6 MR. DAVIS: Objection. Beyond the</p> <p>7 scope, form, foundation, incompleteness.</p> <p>8 THE WITNESS: Sorry, are you just</p> <p>9 asking about row c? I mean without some</p> <p>10 broader context, it doesn't mean much.</p> <p>11 Q. Just row c.</p> <p>12 MR. DAVIS: Same objections. Beyond</p> <p>13 the scope, form, foundation, incompleteness.</p> <p>14 THE WITNESS: It's a list of four</p> <p>15 dates.</p> <p>16 Q. So when it says date conceived, 11/96,</p> <p>17 would you understand that to mean that it was --</p> <p>18 whatever was disclosed in this document was</p> <p>19 conceived of in November 1996?</p> <p>20 MR. DAVIS: Objection. Form,</p> <p>21 incompleteness, beyond the scope, foundation.</p> <p>22 THE WITNESS: So now you're asking in</p> <p>23 the context of the entire document, not just</p> <p>24 row c?</p>

<p style="text-align: right;">Page 113</p> <p>1 Q. I'm asking you if you read row c, just as 2 a technical lay person, and you saw these dates, 3 what would -- and you saw these descriptions of 4 these dates, what does that convey to you? 5 MR. DAVIS: Objection. Beyond the 6 scope, form, foundation, incompleteness. 7 THE WITNESS: Well, it would convey 8 that somebody is claiming that something was 9 conceived on a certain date and built on a 10 certain date and tested on a certain date and 11 in production on a certain date. 12 Q. Just so the record is clear, row c reads 13 date conceived, November 1996, date built, 14 August 30, 1999, date satisfactorily tested, 15 September 16, 1999 and in production on November 11, 16 1999. 17 MR. DAVIS: Objection. 18 Q. Did I read that correctly? 19 MR. DAVIS: Objection. Form, scope, 20 foundation, incompleteness. 21 THE WITNESS: That does appear to be 22 what it says. 23 Q. Were you aware that Acceleration Bay is 24 asserting that the invention disclosed and claimed</p>	<p style="text-align: right;">Page 115</p> <p>1 question about whether I was aware of that 2 information and, therefore, again, the 3 instructions from counsel not to answer would 4 apply. 5 Q. I would disagree. I asked if -- I'm 6 asking for the basis of your opinion and whether the 7 fact that Acceleration Bay is asserting that the 8 invention claimed in the 344 patent was conceived of 9 and reduced to practice by at least September 16, 10 1999, whether that had any effect on your opinion? 11 That is not privileged information. That is a basis 12 for your opinion. 13 MR. DAVIS: You can answer whether or 14 not that's a basis for your opinion, that you 15 took into consideration here. Okay? You can't 16 answer as to whether or not you had 17 conversations with counsel about that issue. 18 All right. 19 THE WITNESS: I see, but it can only 20 be -- it could only have been a basis for my 21 opinion if I had been aware. 22 MR. DAVIS: You want to clarify the 23 time frame? 24 MR. HANNAH: No. It's the basis --</p>
<p style="text-align: right;">Page 114</p> <p>1 in the 344 patent was conceived and reduced to 2 practice at least by September 16, 1999? 3 MR. DAVIS: And to the extent that 4 this involves any conversations with counsel, 5 then I'll instruct you not to answer because it 6 would be privileged, but if you know otherwise, 7 you can answer. 8 THE WITNESS: I see. So I certainly 9 did not receive that information from another 10 source and, therefore, I think his instruction 11 not to answer should apply. 12 Q. Did the fact that Acceleration Bay is 13 asserting that the claimed invention in the 344 14 patent was conceived of and reduced to practice by 15 at least September 16, 1999 have any effect on your 16 opinion in this case? 17 MR. DAVIS: Objection. Form, beyond 18 the scope, foundation, incompleteness. And, 19 again, to the extent this involved any 20 conversation with counsel, that would be 21 privileged. 22 THE WITNESS: Yeah, so, again, I think 23 that answering that question about whether it 24 impacted would implicitly be answering a</p>	<p style="text-align: right;">Page 116</p> <p>1 I'm asking for the basis of his opinion. If 2 it's a basis for his opinion or not, that is 3 clearly not privileged information. 4 Q. I'm not asking for communications with 5 counsel. I'm not asking how you -- anything that 6 you shared with counsel in terms of your opinion, 7 that's -- I'm asking for the basis of your opinion. 8 And I just want to make it clear for the record, I'm 9 asking a very precise question. So did the fact 10 that Acceleration Bay is asserting that the claimed 11 invention in the 344 patent was conceived of and 12 reduced to practice by at least September 16, 1999 13 effect your opinion? 14 MR. DAVIS: And same objections as 15 before. And same -- 16 THE WITNESS: My concern is that if I 17 were to hypothetically say that it had, which 18 I'm not saying, but if I were to hypothetically 19 say that it had, that would have to indicate 20 that I had received that information, which I 21 was instructed that is not something that I 22 could convey. 23 MR. HANNAH: All right. Let me -- 24 let's go off the record and you can go talk to</p>

<p style="text-align: right;">Page 117</p> <p>1 him about privilege, scope and -- and the basis</p> <p>2 for opinions and things like that.</p> <p>3 MR. DAVIS: Okay.</p> <p>4 VIDEO TECHNICIAN: Off the record,</p> <p>5 3:13 p.m. Time is 3:14 p.m. This will also be</p> <p>6 the end of tape number four.</p> <p>7 (Recess taken.)</p> <p>8 VIDEO TECHNICIAN: This is the</p> <p>9 beginning of tape number five. On the record,</p> <p>10 3:27 p.m.</p> <p>11 Q. Dr. Karger, have you had a chance to talk</p> <p>12 with your counsel about the scope of privilege?</p> <p>13 A. Yes, I have.</p> <p>14 Q. So let me ask the question that we were</p> <p>15 previously talking about before the break. Dr.</p> <p>16 Karger, did the fact that Acceleration Bay is</p> <p>17 asserting that the claimed invention in the 344</p> <p>18 patent was conceived of and reduced to practice at</p> <p>19 least by September 16, 1999 have any effect on your</p> <p>20 opinion?</p> <p>21 A. No.</p> <p>22 Q. Did you consider whether any -- strike</p> <p>23 that.</p> <p>24 Did you consider whether DirectPlay</p>	<p style="text-align: right;">Page 119</p> <p>1 MR. DAVIS: Objection.</p> <p>2 Q. -- during prosecution?</p> <p>3 MR. DAVIS: Objection. Form.</p> <p>4 THE WITNESS: Did I attempt to --</p> <p>5 could you reread the question?</p> <p>6 (Reporter read back.)</p> <p>7 THE WITNESS: So I guess it depends</p> <p>8 what you mean by attempt to distinguish, right?</p> <p>9 So in paragraph 36, I report that the</p> <p>10 applicants argued that the combination of</p> <p>11 having a computer network that was M regular</p> <p>12 and that is not a complete graph is</p> <p>13 patentable --</p> <p>14 THE COURT REPORTER: It was</p> <p>15 patentable --</p> <p>16 THE WITNESS: Over the Alagar,</p> <p>17 A-l-a-g-a-r, reference. So from this text it</p> <p>18 appears that the patent owners saying something</p> <p>19 about the Alagar reference whereas the prior</p> <p>20 art that we're looking at, I've identified that</p> <p>21 it describes -- it describes M regular</p> <p>22 incomplete graphs. So that would appear to be</p> <p>23 a distinction from the plain text of this</p> <p>24 paragraph.</p>
<p style="text-align: right;">Page 118</p> <p>1 was cumulative of the prior art cited in the</p> <p>2 prosecution history in forming your opinion?</p> <p>3 MR. DAVIS: Objection to form.</p> <p>4 THE WITNESS: So that term cumulative</p> <p>5 is not ringing a bell for me right now. Do you</p> <p>6 want to point out where I use that term or tell</p> <p>7 me what you mean by it?</p> <p>8 Q. Well, do you have an understanding of what</p> <p>9 cumulative means?</p> <p>10 MR. DAVIS: Objection. Form.</p> <p>11 THE WITNESS: Again, the term is not</p> <p>12 ringing a bell for me. So I'm not sure.</p> <p>13 Q. Okay. Did the fact -- strike that.</p> <p>14 Did you consider the prosecution</p> <p>15 history in forming your opinion in this case?</p> <p>16 A. So as you can see in section B of the</p> <p>17 summary section, page 14 of my declaration, I'm --</p> <p>18 I'm familiar with some aspects of the prosecution</p> <p>19 history.</p> <p>20 Q. Did you attempt to distinguish the</p> <p>21 references that you rely upon with regard to the 344</p> <p>22 patent, specifically the DirectPlay reference, the</p> <p>23 Lin reference and the Shoubridge reference, from the</p> <p>24 prior art that was considered by the examiner --</p>	<p style="text-align: right;">Page 120</p> <p>1 Q. Did you look at any of the prior art that</p> <p>2 the examiner considered during the prosecution of</p> <p>3 the 344 patent in forming your opinion?</p> <p>4 A. So as you can see from paragraph 23, I</p> <p>5 relied on a variety of documents which included</p> <p>6 reference 1009, the Alagar reference which I have</p> <p>7 just mentioned was part of the prosecution history.</p> <p>8 Q. Any other references that you relied upon</p> <p>9 as part of the prosecution history in forming your</p> <p>10 opinion besides the Alagar reference?</p> <p>11 MR. DAVIS: Objection. Form.</p> <p>12 THE WITNESS: I can't immediately</p> <p>13 recall which references were part of the</p> <p>14 prosecution history. If you want to give me</p> <p>15 documents I can, you know, match them up with</p> <p>16 this list of exhibits.</p> <p>17 Q. Is it fair to say that the list of</p> <p>18 exhibits that you have in Exhibit-1 are all of the</p> <p>19 exhibits that you considered in forming your opinion</p> <p>20 in this matter?</p> <p>21 A. I'm sorry, what's Exhibit-1? Is that the</p> <p>22 Lin --</p> <p>23 Q. Exhibit-1 is the 1970 dec.</p> <p>24 MR. DAVIS: Objection to form.</p>

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1 THE WITNESS: So, as you can see in
2 paragraph 23, I list the materials that I
3 relied on to be those listed in Appendix B of
4 this document, along with my own education,
5 knowledge and experience.
6 Q. So, just so the record is clear, Exhibit
7 20 -- strike that, sorry.
8 Just so the record is clear, paragraph
9 23 of Exhibit-1 contains a list of all of the
10 materials that you relied upon in forming your
11 opinion in the 1970 matter?
12 MR. DAVIS: Objection to form.
13 THE WITNESS: Again, I also rely on my
14 own education, knowledge and professional
15 experience.
16 Q. What you have listed in paragraph 24,
17 correct?
18 A. Correct.
19 Q. So is it fair to say that paragraphs 23
20 and 24 of Exhibit-1 contains a list of all of the
21 material that you relied upon in forming your
22 opinions in the 1970 matter?
23 A. I don't recall relying on anything else,
24 that's right.

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1 Q. Turning to Exhibit-2, it's also paragraph
2 23 and 24. Is it fair to say that paragraphs 23 and
3 24 contain a list of all the material that you
4 relied upon in forming your opinion in the 1972
5 matter?
6 A. Yes, again, these two paragraphs describe
7 what I remember relying on in order to form these
8 opinions or to reach these conclusions.
9 Q. How long did it take you to prepare your
10 declaration as set forth in Exhibit-1?
11 MR. DAVIS: Again, that goes into
12 privileged information. And I'm objecting
13 under those grounds and instructing the witness
14 not to answer.
15 MR. HANNAH: About how long it took
16 him?
17 MR. DAVIS: Preparation of the
18 declaration generally, yes.
19 MR. HANNAH: I just want to know the
20 time frame. Time frame is definitely not
21 privileged.
22 MR. DAVIS: You just asked him how
23 long it took him, right, that's part of the
24 process of creating the declaration and that's

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1 privileged.
2 MR. HANNAH: All right. I think this
3 might have to come up tomorrow. We'll have to
4 schedule a call with the board because time
5 frame is definitely not a privilege issue. And
6 this is -- well, let me just make clear. Are
7 you instructing him not to answer the question
8 how long it took him to prepare the dec?
9 MR. DAVIS: Yes. If you want to
10 confer about it off the record, we can.
11 MR. HANNAH: Okay.
12 Q. Just so the record is clear, are you
13 accepting counsel's instruction to not answer my
14 question regarding how long it took you to prepare
15 the declaration?
16 A. Yes, I am.
17 Q. Did you talk to your declaration -- strike
18 that.
19 Did you talk about your declaration to
20 anybody other than attorneys?
21 MR. DAVIS: Objection. Form. So as
22 long as it's scoped so it's not involving any
23 conversations with counsel, right, you can
24 answer.

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1 THE WITNESS: I'm kind of stuck. I'm
2 not sure -- I'm not sure if what I'm thinking
3 about involves conversation with counsel or
4 not.
5 MR. DAVIS: We can go off the record.
6 THE WITNESS: I mean, it's a minor
7 technical point. I'd be happy to go ask him
8 about it and then come back and respond.
9 VIDEO TECHNICIAN: Off the record,
10 3:40 p.m.
11 (Recess taken.)
12 VIDEO TECHNICIAN: On the record,
13 3:41 p.m.
14 Q. Doctor, did you talk with anybody other
15 than attorneys about your declaration?
16 MR. DAVIS: Same instruction.
17 Conversations with counsel about this case, et
18 cetera are privileged but beyond that you can
19 answer.
20 THE WITNESS: The answer is no.
21 Q. Let's look at Exhibit-1.
22 A. Sorry. Can I have one caveat? For
23 example, my wife knows that I'm working on this
24 case, is that -- is that relevant to your question?

<p style="text-align: right;">Page 125</p> <p>1 Q. I guess it does answer the question.</p> <p>2 Anyone besides your wife that you've talked to about</p> <p>3 this case?</p> <p>4 A. No.</p> <p>5 Q. All right. On page six of Exhibit-1, to</p> <p>6 the extent there's a discrepancy, I'm going to refer</p> <p>7 to the -- the number that's actually on the document</p> <p>8 rather than the Bates label.</p> <p>9 A. Okay.</p> <p>10 Q. Paragraph eight, it says that your thesis</p> <p>11 is on graph theory and graph algorithms. Do you see</p> <p>12 that?</p> <p>13 A. Yes, I do.</p> <p>14 Q. Can you explain what your thesis was</p> <p>15 about?</p> <p>16 A. My thesis was on graph theory and graph</p> <p>17 algorithms but I --</p> <p>18 Q. Can you get more specific than that?</p> <p>19 A. Sure. So graph theory is the study of</p> <p>20 graphs, which are these mathematical objects which</p> <p>21 are frequently used as the representation of</p> <p>22 computer networks, road networks, biological</p> <p>23 networks, a variety of other types of networks. And</p> <p>24 there's a -- there's a theory of graphs, just their</p>	<p style="text-align: right;">Page 127</p> <p>1 A. Yes, I do.</p> <p>2 Q. So what are peer to peer networks?</p> <p>3 A. So --</p> <p>4 MR. DAVIS: I'll object to form.</p> <p>5 THE WITNESS: Once again, I haven't</p> <p>6 been asked to define peer to peer networks at</p> <p>7 the edges, but what we were doing was</p> <p>8 developing a number of protocols for operating</p> <p>9 systems in which all of the nodes had</p> <p>10 essentially the same responsibilities, had a</p> <p>11 specific role to play and in which they use</p> <p>12 sort of communication with directly -- directly</p> <p>13 with each other rather than through some kind</p> <p>14 of central server in order to cooperate.</p> <p>15 Q. So what's the fundamental problem with</p> <p>16 peer to peer networks as you reference in this</p> <p>17 paragraph?</p> <p>18 A. Well, this paragraph does not assert that</p> <p>19 there is a fundamental problem with peer to peer</p> <p>20 networks. It asserts that looking up data in -- I'm</p> <p>21 sorry, finding -- finding data in a peer to peer</p> <p>22 network is a fundamental problem for peer to peer</p> <p>23 networks. It is something that is a useful -- a</p> <p>24 useful subroutine, a useful functionality for a</p>
<p style="text-align: right;">Page 126</p> <p>1 structure as graphs and there's also a field of</p> <p>2 graph algorithms which studies solving various</p> <p>3 problems involving graphs, determining their</p> <p>4 connectivity, finding shortest paths between</p> <p>5 different points in the graph, minimum broadcast</p> <p>6 diameter is an example of a problem that is part of</p> <p>7 graph theory. There's a large family -- and so</p> <p>8 there's a large community working in these areas.</p> <p>9 Q. And what did your thesis focus on?</p> <p>10 A. So the title of my thesis is randomization</p> <p>11 and graph optimization problems. And I looked at a</p> <p>12 number of fundamental graph problems, including the</p> <p>13 problem of determining the connectivity of a graph,</p> <p>14 the problem of finding sort of a way to connect up</p> <p>15 the graph at minimum costs and ways to sort of send</p> <p>16 as much information as possible through the graph</p> <p>17 from one place to another. And in all cases I was</p> <p>18 looking at developing algorithms that could answer</p> <p>19 these questions quickly.</p> <p>20 Q. Turn your attention to paragraph 11 of</p> <p>21 your report.</p> <p>22 A. Uh-huh.</p> <p>23 Q. You have a reference to peer to peer</p> <p>24 networks. Do you see that?</p>	<p style="text-align: right;">Page 128</p> <p>1 variety of applications.</p> <p>2 Q. Can you explain what you mean by that,</p> <p>3 finding data is a fundamental problem in peer to</p> <p>4 peer networks?</p> <p>5 A. Well, one of the things that you may do</p> <p>6 when you have a peer to peer network is spread the</p> <p>7 information that you're managing over the many nodes</p> <p>8 in the environment. And when a node in the peer to</p> <p>9 peer network that doesn't have that information</p> <p>10 needs it, it needs to go get it. And in order to</p> <p>11 get it, it needs to know who to talk to, who does</p> <p>12 have it. And so that's the -- the problem I'm</p> <p>13 referring to here, is that -- sort of helping that</p> <p>14 node that needs the information get in touch with</p> <p>15 the node that has the information.</p> <p>16 Q. And how did you solve that problem?</p> <p>17 A. So we developed a particular peer to peer</p> <p>18 network structure called Chord, which had a number</p> <p>19 of properties that we considered appealing and</p> <p>20 showed that it could be used in order to solve this</p> <p>21 look up problem.</p> <p>22 Q. And when did you come up with Chord or</p> <p>23 when did you develop Chord?</p> <p>24 A. What do you mean by develop? When did we</p>

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1 publish? When did we think of it?
2 Q. It says in your -- it's in your
3 declaration, you said, I also, together with a
4 number of my MIT colleagues, developed Chord.
5 A. Yes, I did but now you're asking when.
6 And so my question is what -- what do you mean by
7 developed? Do you mean the moment when I thought of
8 the idea of doing it? Do you mean when we published
9 this article in Cidcom (phonetic)? What's your --
10 what do you mean by developed?
11 Q. What did you mean by developed here?
12 A. Well, when I said I developed it, I was
13 talking about the entire time frame from when I
14 originally thought of the idea to when we published
15 and put it into practice.
16 Q. Okay. So when did you originally come up
17 with it?
18 A. Yeah, so it's hard for me to say exactly
19 when I came up with it. It was quite a long time
20 before we published it. I actually sort of sat on
21 the idea for a few years before getting gathered
22 into the group of people who expressed an interest
23 in pursuing it. And I can't really say exactly when
24 I first had the idea. It emerged from my earlier

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1 work at Akami on distributed caching systems, which
2 was in '95 or '96 but I don't -- and so it was after
3 that and before -- before the publication date of
4 2001.
5 Q. Did this fundamental problem in peer to
6 peer networks exist in 1996?
7 MR. DAVIS: Objection to form.
8 THE WITNESS: Well, it existed in a
9 flavor in the distributed caching system that
10 we built, that led to Akami.
11 Q. Does the problem still exist today?
12 A. Sure.
13 Q. Paragraph 12 through 14 you talk about
14 your work as an expert.
15 A. Paragraph, I'm sorry, I went to page 12.
16 Yes.
17 Q. How much of your time is devoted to
18 providing expert testimony?
19 A. If you're asking me to count hours, I
20 can't. I have records which I could get at some
21 point and share.
22 Q. Approximately how much money do you make
23 providing expert services in a year, say last year?
24 A. Again, I can't -- I don't have a total in

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1 my head. I -- I know the last two checks that I
2 received, but I haven't done my taxes. So I don't
3 know the totals.
4 Q. Well, can you give me a ballpark?
5 A. Well, this isn't privileged, is it?
6 Q. No, this is not privileged.
7 MR. DAVIS: You can -- if you can give
8 him a ballpark, you can give him a ballpark.
9 Don't talk about our communication or
10 correspondence or anything with counsel, right,
11 but if you can give him -- if you can give him
12 a ballpark.
13 THE WITNESS: Sure. So the last two
14 checks that I received ran to about a
15 hundred thousand --
16 MR. HANNAH: That's not privileged.
17 MR. DAVIS: You can give him a
18 ballpark. He asked about the year or whatever
19 it was. Just give him a ballpark of what you
20 make in a year.
21 THE WITNESS: Right, so that's the
22 thing, I honestly don't know. I --
23 Q. What were these last two checks you
24 received for providing expert services?

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1 A. Those totaled to about 100 k.
2 Q. And how -- and what was --
3 A. I don't get many checks. It's not --
4 Q. And did that cover the first two quarters
5 of the year?
6 A. I'm not sure what the dates were that it
7 was covering.
8 Q. In terms of your total income, what
9 percentage would you say is attributed to expert
10 work versus any other work?
11 A. Are you talking about this year? Are you
12 talking about in general over the past ten or
13 fifteen years?
14 Q. Just say within the last year.
15 A. So in the last year, roughly speaking,
16 this is the case that has taken all of my time. And
17 ballpark, I mean, again, it's -- I don't think I've
18 gotten more from this than my salary, but it's
19 probably close.
20 Q. So fifty percent?
21 MR. DAVIS: Objection to form.
22 THE WITNESS: Perhaps fifty percent in
23 this year, but I don't expert very often. And
24 so that it's an atypical year.

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1 Q. How many other pending cases are you
2 providing expert services for?
3 MR. DAVIS: Objection to form.
4 THE WITNESS: So there are --
5 MR. DAVIS: And I'd -- I'd caution the
6 witness not to reveal any confidential
7 information.
8 THE WITNESS: Of course. Of course.
9 MR. DAVIS: What other arrangements
10 you have or who you have them with.
11 THE WITNESS: Understood. So I don't
12 think that it is revealing any confidential
13 information to say -- there are two cases that
14 I can think of. I'm honestly not sure to what
15 extent they would be called pending.
16 MR. DAVIS: And in those cases,
17 whatever they are, I'd caution you not to
18 reveal any privileged communications with
19 counsel.
20 THE WITNESS: Absolutely. One of them
21 we've been sort of discussing possibly bringing
22 me on, but I haven't done it.
23 MR. DAVIS: Don't discuss any
24 conversations with counsel, whatever those are,

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1 right, in those cases. Those would be
2 privileged. Don't -- you shouldn't reveal
3 privileged information with counsel.
4 THE WITNESS: Sorry.
5 MR. HANNAH: Counsel, you're really
6 overstepping the bounds of privilege here. I'm
7 asking for a generalization.
8 MR. DAVIS: I'm just cautioning the
9 witness --
10 THE WITNESS: And I'm not planting any
11 particular cases or companies or counsels. I'm
12 just saying that there are these two cases, one
13 of which I'm sort of being discussed putting
14 onto but I don't think it will actually happen.
15 One that may be pending but I don't know. That
16 is, I was retained but it's not clear the case
17 is going to happen.
18 Q. And these are potentially District Court
19 litigations?
20 A. I'm not sure.
21 Q. But besides these two cases, what other
22 cases are you currently providing expert witness
23 services for?
24 A. I presume by this case, I'm sorry, I

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1 presume all of the -- all of this stuff, including
2 the other three patents, is just one that we can
3 take as a given.
4 Q. Well, let's just make the record clear.
5 So when you're discussing -- when you saying this
6 one, you're talking about the actions about
7 Activision Blizzard versus Acceleration, et al --
8 versus Acceleration Bay and the IPRs and
9 Acceleration Bay versus Activision Blizzard, et al.
10 in the District Court litigations?
11 A. Yes. Aside from that and the two that
12 I've mentioned, I can't recall any other cases that
13 I'm currently involved in.
14 Q. How much of your time is taken -- strike
15 that.
16 How much time do you spend on your
17 expert services?
18 A. So, of course, it's full-time this week.
19 Q. In general, over the last year?
20 A. So in -- in general MIT gives us a day a
21 week for this kind of activity and a little more
22 time in the summer. And I have not overstepped that
23 limit. So that's the upper bound. And I've checked
24 to verify that I'm obeying that upper bound. I

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1 can't give you the exact number.
2 Q. When you say a little bit more over the
3 summer, can you tell me how much more?
4 A. Well, so in the summer we are permitted
5 to -- sorry if it's a long answer, but we can take
6 an appointment at MIT for the summer. And if we
7 take an appointment at MIT for the summer, then
8 we're constrained by the same day a week rule. We
9 can also choose for some period of the summer to not
10 be appointed, in which case we're free to do what we
11 like with our time.
12 Q. So have you taken appointment this summer?
13 A. Almost always and I can't recall -- and,
14 again, one can choose to do two months of
15 appointment and one month off, for example. I don't
16 recall exactly what I've done in the past.
17 Q. As far as you can remember, have you ever
18 provided more than one day a week of expert
19 services?
20 A. I don't think so but there may have been a
21 summer where I took two months instead of three at
22 MIT, to give myself an extra month of flexibility,
23 but I don't recall for sure. In general, I take my
24 three month appointment at MIT.

<p style="text-align: right;">Page 137</p> <p>1 Q. And that's the maximum appointment you can 2 take during the summer? 3 A. Yes. It would be nice if I can take more, 4 but -- 5 Q. Turning to paragraph 18 of your report. 6 And by your report, you understand that I'm 7 referring to your declaration in Exhibit-1 as we're 8 going through it right now? 9 A. Yes, I am. 10 Q. Paragraph 18 you state that the field of 11 art relevant to the 344 patent is a combination of 12 computer networking and graph theory which are 13 related disciplines. Do you see that? 14 A. Yes, I do. 15 Q. Did you come up with that? 16 A. Did I come up with what? 17 Q. Did you come -- did you determine the 18 field of art for the 344 patent on your own? 19 MR. DAVIS: Again, to the extent that 20 counsel's asking about conversations with 21 counsel, that would be privileged but if you 22 can answer otherwise, you can answer. 23 THE WITNESS: Okay. It certainly is 24 my opinion that that is the relevant field of</p>	<p style="text-align: right;">Page 139</p> <p>1 called a maximum flow. And Ford-Fulkerson in 2 '55 and '61 -- there are two famous citations 3 outlining the first algorithm for computing 4 maximum flows. And as you can see here that 5 insight about these mathematical graph 6 artifacts shows up in this sort of computer 7 networking study. 8 Q. So is it fair to say that you based the 9 field of art relevant to the 344 patent by looking 10 at the Shoubridge reference? 11 MR. DAVIS: Objection to form. 12 THE WITNESS: No, you had asked a 13 question about why I thought the computer 14 networking and graph theory were related 15 disciplines. And I felt a quick way to answer 16 that question was to answer through Shoubridge. 17 Q. Let me clarify the question. I also want 18 to know why they are -- why they are a field of art 19 relevant to the 344 patent. 20 MR. DAVIS: Objection to form. 21 THE WITNESS: Well, that is my 22 opinion, based upon the clear fact that the 344 23 patent -- sorry, do I have the 344 patent -- 24 that the 344 patent carries terms drawn from</p>
<p style="text-align: right;">Page 138</p> <p>1 art. 2 Q. Can you explain what a combination of 3 computer networking and graph theory is? 4 A. Sure. Sorry, I'm hunting to the text that 5 I want to point out. So as with many fields, it's 6 very useful and essential in computer networking to 7 occasionally approach problems in a more rigorous 8 mathematical formulation in order to gain insights 9 that you then bring back to practice. As an 10 example, if you look at the Shoubridge reference, 11 page two -- page two, second column, fourth 12 paragraph. There's a discussion of the Jaffe-Moss 13 distributed shortest path algorithm. And a little 14 farther down it points out how there is a link -- 15 THE COURT REPORTER: Wait. Slow down. 16 THE WITNESS: -- that causes an 17 independent update procedure based on the 18 decentralized version of Ford-Fulkerson's 19 algorithm. Now, I think that we can agree that 20 the Shoubridge article is relevant to computer 21 networking. That Ford-Fulkerson algorithm is 22 one of the seminal works in graph theory. It 23 was developed in that abstract setting where I 24 have a graph and I want to compute something</p>	<p style="text-align: right;">Page 140</p> <p>1 both of those fields and discusses concepts 2 from both of those fields. 3 If I could take a very brief break. 4 Q. Sure. 5 VIDEO TECHNICIAN: Off the record, 6 4:04 p.m. 7 (Recess taken.) 8 VIDEO TECHNICIAN: On the record, 9 4:10 p.m. 10 MR. DAVIS: James, just before we 11 begin, as discussed off the record, as long as 12 you're willing to agree that there's no waiver 13 of privilege, we're willing to allow you to ask 14 Dr. Karger how -- how long he spent preparing 15 the declaration. 16 MR. HANNAH: As I indicated during the 17 break, I don't believe that there's any 18 privileged information there to -- to weigh at 19 all. 20 Q. So, Dr. Karger, going back to the question 21 earlier. How long did you spend preparing your 22 declaration? 23 A. Right. So sadly after all that, I don't 24 really recall. I have the records. I'd be happy to</p>

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1 share the total hours, but it's not something I
2 bother keeping in my mind.
3 Q. Do you have a ballpark figure?
4 A. It would be pulled out of thin air. I
5 really can't say. I mean, again, I can put a lower
6 amount on it based on the two checks that I've
7 received. I mean, again, if you -- if by preparing
8 my declaration you mean everything that I've done on
9 this case, because, obviously, that -- I've spread
10 my time but that's the only concrete number I can
11 draw from right now.
12 Q. So I'll take a lower bound. What's the
13 lower bound on the time that you spent?
14 A. Now I have to do math.
15 MR. DAVIS: Object to the form as
16 well.
17 THE WITNESS: So it would have to
18 ballpark to a hundred and something hours,
19 lower bound.
20 Q. And that's time spent on all of the
21 Acceleration Bay matters or just --
22 A. All of the Acceleration Bay matters.
23 Q. On paragraph 21 of your report you state,
24 I understand, though, the POSITA is presumed to have

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1 knowledge of all relevant prior art. Do you see
2 that?
3 A. Yes, I do.
4 Q. Where did you get that understanding from?
5 MR. DAVIS: So, again, you're agreeing
6 this is not a waiver of privilege if he
7 explains that he got that understanding from
8 counsel or are you now considering it's
9 waiving --
10 MR. HANNAH: Well, it's a waiver by
11 saying if it did come from counsel and he says
12 that he understood, then it's presumed --
13 MR. DAVIS: I don't believe it's a
14 waiver of privilege. You can explain if -- you
15 can explain --
16 Q. You have to explain the basis of your -- I
17 can --
18 MR. HANNAH: Well, let's go off the
19 record.
20 VIDEO TECHNICIAN: Off the record,
21 4:13 p.m.
22 (Recess taken.)
23 VIDEO TECHNICIAN: On the record,
24 4:16 p.m.

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1 Q. Doctor, I think, hopefully, we cleared
2 some things up for all of us here. So I'm going to
3 turn your attention to paragraph 21.
4 A. Yes.
5 Q. You state that I understand the POSITA is
6 presumed to have knowledge of all relevant prior
7 art, do you see that?
8 A. Yes, I do.
9 Q. Where did you get that understanding from?
10 MR. DAVIS: And as agreed off the
11 record, Mr. Hannah, this is not a waiver of any
12 privilege?
13 MR. HANNAH: As I indicated, I don't
14 believe it's privileged, so it can't be a
15 waiver.
16 THE WITNESS: I received that
17 understanding from counsel.
18 Q. Let's turn to page 11 of your declaration,
19 but it's actually paragraph 21. So the last
20 sentence says, accordingly, a POSITA reviewing
21 DirectPlay would have been familiar with the Lin
22 reference as discussed below, as well as other
23 references discussed in my declaration and the full
24 ranges of teachings they contain at least because

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1 these prior art references address solutions to
2 problems in networking. Do you see that?
3 A. Yes, I do.
4 Q. So is it your opinion that DirectPlay
5 addresses a solution to problems in networking?
6 MR. DAVIS: Can you read the question
7 back?
8 (Reporter read back.)
9 MR. DAVIS: Object to form.
10 THE WITNESS: Yes, that is my opinion.
11 Q. And why is that?
12 A. Well, one of the problems in networking is
13 developing systems that make use of the network.
14 And DirectPlay is describing an -- or it's providing
15 a way to develop systems that make use of the
16 network.
17 Q. So in your opinion if you develop a
18 solution that uses a network, you're addressing a
19 problem in networking?
20 MR. DAVIS: Objection. Form.
21 THE WITNESS: So I think that's a
22 little broad. I can certainly imagine
23 developing a solution to something that happens
24 to use a network but is not addressing a

<p style="text-align: right;">Page 145</p> <p>1 problem in networking. On the other hand --</p> <p>2 let me find the reference -- find the pages and</p> <p>3 references -- to just finish the thought, I</p> <p>4 believe that DirectPlay does specifically</p> <p>5 address problems in networking as it describes</p> <p>6 its solution. And I'd like to find some</p> <p>7 grounds for that, if you would like me to back</p> <p>8 it up.</p> <p>9 So quoting out of the -- my discussion of</p> <p>10 claim one, DirectPlay -- I'm just quoting from</p> <p>11 DirectPlay. It says, DirectPlay provides both</p> <p>12 shared data and messaging mechanisms for passing</p> <p>13 information among players. And that is sort of</p> <p>14 wrestling with the question of how does one pass</p> <p>15 information among players through the network.</p> <p>16 Q. So, in your opinion, that's not using the</p> <p>17 network?</p> <p>18 MR. DAVIS: Objection to form.</p> <p>19 THE WITNESS: No, that was my point.</p> <p>20 It is using the network.</p> <p>21 Q. So what problem -- what problem is</p> <p>22 DirectPlay trying to solve in networking?</p> <p>23 A. Well, so, in this particular case it is</p> <p>24 trying to solve problems of providing a useful API</p>	<p style="text-align: right;">Page 147</p> <p>1 Q. In this paragraph and in the previous</p> <p>2 paragraphs you discuss -- strike that.</p> <p>3 So the last paragraph -- the last</p> <p>4 sentence of paragraph 29 says, although the term is</p> <p>5 not expressly used in the specification, this</p> <p>6 technique and its variations are commonly referred</p> <p>7 to as flooding. Do you see that?</p> <p>8 A. Yes, I do.</p> <p>9 Q. So the term flooding does not appear in</p> <p>10 the specification, correct?</p> <p>11 A. That's correct.</p> <p>12 Q. It doesn't appear in the claims either,</p> <p>13 right?</p> <p>14 A. At least I wasn't able to find it in the</p> <p>15 specifications.</p> <p>16 Q. It doesn't appear in the claims either,</p> <p>17 right?</p> <p>18 A. I don't see the term flooding used in the</p> <p>19 claims.</p> <p>20 Q. In fact, the only use of the word flood or</p> <p>21 flooding in the 344 patent is in the prior art that</p> <p>22 was already considered by the examiner, right?</p> <p>23 MR. DAVIS: Objection. Form.</p> <p>24 THE WITNESS: I'm sorry, I think we</p>
<p style="text-align: right;">Page 146</p> <p>1 for systems that are going to be making use of a</p> <p>2 network layer. As another example, DirectPlay</p> <p>3 discusses the need to -- or sorry, discusses the</p> <p>4 fact that one wants to keep messages traversing the</p> <p>5 network relatively short because if they get large,</p> <p>6 it impacts the reliability of their transmission.</p> <p>7 And, again, that is -- a recognized problem in</p> <p>8 networking is the reliable delivery of information</p> <p>9 from one to the next.</p> <p>10 Q. What problem is Lin trying to solve in</p> <p>11 networking?</p> <p>12 MR. DAVIS: Objection to form.</p> <p>13 THE WITNESS: Lin is trying to solve</p> <p>14 the problem of broadcasting information to all</p> <p>15 nodes in a network.</p> <p>16 Q. And what problem is Shoubridge trying to</p> <p>17 solve in networking?</p> <p>18 MR. DAVIS: Same objection.</p> <p>19 THE WITNESS: So Shoubridge is</p> <p>20 addressing the problem of routing information</p> <p>21 through a network from an origin to recipients.</p> <p>22 Q. All right. I'd like to turn your</p> <p>23 attention to page 13, paragraph 29 of your report.</p> <p>24 A. Yes.</p>	<p style="text-align: right;">Page 148</p> <p>1 agreed that the word flooding was not used in</p> <p>2 the 344 patent.</p> <p>3 Q. In the specification. So if you take a</p> <p>4 look at the 344 patent, turn to the second page</p> <p>5 under other publications.</p> <p>6 A. Yes.</p> <p>7 Q. See it has a reference of Cho et al.? It</p> <p>8 says a flood routing method for data networks.</p> <p>9 A. Yes.</p> <p>10 Q. That's the only use of the word flood --</p> <p>11 flooding in the 344 patent, right?</p> <p>12 MR. DAVIS: Objection to form.</p> <p>13 THE WITNESS: Well, if we agreed it's</p> <p>14 not in the specification and I couldn't find it</p> <p>15 in the claims, I didn't know if this -- I</p> <p>16 didn't know whether the citations were</p> <p>17 considered part of the patent per se. Are</p> <p>18 there other parts of the patent or is this it?</p> <p>19 I mean, formally speaking? Is the history</p> <p>20 considered part of the patent or --</p> <p>21 Q. Well, when I'm referring to the</p> <p>22 specification, I'm referring to the drawings and the</p> <p>23 detailed description. Claims are separate.</p> <p>24 A. Yes.</p>

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1 Q. So that's what I saying to do. And in
2 your opinion, in 29, you said it's not used in the
3 specification?
4 A. Correct, that's right but that's just --
5 my opinion was limited to the specification.
6 Q. Right. And do you understand that the
7 little star by the Cho reference indicates that that
8 was cited by the examiner?
9 MR. DAVIS: Objection to form.
10 THE WITNESS: I was not aware of that
11 practice.
12 Q. But you can see it on page two, right?
13 A. Yes, I can.
14 Q. And you didn't read the Cho reference in
15 forming your opinion, did you?
16 MR. DAVIS: Objection to form.
17 THE WITNESS: I don't recall having
18 read it.
19 Q. Paragraph 35 of your declaration, you have
20 a paragraph talking about what the examiner
21 recognized. Do you see that?
22 A. Yes.
23 Q. Did you give deference to the examiner in
24 forming your opinion in this case?

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1 MR. DAVIS: Objection to form.
2 THE WITNESS: I don't quite know what
3 give deference means.
4 Q. Well, here, this paragraph you seem to
5 embrace the examiner's findings, correct?
6 MR. DAVIS: Same objection.
7 THE WITNESS: This paragraph simply
8 reports something that the examiner did. And
9 I'm neutral on whether or not I embrace these
10 findings.
11 Q. Well, did you?
12 MR. DAVIS: Same objection.
13 THE WITNESS: I was aware of them.
14 Q. Did they help form your opinion?
15 A. So as I state in paragraphs 23 and 24, as
16 we discussed previously, the material that I relied
17 on for -- for reaching these conclusions are those
18 given in Appendix B, as well as my own training and
19 knowledge. And that is what I recall relying on in
20 order to form these opinions.
21 Q. So did that include the analysis of the
22 examiner in the prosecution of the 344 patent?
23 MR. DAVIS: I'll object to form.
24 THE WITNESS: So as you can see, that

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1 patent history is not listed in this appendix
2 as -- in the list of materials that I relied
3 on. And that is because, to my recollection, I
4 did not rely on it in forming my opinion.
5 Q. I would like to turn your attention to
6 paragraph fifty of your declaration, please. The
7 first sentence says, it was well known to a POSITA,
8 however, that if implemented naively uncontrolled
9 flooding could cause messages to propagate
10 indefinitely. Do you see that?
11 A. Yes, I do.
12 Q. Can you explain what you mean by that
13 sentence?
14 A. So what I was referring to was the fact
15 that if one is not -- I'm sorry, that if you take
16 the sort of most minimal description of flooding, in
17 terms of number of words, which might be that each
18 node that receives the information sends it on to
19 its neighbors, that can encompass a flooding scheme
20 in which a node sent the same information many
21 times. So if each node is -- if a node -- each time
22 it receives a piece of information sends it to, say,
23 four neighbors, then the information is going to
24 multiply, right? Where you previously had one

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1 packet, you'll now have four packets. And you can
2 end up with more and more packets eventually
3 saturating the capacity of the network.
4 Q. Is flooding commonly used today?
5 MR. DAVIS: Objection. Form.
6 THE WITNESS: Flooding is certainly
7 commonly known today. Whether it's commonly
8 used? I mean, it is used. So then it comes
9 down to a question to exactly what commonly
10 means.
11 Q. So, in your opinion, would you say it's
12 commonly used today?
13 MR. DAVIS: Objection to form.
14 THE WITNESS: So there are certainly
15 systems out there that use it a lot. It's a
16 very important, popular system. How many
17 systems use it? I don't really know but in
18 terms of, you know, how often flooding happens,
19 I would say that that's quite common.
20 Q. What systems are you aware of that use it
21 today?
22 A. Well --
23 MR. DAVIS: Objection. Form.
24 THE WITNESS: -- it shows up in the

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1 underlying Internet routing protocols that are
2 used to spread information about the state of
3 the Internet, so that packets can be routed
4 effectively. It is used in various parallel
5 processing systems to spread information to all
6 of the processors involved in the system. It
7 was used in multi-task systems like the M --
8 THE COURT REPORTER: Like the M --
9 THE WITNESS: I'm sorry, the M bone
10 which may or may not still be up. I haven't
11 checked. Those are the first three that come
12 to mind.
13 Q. Did you use flooding at all during your
14 time at Akami?
15 MR. DAVIS: Objection to form.
16 THE WITNESS: What do you mean, did I
17 use it? I mean I don't go out and flood
18 things.
19 Q. Did the Akami networks use flooding?
20 MR. DAVIS: Same objection.
21 THE WITNESS: Well, the Akami networks
22 are running on top of the Internet. And so in
23 a sense they are using flooding because the
24 Internet does use flooding for its routing

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1 updates.
2 Q. Let me be clear. Did the Akami
3 technologies themselves use flooding?
4 A. Did Akami technologies themselves use
5 flooding? So I was only involved with a certain
6 piece of the Akami technologies. And to my
7 recollection those pieces did not use flooding.
8 Q. All right. Let's turn to paragraph 55 of
9 your report, please.
10 A. Short break first?
11 Q. Sure.
12 VIDEO TECHNICIAN: Off the record,
13 4:38 p.m.
14 (Recess taken.)
15 VIDEO TECHNICIAN: Back on the record,
16 4:49 p.m.
17 Q. Doctor, I'd like to turn your attention to
18 paragraph 55 of your declaration.
19 A. Yes.
20 Q. In this paragraph you said you have been
21 informed that for the purposes of this inter partes
22 review, the standard for claim construction of terms
23 within the claims of the patent is the broadest
24 reasonable construction in light of the

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1 specification, which is different from the standard
2 that applies in Federal District Court litigation.
3 Do you see that?
4 A. Yes, I do.
5 Q. Do you have an understanding of what the
6 difference is?
7 A. I have an understanding that there is a
8 difference, but not yet having been deposed in the
9 Federal District Court litigation, I'm not sure what
10 their standard is.
11 Q. Have you ever been deposed in a Federal
12 District Court litigation as it relates to patents?
13 A. So an IPR is not a Federal District Court
14 litigation?
15 Q. It's not.
16 A. So, to my recollection, no, I have not
17 been deposed in a Federal District Court litigation.
18 Q. Paragraph 56 of your declaration, can you
19 turn to that, please? So for the purposes of this
20 declaration I have been asked to assume
21 constructions for certain claim terms as presented
22 below. Do you see that?
23 A. Yes.
24 Q. Who asked you to assume constructions for

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1 the certain claim terms as presented below?
2 MR. DAVIS: Again, same agreement,
3 that there's no waiver of privilege here.
4 THE WITNESS: That would be counsel.
5 MR. DAVIS: That was an agreement as
6 well?
7 MR. HANNAH: Again, I'd say there is
8 no -- there is no privilege, so there is no
9 waiver.
10 Q. Do you agree with the constructions as
11 presented in your declaration?
12 A. I consider them plausible, yes.
13 Q. Do you have --
14 MR. DAVIS: Objection to form.
15 Q. Do you have different constructions that
16 would also be plausible?
17 MR. DAVIS: Objection to form.
18 THE WITNESS: I haven't attempted to
19 come up with any.
20 Q. You haven't attempted to come up with any
21 constructions at all?
22 A. No, I haven't come up with alternative
23 constructions that would also be plausible.
24 Q. But have you attempted to come up with any

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1 constructions at all?

2 MR. DAVIS: Objection to form.

3 THE WITNESS: No.

4 Q. Have you been asked to come up with claim

5 constructions for any Acceleration Bay patent in any

6 context?

7 MR. DAVIS: Again, to the extent that

8 this involves a conversation with counsel or

9 anything else that would be privileged, but if

10 you've -- outside of that, you can answer, if

11 there's anything.

12 THE WITNESS: No, I haven't.

13 Q. In looking at the constructions recited in

14 your declaration in section five --

15 A. Yes.

16 Q. -- do you think that there are other

17 plausible constructions based on your understanding

18 of the Acceleration Bay patents?

19 MR. DAVIS: Objection to form.

20 THE WITNESS: I mean I haven't

21 previously formed any opinions about

22 alternative constructions. I don't think I --

23 I mean, I don't know how long it would take me

24 to think about what alternatives might be.

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1 Q. Well, how long -- how would it take you

2 to -- strike that.

3 Have you taken the time to confirm the

4 constructions as presented in your declaration?

5 MR. DAVIS: Objection. Form.

6 THE WITNESS: What do you mean by

7 confirm? I mean, as I state in paragraph 56, I

8 do find these constructions to be consistent

9 with the patent specifications and the

10 understanding of a person of ordinary skill in

11 the art.

12 Q. But paragraph 56 asks you to assume

13 certain claim constructions. My question is, have

14 you taken the time to independently come up with

15 claim constructions on your own for any of the

16 Acceleration Bay patents?

17 MR. DAVIS: Objection to form.

18 THE WITNESS: So I haven't taken the

19 time to independently come up with my own. I

20 have taken the time to consider the ones that I

21 was asked to assume and have drawn my own

22 opinion that they are consistent and

23 reasonable. Actually, that reminds me of

24 something I had hoped to clarify regarding an

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1 earlier question, if that would be okay.

2 Q. Sure.

3 A. Earlier I was asked whether I sort of

4 relied on the patent history in forming my opinions.

5 And, of course, I was aware of the patent history.

6 It's just a question of exactly what you meant by

7 relied. I was aware of the patent history. I can't

8 recall any place where that awareness influenced

9 what my opinion was, that is whether knowing what I

10 cite here changed what my opinion would have been

11 otherwise.

12 Q. Okay.

13 A. Is that clear?

14 Q. Let's make it clear for the record.

15 A. Sure.

16 Q. You just testified that you were aware of

17 the patent history, correct?

18 A. The portion of it that I discuss here,

19 right. So in section 4-B I give an overview of the

20 344 patent prosecution history and, obviously, I was

21 aware of that in order to write it.

22 Q. But the prosecution history did not have

23 an influence on your opinion, correct?

24 MR. DAVIS: Objection to form.

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1 THE WITNESS: Correct, it did not

2 change what my opinion would have been.

3 Q. Well, did it influence your opinion one

4 way or another?

5 MR. DAVIS: Objection to form.

6 THE WITNESS: I just said it didn't

7 change what it would have been.

8 Q. Turn your attention to page 35 of your

9 declaration. The first bullet point, it says,

10 combination of familiar elements according to known

11 methods is likely to be obvious when it does no more

12 than yield predictable results. Do you see that?

13 A. Yes, I do.

14 Q. What does that mean?

15 A. I mean it's -- it's plain language. There

16 aren't any technical terms there. It means what it

17 means in English.

18 Q. Well, what are -- what are predictable

19 results in the context of the 344 patent?

20 A. Well, predictable --

21 MR. DAVIS: Objection to form.

22 THE WITNESS: Predictable results are

23 results that a person of ordinary skill would

24 predict based on their prior knowledge.

<p style="text-align: right;">Page 161</p> <p>1 Q. Did you do any testing of the DirectPlay, 2 Lin or Shoubridge references? 3 MR. DAVIS: Objection. Form. 4 THE WITNESS: No, I did not. 5 Q. Paragraph 74 of your report. Could you 6 please turn to that? 7 A. Yes. 8 Q. What is the basis for your opinion that 9 DirectPlay and Lin are public prior art to the 344 10 patent? 11 MR. DAVIS: Objection to form. 12 THE WITNESS: So you asked me on what 13 I base my opinion that DirectPlay and Lin are 14 prior art? 15 Q. Correct. Are public prior art. 16 MR. DAVIS: Objection. Form. 17 THE WITNESS: Paragraph 74 is not 18 stating that that is my opinion. What it is 19 stating is that my opinion is that one can 20 infer from the fact that DirectPlay and Lin are 21 public prior art, that the named claims are not 22 patentable. The reason I work from that 23 position that DirectPlay and Lin are public 24 prior art is that I was informed by counsel</p>	<p style="text-align: right;">Page 163</p> <p>1 not being waived. So I think we're in 2 agreement. And that's fine. 3 THE WITNESS: So to respond to your 4 original question, if you turn to page -- to 5 paragraph 83, you can again see that I 6 understand that Lin is prior art. And that 7 understanding came from counsel. 8 Q. And the same question with regard to 9 Shoubridge. Were you asked to assume that 10 Shoubridge was prior art in forming your opinion? 11 A. So if you look to paragraph 83 of the 1972 12 declaration, there again I state that I understand 13 that Shoubridge is prior art and that understanding 14 comes from counsel. 15 Q. Let's turn to paragraph 80 -- well, strike 16 that. Let me make something clear for the record. 17 Did you independently verify whether DirectPlay was, 18 in fact, prior art? 19 A. No, I did not. 20 Q. Did you independently verify whether Lin 21 was, in fact, prior art? 22 A. No, I did not. 23 Q. Did you independently verify whether 24 Shoubridge was prior art?</p>
<p style="text-align: right;">Page 162</p> <p>1 that DirectPlay is prior art. 2 Q. Were you also informed by counsel that Lin 3 was prior art and asked to assume that it was prior 4 art? 5 MR. DAVIS: Same agreement, that 6 there's no waiver here for any of these -- by 7 agreement, we can have this go across all of 8 these types of questions, if that works for 9 you. 10 MR. HANNAH: I mean -- 11 MR. DAVIS: I understand your position 12 that you don't think it's privileged but we can 13 have -- this colloquy can apply towards all the 14 questions about he understands X. 15 MR. HANNAH: I mean, I hesitate 16 because I don't want to put on -- a stipulation 17 on the record about no waiver to anything he 18 says. I -- I do agree that if he has an 19 understanding and it comes from counsel, 20 that's -- that's not privileged and, therefore, 21 there is no waiver. I think that should 22 suffice. 23 MR. DAVIS: Okay. And my position is 24 that to the extent there is any privilege, it's</p>	<p style="text-align: right;">Page 164</p> <p>1 A. No, I did not. 2 Q. Let's turn to paragraph 80 of your report, 3 please. 4 A. Uh-huh. 5 MR. DAVIS: Which report? 6 THE WITNESS: Good point. 7 Q. We're talking about Exhibit-1. 8 A. Sorry, I was answering about Shoubridge. 9 Q. So Exhibit-1, paragraph 80. 10 A. Yes. 11 Q. The first line of paragraph 80 says, 12 DirectPlay discloses that this allowed the developer 13 to provide multi-participant capability without 14 getting tangled up in the details of the specific 15 transport media by abstracting aspects of this 16 communication to a layer of service providers that 17 plugged in underneath. Do you see that? 18 A. Yes, I do. 19 Q. What is meant by plugged in underneath in 20 this sentence? 21 A. So if you turn to page 20 of the 22 DirectPlay reference, under the architecture 23 section, you can see how they describe that they 24 settled on creating a device driver interface for</p>

<p style="text-align: right;">Page 165</p> <p>1 communication transports, which they called the</p> <p>2 Windows open system architecture. And this</p> <p>3 specification of an interface means that anybody can</p> <p>4 write a software component that provides that</p> <p>5 interface and provide that. And DirectPlay can then</p> <p>6 use that software component in order to get the --</p> <p>7 as its underlying network or underlying</p> <p>8 communication layer.</p> <p>9 Q. Can you turn to page 42 of your report?</p> <p>10 Actually, paragraph 82 starts on page 41. I'm going</p> <p>11 to ask you about the last sentence. The last</p> <p>12 sentence there is a quote, it says, if one player</p> <p>13 missed even a single message, that player could</p> <p>14 slide out of synchronization with the others and</p> <p>15 there was no mechanism provided for the game to</p> <p>16 resynchronize. Do you see that?</p> <p>17 A. Yes, I do.</p> <p>18 Q. Can you explain what is meant by that</p> <p>19 sentence?</p> <p>20 A. So this sentence is drawn from page 25 of</p> <p>21 the DirectPlay reference, where it is discussing</p> <p>22 techniques for keeping different player systems on a</p> <p>23 multi-player game synchronized. So when one player</p> <p>24 does something, that changes the state of the world</p>	<p style="text-align: right;">Page 167</p> <p>1 multi-player applications?</p> <p>2 MR. DAVIS: Objection. Form.</p> <p>3 THE WITNESS: Yes.</p> <p>4 Q. Why?</p> <p>5 MR. DAVIS: Objection. Form.</p> <p>6 THE WITNESS: Well, one of the sort of</p> <p>7 core ideas of a multi-player game is that there</p> <p>8 is some kind of shared experience. It could be</p> <p>9 the shared experience of a chess board or it</p> <p>10 could be the shared experience of a three</p> <p>11 dimensional world that you're shooting at each</p> <p>12 other in. It wouldn't make a lot of sense if</p> <p>13 your world looked nothing like your</p> <p>14 competitor's world. And so if you're going to</p> <p>15 provide people with a multi-participant</p> <p>16 experience, you need to make sure that there is</p> <p>17 this matching state in different systems.</p> <p>18 Q. Would you agree that synchronization is</p> <p>19 the fundamental problem to be solved --</p> <p>20 MR. DAVIS: Objection. Form.</p> <p>21 Q. -- when writing a multi-participant</p> <p>22 application?</p> <p>23 A. Did you say the fundamental problem to be</p> <p>24 solved?</p>
<p style="text-align: right;">Page 166</p> <p>1 in some way, the other players need to have their</p> <p>2 state changed in a corresponding fashion. And there</p> <p>3 are at least two different techniques for</p> <p>4 synchronization which are described in this</p> <p>5 DirectPlay reference. This quote is drawn from the</p> <p>6 discussion of input synchronization, which is a way</p> <p>7 of synchronizing the state by essentially taking any</p> <p>8 input action that a single user does, like pressing</p> <p>9 a key and -- or moving the mouse and notifying all</p> <p>10 other players' systems about those input events. So</p> <p>11 essentially you are duplicating those input events</p> <p>12 on all of the individual systems that are part of</p> <p>13 the game. And so if you duplicate the inputs, you</p> <p>14 should get the same state at all of these systems.</p> <p>15 What they are concerned about is that you're sending</p> <p>16 these messages, saying press this key, press that</p> <p>17 key. If a message gets lost, which can happen in a</p> <p>18 network, then the fact that the user pressed the key</p> <p>19 X will not arrive at a particular system. And so</p> <p>20 that system will not be playing back the same</p> <p>21 sequence of input events as another user. And so it</p> <p>22 will bring its game into a different state than the</p> <p>23 other users' states.</p> <p>24 Q. Is synchronization important in</p>	<p style="text-align: right;">Page 168</p> <p>1 Q. I said the fundamental problem to be</p> <p>2 solved. If it helps, I can turn you to the</p> <p>3 DirectPlay reference on page 24. I think you have</p> <p>4 it open already, actually.</p> <p>5 A. Yes.</p> <p>6 Q. If you look at the second -- the last</p> <p>7 paragraph.</p> <p>8 A. Oh, yes, I see that they assert it.</p> <p>9 Q. Oh, okay.</p> <p>10 A. I'm trying to decide if I agree.</p> <p>11 Q. All right. Do you agree with the</p> <p>12 statement that the fundamental problem to be solved</p> <p>13 when writing a multi-participant application is</p> <p>14 synchronization?</p> <p>15 A. So I'm skeptical of the term the</p> <p>16 fundamental problem, since that there are other</p> <p>17 problems that I consider fundamental as well in</p> <p>18 assigning a multi-player game. It certainly is a</p> <p>19 fundamental problem.</p> <p>20 Q. So you would disagree that it is the</p> <p>21 fundamental problem?</p> <p>22 A. I would say that it is a fundamental</p> <p>23 problem.</p> <p>24 Q. What other fundamental problems are there</p>

<p style="text-align: right;">Page 169</p> <p>1 to be solved when writing a multi-participant 2 application? 3 MR. DAVIS: Objection to form. 4 THE WITNESS: One of them would be 5 making the game fun. 6 Q. Any others? 7 MR. DAVIS: Same objection. 8 A. Optimizing the performance of the 9 computations involved in, say, rendering a complex 10 world. 11 Q. Any other fundamental problems? 12 MR. DAVIS: Same objection. 13 THE WITNESS: I don't want to say that 14 I've listed them all. The more you ask for, 15 the more time it will take me to enumerate 16 them. Obviously, there won't be an infinite 17 number. It will be a small number of the core 18 problems. 19 Q. So any others that you can think of 20 sitting here? 21 MR. DAVIS: Same objection. 22 THE WITNESS: I would probably put 23 those -- I mean I can't think of others beyond 24 those three at the moment.</p>	<p style="text-align: right;">Page 171</p> <p>1 THE WITNESS: I described that one 2 would have been motivated to do so. 3 Q. In order to meet the claims of the 344 4 patent how do you -- how would one of skill in the 5 art combine DirectPlay and Lin? 6 MR. DAVIS: Objection. Form. 7 THE WITNESS: So as we were discussing 8 a couple of questions ago, DirectPlay discloses 9 an architecture with a place to plug-in what 10 they refer to as service providers. The 11 service providers are supposed to provide the 12 underlying communications mechanism that 13 DirectPlay will leverage to provide its 14 services and, therefore, a person of ordinary 15 skill in the art would understand that they 16 could write a service provider that 17 incorporated the ideas of Lin to provide, in 18 particular, effective broadcast. 19 Q. So looking at paragraph 86, you state that 20 DirectPlay discloses a flexible interface for 21 enabling multi-player games to run over any network 22 and Lin discloses one such network. Do you see 23 that? 24 A. Yes, I do.</p>
<p style="text-align: right;">Page 170</p> <p>1 Q. All right. So turn to page -- 2 A. Actually, a break. Again, short. 3 Q. Okay. 4 VIDEO TECHNICIAN: This is the end of 5 tape number five. Off the record at 5:16 p.m. 6 (Recess taken.) 7 VIDEO TECHNICIAN: This is the 8 beginning of tape number six. On the record, 9 5:23 p.m. 10 Q. All right. Doctor, I would like to turn 11 your attention to page 44 of your declaration, 12 paragraph 86. 13 A. Yes. 14 Q. And it reads under sub-bullet I, directly 15 discloses a flexible interface a -- strike that -- 16 actually, let me strike that. 17 So it's your opinion that DirectPlay 18 in combination with Lin renders certain claims 19 obvious of the 344 patent, right? 20 A. Yes, that is my opinion. 21 Q. And in paragraph 86 you describe how you 22 would combine DirectPlay and Lin in your opinion, 23 correct? 24 MR. DAVIS: Objection. Form.</p>	<p style="text-align: right;">Page 172</p> <p>1 MR. DAVIS: Objection to form. 2 Q. So in your opinion regarding the 3 combination of DirectPlay -- DirectPlay and Lin, is 4 it that DirectPlay will run on top of Lin? 5 MR. DAVIS: Objection. Form. 6 THE WITNESS: In keeping with the 7 notice that -- with the description of these 8 plug-ins operating underneath DirectPlay, 9 right, Lin would be a part of that plug-in, and 10 so in that sense DirectPlay would be operating 11 on Lin. Of course, Lin itself is then an 12 overlay approach, which is operating on or can 13 be operating on a lower level network. 14 Q. And when you -- when you say it's the 15 plug-in, you're talking about the reference in 16 DirectPlay where it says that they -- the network 17 plugs in underneath? 18 A. Yes. 19 Q. So in that scenario where DirectPlay is 20 running on top of Lin, what is the computer network, 21 in your opinion, you know, for claim one? 22 A. So if you're referring to the computer 23 network mentioned in line one of claim one? 24 Q. Yes, a computer network for providing a</p>

<p style="text-align: right;">Page 173</p> <p>1 game environment for a plurality of participants.</p> <p>2 A. So as we discussed earlier today, it seems</p> <p>3 that both the underlying network such as TCP/IP, the</p> <p>4 Internet using TCP/IP, and Lin's overlay network can</p> <p>5 fit this characterization of being a computer</p> <p>6 network for providing a game environment for a</p> <p>7 plurality of participants.</p> <p>8 Q. So it's the -- so Lin -- in this scenario,</p> <p>9 the combination between DirectPlay and Lin, Lin</p> <p>10 teaches a computer network for providing a game</p> <p>11 environment for a plurality of participants?</p> <p>12 MR. DAVIS: Objection.</p> <p>13 Q. Lin and the underlying network that would</p> <p>14 underlie Lin?</p> <p>15 MR. DAVIS: Objection. Form.</p> <p>16 THE WITNESS: Again, you are asking</p> <p>17 about Lin in combination with DirectPlay,</p> <p>18 right?</p> <p>19 Q. I was. And I wanted you to map the --</p> <p>20 that first element there to -- in your opinion the</p> <p>21 prior art.</p> <p>22 A. So a mapping that works will map the</p> <p>23 overlay network of Lin to the computer network for</p> <p>24 providing a game environment. There may also be</p>	<p style="text-align: right;">Page 175</p> <p>1 opinion that Lin teaches participants. The</p> <p>2 other opinion I was asked to assess was whether</p> <p>3 DirectPlay and Lin, in combination, teach this</p> <p>4 notion of participants. And it's my opinion</p> <p>5 that they do.</p> <p>6 Q. Well, how about DirectPlay, does</p> <p>7 DirectPlay teach participants in the -- in reference</p> <p>8 to claim one to the 344 patent?</p> <p>9 MR. DAVIS: Objection to form.</p> <p>10 THE WITNESS: So I wasn't asked to</p> <p>11 determine, for example, whether DirectPlay, by</p> <p>12 itself, provides an obviousness argument for</p> <p>13 the invalidity of this patent. So what I</p> <p>14 focused on was the combination of Lin and</p> <p>15 DirectPlay.</p> <p>16 Q. Right. And that's what I'm focused on</p> <p>17 too. And you said DirectPlay runs over Lin in</p> <p>18 this -- in this combination opinion, correct?</p> <p>19 A. Yes.</p> <p>20 Q. And I want -- I want to know your opinion</p> <p>21 when you provide the opinion that you believe it's</p> <p>22 obvious in light of DirectPlay and Lin. When you</p> <p>23 provided that opinion, did you map participants to</p> <p>24 DirectPlay or did you map it to Lin or did you map</p>
<p style="text-align: right;">Page 174</p> <p>1 mappings that map the underlying network of Lin to</p> <p>2 the computer network for providing a game</p> <p>3 environment. One was sufficient to give me the</p> <p>4 opinion that this provided an obviousness coverage</p> <p>5 of claim one.</p> <p>6 Q. All right. In your opinion, in regard to</p> <p>7 the combination of DirectPlay and Lin, where</p> <p>8 DirectPlay runs over Lin, what are the participants?</p> <p>9 A. So, again, there is at least one reading</p> <p>10 or at least one mapping in which we take the</p> <p>11 participants to be the nodes/computers that are</p> <p>12 operating to provide the game environment.</p> <p>13 Q. Okay. So which ones -- which ones are</p> <p>14 they? Are they taught in DirectPlay or are they</p> <p>15 taught in Lin, the participants in this scenario?</p> <p>16 MR. DAVIS: Objection to form.</p> <p>17 THE WITNESS: So both DirectPlay and</p> <p>18 Lin are consistent with this notion of</p> <p>19 participants.</p> <p>20 Q. And just to be clear, it's your opinion</p> <p>21 that both DirectPlay and Lin teach participants as</p> <p>22 disclosed in claim one of the 344 patent?</p> <p>23 MR. DAVIS: Objection. Form.</p> <p>24 THE WITNESS: So it is certainly my</p>	<p style="text-align: right;">Page 176</p> <p>1 it to both in the context of claim one of the 344?</p> <p>2 MR. DAVIS: Objection to form.</p> <p>3 THE WITNESS: So for this particular</p> <p>4 claim element of each participant -- sorry, are</p> <p>5 we talking about a particular claim element or</p> <p>6 about the entire claim?</p> <p>7 Q. I'm talking about the participant element</p> <p>8 in claim one.</p> <p>9 MR. DAVIS: Objection to form.</p> <p>10 THE WITNESS: So there is a natural</p> <p>11 mapping in which we take the participants to be</p> <p>12 the nodes, processors and so forth of the</p> <p>13 computers -- of the operating computers. That</p> <p>14 is consistent with the disclosures both of Lin</p> <p>15 and DirectPlay.</p> <p>16 Q. So just to make sure I'm clear, for the</p> <p>17 record, in your opinion with the combination of</p> <p>18 DirectPlay and Lin, both DirectPlay and Lin disclose</p> <p>19 the participants of claim one, right?</p> <p>20 MR. DAVIS: Objection to form.</p> <p>21 Q. Doctor, it was a simple question. We</p> <p>22 can't have another five, six minute delay. I'm just</p> <p>23 trying to make it clear for the record what your</p> <p>24 opinion is in this matter.</p>

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<p>1 MR. DAVIS: Object -- objection to 2 form. 3 THE WITNESS: Sorry, could you just 4 restate the question? 5 Q. In your opinion with the combination of 6 DirectPlay and Lin, both DirectPlay and Lin 7 disclosed the participants of claim one of the 344 8 patent, correct? 9 MR. DAVIS: Objection. Form. 10 THE WITNESS: Do you mean that they 11 disclose all aspects of claim one, that they 12 both disclose all aspects of claim one? 13 Q. No, just the participants. 14 MR. DAVIS: Objection. 15 Q. I'm asking very specifically, multiple 16 times now. 17 MR. DAVIS: Objection. Form. 18 THE WITNESS: So, yes, they both 19 disclose things which we can take to be the 20 participants in claim one. 21 Q. All right. Thank you. All right. 22 Let's turn to paragraph 217 of your -- 23 well, strike that. 24 Let's go to page 82 of your</p>	<p>1 a computer network. It's true that Lin has no 2 discussion of game information, correct? 3 MR. DAVIS: Objection. Form. 4 THE WITNESS: So while I do not recall 5 the appearance of the word game or the phrase 6 game information in Lin, I do believe that a 7 person of ordinary skill in the art would have 8 been aware of multiple-player computer games 9 and at least the fact that information needed 10 to be disseminated in such games. 11 Q. But Lin itself doesn't talk about 12 multi-player games, does it? 13 A. Not to my recollection. 14 MR. DAVIS: Objection to form. 15 Q. Does Lin talk about the dropping and 16 adding of nodes? 17 MR. DAVIS: Objection to form. 18 THE WITNESS: If you look at page 24 19 of the Lin exhibit, under the adaptability 20 paragraph, Lin discusses the fact that adding 21 or removing a single processor causes only T 22 processors to change their neighbors in Harary 23 graph flooding. So, yes, Lin does talk about 24 adding and removing processors.</p>
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<p>1 declaration. You have a second opinion in the 970 2 matter in which claims 1 through 11 and 16 through 3 19 are obvious by Lin on its own, correct? 4 A. And under the knowledge of a person of 5 ordinary skill in the art, yes. 6 Q. Let me just make -- make it clear for the 7 record, when you say the knowledge of one of 8 ordinary skill in the art, you're not pointing to 9 another document to combine with Lin, are you? 10 A. That is correct. 11 Q. So you understand what I'm saying, Lin by 12 itself, right, I mean the only reference that you're 13 pointing to is Lin in this obviousness opinion, 14 correct? 15 A. Yes. 16 Q. All right. Let's turn to paragraph 217 of 17 your report. 18 A. Yes. 19 Q. I just want to make something clear for 20 the record. In -- in 217 you put Lin discloses a 21 computer network for providing information, 22 brackets, such as game information, for example, 23 closed bracket, for a plurality of participants by 24 broadcasting information to multiple participants in</p>	<p>1 Q. All right. Does Lin disclose the failure 2 of links between processors? 3 MR. DAVIS: Objection. Form. 4 THE WITNESS: If you look to page nine 5 of the Lin exhibit, second paragraph, which is 6 the first full paragraph, Lin mentions 7 environments in which links can fail. 8 Q. Where does it say that? 9 A. Fourth line of the second paragraph, which 10 is the first full paragraph on page nine of the Lin 11 reference, which is page two of the article. 12 Q. Uh-huh. 13 A. The fourth line says, a gossip protocol 14 that attains a high reliability in an environment in 15 which things can fail for long periods of time. 16 Q. So based on this, like, is it your opinion 17 that Lin is disclosing that links can fail between 18 the processors connected to the Harary graphs? 19 MR. DAVIS: Objection. Form. 20 THE WITNESS: So let's be clear on 21 your question. This portion of the article is 22 talking about this general issue of wanting to 23 attain high reliability in an environment in 24 which links can fail. It has not yet</p>

<p style="text-align: right;">Page 181</p> <p>1 introduced the topic of Harary graphs. 2 Q. So in Lin, in the simulation that you used 3 to base your opinion on in terms of the Harary 4 graphs, was there any simulations that related to 5 nodes failing or links failing? 6 MR. DAVIS: Objection. Form. 7 THE WITNESS: So you'll notice on page 8 24 of the exhibit, the article talks about 9 graceful degradation. And what this is 10 discussing is the issue of failed deliveries of 11 messages, which is showing that they are sort 12 of aware of this -- of this failure issue. 13 Furthermore, in figure seven, they are actually 14 showing how that degradation is influenced by 15 the sort of variation of the parameters of 16 the -- of those failure parameters. 17 Q. When Lin talks about graceful degradation, 18 it doesn't talk about nodes or links failing, 19 though, does it, it's talking about the reliability 20 of the messages that are sent, correct? 21 MR. DAVIS: Objection to form. 22 THE WITNESS: So turning back to page 23 12, Lin is assessing the reliability of 24 broadcasts. And in the first paragraph he</p>	<p style="text-align: right;">Page 183</p> <p>1 node and/or link failures? 2 Q. Correct. 3 A. Okay. 4 MR. DAVIS: Same objection. 5 THE WITNESS: Now, is there a 6 particular simulation tab you're referring to? 7 Q. I didn't see it in your declaration, 8 that's why I'm just having you confirm that the 9 simulation that you referred to when you're talking 10 about Harary graphs to support your opinion, that 11 simulation did not have any discussion of node 12 or link failures. 13 MR. DAVIS: Objection. 14 THE WITNESS: Do you want to direct me 15 to the spot in the declaration you're referring 16 to? 17 Q. I said it's not in your declaration. 18 A. No, where I refer to the simulation. 19 Q. For instance, 234, you talk about the NS 20 simulation. 21 A. So that's the simulation that they discuss 22 in section five of their article, pages 24 and 25, 23 because they did other simulations earlier in the 24 article, which is how they produced those</p>
<p style="text-align: right;">Page 182</p> <p>1 explains how table one shows the measured 2 reliability of ten thousand broadcasts among 32 3 processors for different values of B, capital F 4 and lower case f, where f is the number of 5 crashed processors. So he is considering 6 crashed processors. In this measurement they 7 did not include link failures, but they clearly 8 were aware of the concept because they 9 mentioned them to say that they did not 10 consider them in this particular measurement. 11 Q. So the second line says no link failures 12 occurred during these broadcasts and all processors 13 that crashed did so before the first broadcast. Do 14 you see that? 15 A. Yes, it does say that. 16 Q. So it's your opinion that that discloses 17 that the Harary graphs that were simulated in Lin 18 simulated nodes and links failing and leaving? 19 MR. DAVIS: Objection. Form. 20 THE WITNESS: I'm sorry, if that was 21 your question, I didn't hear it properly. 22 Q. That's my question. 23 A. Your question is whether the simulation 24 that they are carrying out includes a simulation of</p>	<p style="text-align: right;">Page 184</p> <p>1 measurements which we were just talking about that 2 did include node failures and referred to link 3 failures. In this simulation, using the NS 4 simulator, which is discussed on page 24 and 25, 5 they assert that their simulation did not include -- 6 sorry, let me find the spot, right, so on page 25, 7 second to last line of the third paragraph, they 8 assert that they did not consider failures in these 9 simulations. 10 Q. Isn't it true that you rely on the NS 11 simulation in Lin in providing your opinion that the 12 Lin reference renders the challenged claims obvious 13 of the 344 patent? 14 A. So you've asked if I agree that I use this 15 NS simulation to ground my claims of obviousness of 16 the claims of this patent. I don't use the NS 17 simulator on all of the claims of the patent. What 18 I can point you to is that I use the NS simulator -- 19 or I discuss the NS simulator in the context of 20 claim ten, which is the claim that the computer 21 network of claim one wherein a computer hosts more 22 than one participant. 23 Q. So, just to be clear for the record, 24 you're not relying on the NS simulator for claim</p>

<p style="text-align: right;">Page 185</p> <p>1 one?</p> <p>2 MR. DAVIS: Objection to form.</p> <p>3 THE WITNESS: So if you look through</p> <p>4 my declaration and my discussion of claim one,</p> <p>5 on both grounds, I don't think you'll find any</p> <p>6 mention of the NS simulator.</p> <p>7 Q. All right. Can you turn to paragraph 220</p> <p>8 of your declaration, please?</p> <p>9 A. Yes.</p> <p>10 Q. On paragraph 220, the first sentence, you</p> <p>11 say Lin discloses networks in which no processor has</p> <p>12 a specific role to play and in which each edge in E</p> <p>13 means that the two nodes incident on the edge</p> <p>14 between them can directly send each other messages</p> <p>15 at the transport level, which a POSITA would have</p> <p>16 understood to refer to peer to peer networks. Do</p> <p>17 you see that?</p> <p>18 A. Yes, I do.</p> <p>19 Q. Can you explain what you meant by that?</p> <p>20 A. So I was quoting to two pieces of text</p> <p>21 from the Lin reference, the no processor has a</p> <p>22 specific role to play quote was the sixth line of</p> <p>23 page nine. And that each edge in E means that the</p> <p>24 two nodes incident on the edge can directly send</p>	<p style="text-align: right;">Page 187</p> <p>1 wishes to deliver a message to the other node of the</p> <p>2 pair and that the underlying transport level will be</p> <p>3 able to satisfy that request.</p> <p>4 MR. DAVIS: Objection to form as well.</p> <p>5 Q. Let's take a break, please.</p> <p>6 VIDEO TECHNICIAN: Off the record,</p> <p>7 6:10 p.m.</p> <p>8 (Recess taken.)</p> <p>9 VIDEO TECHNICIAN: On the record,</p> <p>10 6:23 p.m.</p> <p>11 Q. Dr. Karger, let's turn to Exhibit-2.</p> <p>12 Exhibit-2 is your declaration in the 1972 matter.</p> <p>13 A. Yes.</p> <p>14 Q. There is a fair amount of overlap between</p> <p>15 Exhibit-2 and Exhibit-1. Is it fair to say that</p> <p>16 your answers for the same opinions and texts that</p> <p>17 you provided in Exhibit-2 -- in Exhibit-1 would</p> <p>18 equally apply to Exhibit-2?</p> <p>19 MR. DAVIS: Objection. Form.</p> <p>20 THE WITNESS: I would say it's likely.</p> <p>21 I'm a little concerned sort of making a blanket</p> <p>22 statement like that.</p> <p>23 Q. Sure. Well, for instance, I don't have to</p> <p>24 go -- I don't have to go through everything again.</p>
<p style="text-align: right;">Page 186</p> <p>1 each other messages at the transport layer is the</p> <p>2 seventh and sixth lines from the bottom of page</p> <p>3 nine. So...</p> <p>4 Q. Can you explain what those mean to you?</p> <p>5 A. Sure. When -- when he says that no</p> <p>6 processor has a specific role to play, what he is</p> <p>7 saying is that these -- under these gossip protocols</p> <p>8 all of the processors are executing essentially the</p> <p>9 same procedure of taking information that they</p> <p>10 receive and forwarding it to other processors. When</p> <p>11 he says that an edge means that the two nodes can</p> <p>12 directly send each other messages at the transport</p> <p>13 level, what he is saying is that, again, Lin is</p> <p>14 describing an overlay network. In order to have an</p> <p>15 overlay network you need to provide communication</p> <p>16 through the underlying network. And his description</p> <p>17 here is that when you have an edge between two</p> <p>18 processors in your overlay network, it does mean</p> <p>19 that the two -- the two nodes that are at the end</p> <p>20 points of that edge are able to directly send each</p> <p>21 other messages using the underlying network.</p> <p>22 Q. And what is your understanding of directly</p> <p>23 send messages?</p> <p>24 A. That one node can somehow specify that it</p>	<p style="text-align: right;">Page 188</p> <p>1 So --</p> <p>2 A. My consulting history or anything like</p> <p>3 that.</p> <p>4 Q. So like the claim constructions and all</p> <p>5 those things.</p> <p>6 A. Uh-huh.</p> <p>7 Q. The similar texts, the same texts.</p> <p>8 MR. DAVIS: Objection to form.</p> <p>9 Q. Okay. So let's look at the Shoubridge</p> <p>10 portion of Exhibit-2 which begins on -- which begins</p> <p>11 on page 42. In your declaration in the 1972 case,</p> <p>12 you give two opinions, one, that DirectPlay with</p> <p>13 Shoubridge renders the challenged claims obvious,</p> <p>14 correct, that's one of them?</p> <p>15 A. Yes, that claims one through nineteen are</p> <p>16 obvious over DirectPlay and Shoubridge.</p> <p>17 Q. And the -- your second opinion relates</p> <p>18 just to Shoubridge by itself and that renders the</p> <p>19 challenged claims obvious?</p> <p>20 A. Again, it's a subset of the challenged</p> <p>21 claims, but those claims it rendered obvious.</p> <p>22 Q. And just to be clear, it's based on</p> <p>23 Shoubridge by itself, right?</p> <p>24 A. And the knowledge of a person of ordinary</p>

<p style="text-align: right;">Page 189</p> <p>1 skill in the art.</p> <p>2 Q. And just to be clear, you're not combining</p> <p>3 any other documents with Shoubridge to -- for your</p> <p>4 second ground in your declaration, correct?</p> <p>5 A. Correct.</p> <p>6 Q. And the document that we've been referring</p> <p>7 to as Shoubridge, that has been marked previously as</p> <p>8 Exhibit-5, correct?</p> <p>9 A. Yes.</p> <p>10 Q. Paragraph 85 of your declaration you say,</p> <p>11 Shoubridge discloses a routing protocol called</p> <p>12 flooding in which a node sends a message to all of</p> <p>13 its neighbors and each neighbor upon receiving a</p> <p>14 message for the first time broadcasts the message to</p> <p>15 all of its neighbors except for the one from which</p> <p>16 it received the message. Do you see that?</p> <p>17 A. Yes, I do.</p> <p>18 Q. Can you explain what you meant by that?</p> <p>19 A. So if you turn to page two of Shoubridge,</p> <p>20 the final paragraph of the final column, Shoubridge</p> <p>21 asserts that flood search routing has been selected</p> <p>22 for its robustness in dynamic networks and is</p> <p>23 modeled as constrained flooding. He goes on to say</p> <p>24 that any user packet transmitted from a node is</p>	<p style="text-align: right;">Page 191</p> <p>1 Q. So when -- in your opinion, when you</p> <p>2 provided the opinion that Shoubridge renders the</p> <p>3 claims of the 344 patent obvious, are you referring</p> <p>4 to the flooding that's described in the paragraph</p> <p>5 that starts with flood search routing or are you</p> <p>6 referring to something else?</p> <p>7 A. All right. The question was -- I just</p> <p>8 want to make sure I'm answering it the right way.</p> <p>9 (Reporter read back.)</p> <p>10 MR. DAVIS: Objection. Form.</p> <p>11 THE WITNESS: Well, I certainly am</p> <p>12 using the flooding described here as part of my</p> <p>13 argument that the claims are obvious. I'm</p> <p>14 using other parts of Shoubridge as well.</p> <p>15 Q. Are you using other parts of Shoubridge</p> <p>16 when you refer to Shoubridge's flooding algorithm?</p> <p>17 MR. DAVIS: Objection form.</p> <p>18 THE WITNESS: Sorry, where -- you want</p> <p>19 to give me an example of where I refer to</p> <p>20 Shoubridge's flooding algorithm?</p> <p>21 Q. Well, throughout your declaration you're</p> <p>22 talking about Shoubridge flooding and Shoubridge</p> <p>23 discloses flooding. I just want to make sure we're</p> <p>24 on the same page, that we're talking about the</p>
<p style="text-align: right;">Page 190</p> <p>1 copied and broadcast on all outgoing links and that</p> <p>2 intermediate transit nodes do not broadcast a packet</p> <p>3 on the same link that a packet was originally</p> <p>4 received on.</p> <p>5 Q. So when you refer to flooding in your</p> <p>6 declaration, you're referring to constrained</p> <p>7 flooding in -- in regard to Shoubridge?</p> <p>8 MR. DAVIS: Objection. Form.</p> <p>9 Q. Or strike that. Are you referring to the</p> <p>10 flood search routing --</p> <p>11 MR. DAVIS: Objection.</p> <p>12 Q. -- description?</p> <p>13 MR. DAVIS: Objection. Form.</p> <p>14 THE WITNESS: So Shoubridge discloses</p> <p>15 what he calls constrained flooding, which is</p> <p>16 this particular -- this particular kind of</p> <p>17 flooding in which you transmit only on -- only</p> <p>18 where you didn't -- only to the neighbors you</p> <p>19 didn't receive from and where you discard</p> <p>20 packets that are received more than once. This</p> <p>21 is a kind of flooding. So, yes, he is</p> <p>22 disclosing this constrained flooding and, he is</p> <p>23 disclosing flooding more generally by</p> <p>24 disclosing a particular instance of it.</p>	<p style="text-align: right;">Page 192</p> <p>1 paragraph on page two that starts with flood search</p> <p>2 routing and it ends on top of page three.</p> <p>3 A. So, again, in the paragraph we were just</p> <p>4 looking at, paragraph 85, when I assert that</p> <p>5 Shoubridge is disclosing flooding, I am referring to</p> <p>6 that type of flooding. I just want to be cautious</p> <p>7 because I haven't memorized every word of my</p> <p>8 declaration, that there might be some other use of</p> <p>9 the term flooding which is referring to something</p> <p>10 else.</p> <p>11 Q. Let's turn to page -- paragraph 89 of your</p> <p>12 report.</p> <p>13 A. Yes.</p> <p>14 Q. Here you refer to the 64 node network with</p> <p>15 connectivity of the degree four is modeled as G.</p> <p>16 The network is a large regular graph forming a</p> <p>17 Manhattan grid network that has been wrapped around</p> <p>18 itself as a torus to avoid edge effect. Do you see</p> <p>19 that?</p> <p>20 A. Yes.</p> <p>21 Q. That's the same torus that we were talking</p> <p>22 about earlier today?</p> <p>23 A. Yes, it was.</p> <p>24 Q. Now, in Shoubridge -- does Shoubridge</p>

<p style="text-align: right;">Page 193</p> <p>1 actually disclose nodes leaving the torus, or just 2 links failing? 3 MR. DAVIS: Objection. Form. 4 THE WITNESS: So, just to be clear, 5 the patent that we're considering today, number 6 344, its claims don't discuss nodes leaving, 7 but your question was whether Shoubridge 8 discusses nodes leaving the torus as opposed 9 to -- 10 Q. Links failing. 11 MR. DAVIS: Same objection. 12 THE WITNESS: All right. Sorry for 13 the delay. You had asked me to confirm that 14 the article does not refer to nodes leaving. 15 And so to answer that negative I had to look 16 through the article. And I'm -- there is a -- 17 a discussion of related work in section four 18 which talks about a -- a supporting user 19 mobility in a circuit switch trunk network 20 which talks about a user moving, which from 21 this perspective means leaving and appearing 22 somewhere else. So that is a brief mention of 23 this idea of an entity leaving or returning to 24 the network.</p>	<p style="text-align: right;">Page 195</p> <p>1 failure model and it will follow from that, 2 that on occasion four links incident on a node 3 will fail. 4 Q. In the simulation model that he runs and 5 the tests that are disclosed, there's no mention of 6 the four link failure, right? 7 MR. DAVIS: Objection to form. 8 THE WITNESS: I can't say from the 9 data he presents whether it happened and he 10 doesn't discuss it. 11 Q. All right. Let's turn to your -- back to 12 your declaration. If you go to paragraph 94. 13 A. Yes. 14 Q. Paragraph 94 you provide an opinion that 15 DirectPlay and Shoubridge can be combined to render 16 obvious the claims of the 344 patent, is that right? 17 MR. DAVIS: Objection. Form. 18 THE WITNESS: Yes. 19 Q. So looking at paragraph 94, is it your 20 opinion that DirectPlay would run on top of the 21 Shoubridge network? 22 MR. DAVIS: Same objection, form. 23 Q. Doctor, is there some question? I'm 24 asking you to look at one paragraph. You flipped</p>
<p style="text-align: right;">Page 194</p> <p>1 Q. But there's no disclosure in Shoubridge of 2 nodes actually leaving the torus network, right? 3 MR. DAVIS: Objection to form. 4 THE WITNESS: Well, there is this link 5 failure model and under these link failures it 6 is -- it is very likely to eventually happen 7 that all four of the links incident on a 8 particular node will be failed, which will have 9 the effect of causing that node to leave the 10 network, since it will no longer be connected 11 anywhere. 12 Q. But, again, that's link failure, that's 13 not the node leaving, correct? 14 MR. DAVIS: Objection to form. 15 THE WITNESS: But, again, there is no 16 practical difference between a node leaving and 17 a node becoming completely detached from the 18 network, which can be caused by link failures. 19 Q. And this analysis you just provided, 20 that's not in Shoubridge, Shoubridge never talks 21 about four links failing, does it? 22 MR. DAVIS: Objection to form. 23 THE WITNESS: Not explicitly, but he 24 does articulate there is this independent link</p>	<p style="text-align: right;">Page 196</p> <p>1 multiple times now. I don't want you to read your 2 report? 3 MR. DAVIS: Objection. 4 THE WITNESS: I was just reading the 5 motivation to combine section. Yes, that 6 answers your question, yes. 7 Q. So, just to be clear, it's your opinion 8 that DirectPlay would run on top of the Shoubridge 9 network, correct? 10 MR. DAVIS: Objection to form. 11 THE WITNESS: Yes, that when -- as 12 described in the DirectPlay reference one can 13 envision creating a service provider using the 14 Shoubridge technology. 15 Q. Let's turn to paragraph 223 of your 16 declaration -- I'm sorry, 224. 17 A. Yes. 18 Q. In 224 you state, Shoubridge discloses a 19 computer network for providing information such as 20 game information, for example, for a plurality of 21 participants by broadcasting information to multiple 22 participants in a computer network. Do you see 23 that? 24 A. Yes, I do.</p>

<p style="text-align: right;">Page 197</p> <p>1 Q. Shoubridge doesn't actually mention game 2 information, does it? 3 MR. DAVIS: Objection to form. 4 THE WITNESS: This is another question 5 about Shoubridge not mentioning something. 6 Q. You don't know from the top of your head 7 whether Shoubridge mentions -- 8 A. I don't recall from the top of my head. 9 If you'd like me to really confirm that, I'll need 10 to look through Shoubridge again. 11 Q. All right. Is it fair to say that if 12 Shoubridge doesn't mention the word game, then game 13 information is not disclosed? 14 MR. DAVIS: Objection to form. 15 THE WITNESS: Per the same question 16 that was asked about Lin, where my response was 17 that I didn't see that Lin expressly mentioned 18 game information, but it was that nevertheless 19 obvious to a person of ordinary skill in the 20 art that you could use it for broadcasting game 21 information. 22 Q. What in Shoubridge discloses a game 23 environment? 24 A. So as we just discussed positing that</p>	<p style="text-align: right;">Page 199</p> <p>1 that in the alternative to the extent it is argued 2 that these limitations are not expressly or 3 inherently disclosed in Shoubridge, it would have, 4 at minimum, been obvious that the nodes of the 5 networks disclosed in Shoubridge could have been 6 implemented as peers and that the connections 7 between those nodes would be peer to peer 8 connections based on the knowledge of a POSITA. Do 9 you see that? 10 A. Yes, I do. 11 Q. Can you explain what you meant by that? 12 A. So this paragraph 228 is a continuation of 13 an argument being laid out in the previous two 14 paragraphs, 226 and 227. In those two paragraphs I 15 am arguing that Shoubridge actually discloses a peer 16 to peer network. In 228, though, I'm continuing 17 that argument and saying that if somebody wants to 18 argue that these limitations are not explicitly 19 disclosed, although I'm prepared to argue that they 20 are, but if somebody wants to argue that they are 21 not expressly disclosed, then at the very least, 22 there is an obviousness argument from what 23 Shoubridge doesn't disclose that you could implement 24 a system using peer nodes that would connect through</p>
<p style="text-align: right;">Page 198</p> <p>1 Shoubridge does not explicitly mention the word game 2 would mean that Shoubridge does not expressly 3 disclose a game environment, but my argument is that 4 that this would be obvious over Shoubridge. 5 Q. Does Shoubridge discuss any type of 6 environment? 7 MR. DAVIS: Objection. Form. 8 THE WITNESS: Any type of environment? 9 Q. If you did -- well, strike that. Did you 10 see the word environment in Shoubridge? 11 MR. DAVIS: Objection. Form. 12 THE WITNESS: I don't recall seeing 13 that word. In fact, if you're looking at 14 paragraph one, it's talking about users 15 demanding seamless connectivity on network. 16 You know, it doesn't use the word environment 17 but it is describing an environment of users on 18 a network. 19 Q. In your opinion, would that be the same 20 thing as a game environment? 21 MR. DAVIS: Objection to form. 22 THE WITNESS: No. 23 Q. All right. In paragraph 227 of your 24 report -- I'm sorry, 228, you provide the opinion</p>	<p style="text-align: right;">Page 200</p> <p>1 peer to peer connections. 2 Q. The word peer doesn't appear in 3 Shoubridge, does it? 4 MR. DAVIS: Objection. Form. 5 THE WITNESS: Once again, I don't 6 immediately recall the term but to really 7 affirmatively answer that question, I would 8 need to go through Shoubridge again. 9 Q. Can you turn to paragraph 232 of your 10 declaration? 11 A. Yeah. 12 Q. You say that the POSITA would have 13 understood the recitation of communication networks 14 to include network space TCP/IP which necessarily 15 comprised TCP/IP connections. Do you see that? 16 A. Yes, I do. 17 Q. Are there communication networks which do 18 not comprise of TCP/IP connections? 19 MR. DAVIS: Objection. Form. 20 THE WITNESS: Yes, there are networks 21 that use connections other than TCP/IP 22 connections. 23 Q. So then the disclosure of a communication 24 network doesn't necessarily mean that the</p>

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1 connections are TCP/IP, right?

2 MR. DAVIS: Objection form.

3 THE WITNESS: So I am not arguing that

4 communication network specifies that it must be

5 a TCP/IP communication network. I'm saying

6 that a person of ordinary skill in the art,

7 when hearing about a communication network,

8 would have been well aware of TCP/IP, perhaps

9 the most well known of all communications of

10 all network protocols, as a way to -- as an

11 example of such a network.

12 Q. I would like to turn your attention to

13 paragraph 241 of your declaration.

14 A. Yes.

15 Q. In 241 you state that Shoubridge discloses

16 that computer simulation modeling was used to

17 evaluate the performance of the disclosed flooding

18 algorithms on the disclosed networks. Since such as

19 this -- simulators such as this continued to run on

20 a single machine, it would have been obvious to a

21 POSITA that Shoubridge discloses simulating multiple

22 participants on a computer wherein a computer hosts

23 more than one participant. Do you see that?

24 A. Yes, I do.

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1 Q. Can you explain that to me?

2 A. The whole thing? A particular piece that

3 you want me to focus on?

4 Q. In particular the last line in your

5 opinion that the disclosure of a simulator meets the

6 limitation wherein a computer hosts more than one

7 participant in the claims of the 344 patent?

8 MR. DAVIS: Objection. Form.

9 THE WITNESS: So Shoubridge discusses

10 a simulation of his network in order to

11 understand the performance of some of the

12 routing protocols that he describes or routing

13 algorithms that he describes in his article.

14 He ran a simulation in order to understand

15 that. Turning to the appropriate section. And

16 Shoubridge describes a simulation model and

17 then describes that simulation, which implies

18 that he ran one, which means that he created a

19 simulated version of the network that he was

20 choosing to study and then ran traces of his

21 algorithm running through this simulated

22 network with his modeled edge failures and so

23 forth. And my argument here is that, you know,

24 the easiest thing to do and thus the one that's

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1 done if there aren't reasons forcing against

2 it, is to run your entire simulation on a

3 single machine. Involving more than one

4 machine makes it -- is harder work. So the

5 natural assumption is that he ran it on a

6 single machine, which meant that all of the

7 multiple participants that he was simulating

8 were on that machine during the simulation.

9 MR. DAVIS: I think we're a couple

10 minutes over time as it stands right now.

11 MR. HANNAH: So long as -- I've got

12 two follow ups.

13 MR. DAVIS: Well, no, why don't we

14 just -- you've had seven hours with him.

15 MR. HANNAH: Counsel -- Counsel, it's

16 common courtesy when you give an answer, a

17 long-winded answer, that I have two follow-up

18 questions.

19 MR. DAVIS: There's no common practice

20 here. We have a seven hour time limit.

21 MR. HANNAH: You can instruct him not

22 you answer if you want.

23 MR. DAVIS: You've spent over seven

24 hours today. You've also spent well over an

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1 hour on topics that were beyond the scope of

2 his declaration. We've hit seven hours. We're

3 done.

4 MR. HANNAH: You can instruct him not

5 to answer, if you want.

6 MR. DAVIS: I'm not instructing him

7 not to answer. I'm telling you the deposition

8 is over because we ran out of time. All right?

9 Q. Doctor --

10 MR. DAVIS: Same practice as

11 yesterday. All right?

12 Q. Is it your opinion --

13 MR. DAVIS: We're done, Mr. Hannah.

14 MR. HANNAH: I'm not done. I'm going

15 to ask him the question. And you can -- you

16 can instruct him not to answer, if you're not

17 going provide the courtesy for one follow up

18 question after a long-winded answer like that

19 where he's been taking a long time to answer

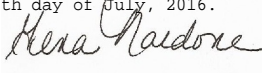
20 questions. And we have a record of it. So if

21 you want to -- if you want to make this

22 position, then we can go to the board tomorrow

23 and we can ask for more time because he hasn't

24 been diligent in answering the questions.

<p style="text-align: right;">Page 205</p> <p>1 MR. DAVIS: He has been answering 2 your questions. You've been asking several 3 questions that are beyond the scope. 4 MR. HANNAH: We'll see how long the 5 transcript is for a seven-hour deposition. 6 It's not going to be -- 7 MR. DAVIS: Just because you don't ask 8 questions that are properly -- 9 MR. HANNAH: The colloquy is not going 10 to help. I want to ask one single question. 11 And you can take it or not and you can instruct 12 not to answer. 13 Q. So is it your opinion that the disclosure 14 of a simulation means that multiple nodes can exist 15 on a single computer? 16 MR. DAVIS: Objection to form. 17 THE WITNESS: Nodes can exist on a 18 single computer. So in the language of 19 Shoubridge, yes, his simulation is running 20 multiple nodes on a single computer. 21 MR. DAVIS: All right. 22 VIDEO TECHNICIAN: This is the end of 23 tape number six. 24 MR. DAVIS: Actually, sorry. I don't</p>	<p style="text-align: right;">Page 207</p> <p>1 2 3 CERTIFICATE 4 COMMONWEALTH OF MASSACHUSETTS 5 6 7 I, GENA NARDONE, RPR and Notary Public 8 in and for the Commonwealth of Massachusetts, do 9 hereby certify that the witness whose deposition is 10 hereinbefore set forth, was duly sworn and that such 11 deposition is a true record of the testimony given 12 by the witness. 13 I further certify that I am neither 14 related to or employed by any of the parties in or 15 counsel to this action, nor am I financially 16 interested in the outcome of this action. 17 I witness whereof, I have set my hand 18 and seal this 7th day of July, 2016. 19  20 21 Gena Nardone, Notary Public in and 22 for the Commonwealth of Massachusetts 23 My Commission Expires: February 11, 2020 24</p>
<p style="text-align: right;">Page 206</p> <p>1 have any further questions. So we can just 2 complete the deposition. 3 VIDEO TECHNICIAN: This is the end of 4 tape number six. This will conclude the 5 videotaped deposition of Dr. David Karger. Off 6 the record at 6:59 p.m. 7 (Deposition concluded.) 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24</p>	