

EXHIBIT F

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.,)
Plaintiff,)
vs.) No. CV 10-03561 WHA
GOOGLE, INC.,)
Defendant.)
_____)

CONFIDENTIAL TESTIMONY - ATTORNEYS' EYES ONLY
VIDEOTAPED DEPOSITION OF JAMES KEARL
MONDAY, MARCH 26, 2012

<p>1 2 3 4 5 6 7 Videotaped Deposition of JAMES KEARL, taken on 8 behalf of Plaintiff, at Kecker & Van Nest, 633 Battery 9 Street, San Francisco, California, commencing at 10 9:37 a.m., Monday, March 26, 2012 before Kelli Combs, 11 CSR 7705. 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p>1 2 3 FOR THE WITNESS: 4 FARELLA BRAUN & MARTEL 5 BY: JOHN L. COOPER, ESQ. 6 ALYSON FRANCO 7 235 Montgomery Street 8 San Francisco, California 94104 9 (415) 954-4400 10 11 Also Present: 12 Philip Knolls, Videographer 13 Andrew Tenkin, In-house counsel for Oracle 14 Greg Adams with Charles River Associates 15 16 17 18 19 20 21 22 23 24 25</p>
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<p>1 APPEARANCE OF COUNSEL: 2 3 FOR PLAINTIFF ORACLE AMERICA, INC.: 4 BOIES, SCHILLER & FLEXNER, LLP 5 BY: FRED NORTON, ESQ. 6 STEVEN C. HOLTZMAN, ESQ. 7 1999 Harrison Street, Suite 900 8 Oakland, California 94612 9 (510) 874-1000 10 fnorton@bsflp.com 11 12 FOR DEFENDANT GOOGLE, INC.: 13 KEKER & VAN NEST, LLP 14 BY: DANIEL PURCELL, ESQ. 15 633 Battery Street 16 San Francisco, California 94111-1809 17 (415) 733-6697 18 dpurcell@kkvn.com 19 20 21 22 23 24 25</p>	<p>1 JAMES KEARL, 2 after having been duly sworn, testified as follows: 3 ---o0o--- 4 5 THE VIDEOGRAPHER: Good morning, Counsel. 09:03:25 6 My name is Philip Knowles, of Veritext National 7 Deposition and Litigation Services. The date today 8 is March 26th, 2012, and the time is approximately 9 9:03 a.m. 10 This deposition is being held in the 09:03:39 11 office of Kecker and Van Nest, located at 633 Battery 12 Street, on the fourth floor, in the City of 13 San Francisco, California 94111. 14 The caption of this case is Oracle America 15 versus Google, Inc., in the United States District 09:03:54 16 Court for the Northern District of California, 17 San Francisco Division. The name of the witness is 18 James Kearl. 19 At this time, the attorneys will identify 20 themselves and the parties they represent. 09:04:07 21 MR. NORTON: Fred Norton, on behalf of 22 Oracle America. 23 MR. HOLTZMAN: Steve Holtzman, for Oracle 24 America. 25 MR. COOPER: John Cooper, Farella, Braun & 09:04:20</p>
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CONFIDENTIAL - ATTORNEYS' EYES ONLY

1 Martel. I represent Dr. Kearl. 09:04:21
2 MR. TENKIN: Andrew Tenkin, Oracle
3 America.
4 MR. PURCELL: Dan Purcell, Kecker & Van
5 Nest. I represent Google. 09:04:29
6 MR. ADAMS: Gregory Adams, with CRA
7 International.
8 THE VIDEOGRAPHER: Our court reporter,
9 Kelli Combs of Veritext, will swear in the witness.
10 (Deponent sworn.) 09:04:41
11 THE VIDEOGRAPHER: You may proceed.
12 MR. COOPER: Counsel, at the outset, as I
13 indicated prior to the beginning of the deposition,
14 Dr. Kearl has a correction he would like to make to
15 Paragraph 86 of -- 09:05:00
16 He'd like to make a correction to
17 Paragraph 86 of his report.
18 MR. NORTON: Please, go ahead.
19 THE WITNESS: In Paragraph 86, in order to
20 get the total value of the deal, I added the value 09:05:17
21 of Sun to the value to Google. That's the
22 denominator. And then divide that into the value of
23 the Sun to get an estimate of the portfolio royalty.
24 I should have netted out, of the part that
25 goes into the denominator, the transfer between 09:05:33

1 Google and Oracle for the \$20 million payments, 09:05:35
2 upfront payments, and the \$25 million capped
3 royalty. The present value of those two numbers is
4 a little less than \$100 million. So the denominator
5 would be slightly smaller and, therefore, the 09:05:51
6 estimated royalty slightly larger.
7 EXAMINATION
8 BY MR. NORTON:
9 Q All right. Thank you.
10 We'll probably come back to that a little 09:06:08
11 bit later in the morning.
12 Why don't we start with the easiest
13 question of the day. Would you rather I call you
14 Professor or Dr. Kearl?
15 A Whatever works for you. 09:06:19
16 Q I probably will switch back and forth
17 because I won't remember.
18 Why don't we start by marking your report,
19 and I'll ask the court reporter, first, to mark
20 Exhibit 570 -- I'm sorry -- 576. 09:06:28
21 (Deposition Exhibit 576 marked
22 for identification.)
23 MR. NORTON: Then 577.
24 (Deposition Exhibit 577 marked
25 for identification.) 09:06:52

1 MR. NORTON: Then 578. 09:06:52
2 (Deposition Exhibit 578 marked
3 for identification.)
4 BY MR. NORTON:
5 Q And the way I organized these may be a 09:07:44
6 little differently from how you had them, but
7 Exhibit 576 should be your report. Exhibit 577
8 should be the tables to your -- the appendices to
9 your report. And 578 should be the tables; is that
10 correct? 09:08:02
11 A That's correct.
12 Q Okay.
13 Now, other than the change that you
14 described to Paragraph 86 of your report, do you
15 have any other changes to the report that you want 09:08:15
16 to make?
17 A No.
18 Q Can you just describe for me your
19 background in calculating patent damages?
20 A I've been retained in a number of cases 09:08:27
21 either to do reasonable royalty or lost profits
22 and have filed reports on those matters.
23 Q And how many cases have you calculated a
24 reasonable royalty for patents?
25 A Probably seven or eight. You need to 09:08:53

1 clarify what you mean "cases." Would this be 09:08:56
2 formal testimony? It would be less than that, but
3 I've worked on matters in which there has been
4 preliminary work done, often settled, in
5 probably -- I don't know -- maybe ten, eight to 09:09:08
6 ten.
7 Q Then of that eight to ten, how many cases
8 did you give testimony concerning a reasonable
9 royalty in a patent case?
10 A I think only two. 09:09:20
11 Q And those two, did you testify on behalf
12 of the plaintiff or the defendant or one of each?
13 A Both cases was on behalf of the
14 defendant.
15 Q And have you -- 09:09:34
16 Prior to this case, have you ever been
17 engaged to calculate a reasonable royalty copyright
18 case?
19 A Well, yes. Damages in a very large
20 copyright case, in a couple of cases, yes. 09:09:46
21 Q And did you give testimony concerning the
22 value of a license in a copyright case?
23 A I was deposed in at least one of those
24 cases. It's since disappeared into practice, as
25 the lawyers say. I don't recall. I don't think I 09:10:06

<p>1 gave testimony in the other case. 09:10:10 2 Q And in the copyright case in which you 3 gave testimony, did you testify on behalf of the 4 plaintiff or on behalf of the defendant? 5 A The defendant. 09:10:18 6 Q What was the nature of the product in the 7 copyright case in which you gave testimony on a 8 reasonable royalty? 9 A Software. 10 Q And the two patent cases in which you gave 09:10:30 11 testimony on behalf of the defendants concerning a 12 reasonable royalty, what was the nature of the 13 products in those cases? 14 A They were both medical devices. 15 Q In the copyright case that involved 09:10:47 16 software, what kind of software was that? 17 A UNIX software. 18 Q Do you recall the name of that case? 19 A Yes, it's IBM versus SCO or SCO versus 20 IBM. 09:11:02 21 Q If you could just describe for me what you 22 understand your task in this particular case to be? 23 A I was retained by the Court, as I 24 understand the matter, to originally critique the 25 experts of each side. And then when the trial was 09:11:20</p> <p style="text-align: right;">10</p>	<p>1 for the copyrights in suit? 09:12:54 2 A Correct. 3 Q And to calculate infringer's profits for 4 copyrights in suit? 5 A Correct. 09:12:59 6 Q And lost profits for those copyrights? 7 A Correct. 8 Q And for each of those measures of damage, 9 have you reached an independent opinion as to what 10 the damages are in this case? 09:13:07 11 A Within the confines of Judge Alsup's 12 orders, yes. 13 Q In order to reach your opinions, did you 14 limit yourself to the documents -- 15 With respect to documents, did you limit 09:13:27 16 yourself to the documents that were cited by the 17 parties' experts in their reports? 18 A Mostly, but as you'll note in the 19 footnotes, there are some documents that we went 20 out and got that we judged to be relevant to this 09:13:43 21 case. 22 Q When you mention documents that you went 23 out and got, are you referring to literature and 24 things in the public record? 25 A Yes. 09:13:58</p> <p style="text-align: right;">12</p>
<p>1 delayed, Judge Alsup asked if I could come up with 09:11:24 2 an independent damages estimate. My response was 3 I could within the confines of the record. That 4 is, I couldn't go out and do independent research 5 beyond literature research. So I think it's fair 09:11:41 6 to say that it's morphed over time from at least 7 what it appeared to be last fall, as the trial has 8 been delayed. 9 Q But is it fair to say that, ultimately, 10 your task included the job of coming up with an 09:11:55 11 independent opinion as to the reasonable royalty of 12 the patents-in-suit in this case? 13 A Right, but within some fairly tight 14 constraints. It's my understanding that Judge 15 Alsup ruled that I would not be allowed to opine 09:12:09 16 on matters that he had precluded experts on either 17 side from testifying about, so it's not a sort of 18 go anywhere effort. It's within the confines of 19 his orders over the last three months. 20 Q But with that understanding, it would be 09:12:39 21 fair to say that your task included the job of 22 calculating a reasonable royalty for the 23 patents-in-suit in this case? 24 A Yes. 25 Q And also to calculate a reasonable royalty 09:12:50</p> <p style="text-align: right;">11</p>	<p>1 Q So to the extent you rely on documents 09:13:59 2 produced by the parties, did you limit yourself to 3 documents that were cited in one of the expert's 4 reports? 5 A Yes. 09:14:09 6 Q Did you review deposition testimony of 7 witnesses in this case? 8 A I have. 9 Q Did you limit yourself to deposition 10 testimony that was cited by one of the experts in 09:14:19 11 the case? 12 A No. 13 Q So you reviewed deposition testimony that 14 had not necessarily been cited by any expert? 15 A That's correct. 09:14:30 16 Q And did you have access to all of the 17 deposition transcripts in the case? 18 MR. COOPER: Objection; calls for 19 speculation. 20 THE WITNESS: Yeah, I think so, but I'm 09:14:43 21 not sure because we don't have a listing of all of 22 the depositions that were taken. 23 BY MR. NORTON: 24 Q Are you aware of any depositions for which 25 you -- any depositions that were taken for which you 09:14:52</p> <p style="text-align: right;">13</p>

<p>1 did not receive a transcript? 09:14:56 2 A No. 3 Q Now, have you conducted any interviews 4 with any employees of any party? 5 A Let me clarify. I assume that retained 09:15:17 6 experts are not defined as employees of the 7 parties. 8 Q I meant to carve those out. Let me ask it 9 a little bit differently. 10 You have spoken with each of the parties' 09:15:26 11 retained damages experts, correct? 12 A I have. 13 Q Some of the parties' retained technical 14 experts? 15 A I have. 09:15:33 16 Q Other than the parties' retained technical 17 experts and retained damages experts, have you 18 spoken to any employee of any party? 19 A No. 20 Q To the extent that either Professor 09:15:44 21 Cockburn or Dr. Leonard or Dr. Cox relies on 22 interviews with employees of a party, have you 23 considered those interviews? 24 A To the degree that they're reflected in 25 the reports, and then there were subsequent 09:16:06</p> <p style="text-align: right;">14</p>	<p>1 Now, did you understand in the course of 09:17:31 2 your task, that you were permitted to come up with 3 any methodology you chose to best calculate a 4 reasonable royalty for the patents-in-suit? 5 A I interpreted Judge Alsup's instruction 09:17:48 6 to me that I was to derive an independent estimate 7 as allowing for that, yes, subject, as I said now 8 a couple of times, to his subsequent orders 9 limiting the other experts on the case. 10 Q And so with respect to the reasonable 09:18:09 11 royalty methodology -- reasonable royalty 12 methodology in this case, have you reached an 13 opinion as to what the best way is to calculate a 14 reasonable royalty for the patents and copyrights in 15 suit? 09:18:22 16 A I have. 17 Q Okay. 18 And -- 19 A Let me back up. I've come up with a 20 methodology for estimate -- for the best way to 09:18:30 21 estimate the reasonable royalty on the portfolio 22 that the parties were discussing in 2006. The 23 allocation of that portfolio royalty to the 24 patents and copyrights in suit is constrained by 25 Judge Alsup's orders. 09:18:50</p> <p style="text-align: right;">16</p>
<p>1 depositions of the people that they may have 09:16:09 2 interviewed, yes. 3 Q To the extent that the expert -- 4 To the extent that Dr. Cox relied on 5 interviews of people, or a person who was not 09:16:19 6 subsequently interviewed, at some point deposed, did 7 you rely on those interviews? 8 A Again, only to the degree that he 9 reflects those interviews in his own reports. 10 Q Is there anything that you did to assess 09:16:38 11 the accuracy of the statements that were relayed to 12 Dr. Cox by the people he interviewed? 13 A No. 14 Q In the course of reaching your opinions, 15 did you make any assumptions? 09:16:58 16 A Yes. 17 Q Is it possible for you to tell me what 18 your primary assumptions are? 19 A I think a fair answer to that is that 20 they are reflected in the report. We've been -- 09:17:13 21 tried to be very clear about when I've made an 22 assumption. And without walking through the 23 report, I'm not sure I can give a fair answer to 24 that question. 25 Q That's fair. Thank you. 09:17:22</p> <p style="text-align: right;">15</p>	<p>1 Q Let me break that down a little bit. 09:18:54 2 So with respect to calculating a royalty 3 on the portfolio that the parties were discussing in 4 2006, you have come up with what you believe is the 5 best way to calculate that royalty; is that correct? 09:19:06 6 A Correct. 7 Q Sorry. I didn't mean to speak over you. 8 And I know it's in the report, but in 9 brief form, what is the best way to calculate that 10 royalty? 09:19:20 11 A Has really three parts: One is to begin 12 with the assumption that the parties would have 13 negotiated either a percentage of revenue or a per 14 handset royalty in 2006; that that would then be 15 applied to actual Google revenues going forward; 09:19:46 16 and then to focus on the estimation of that per 17 unit or percentage royalty by looking at the 18 expectations of both parties in 2006 and how they 19 valued the 2006 deal, backing out from the deal 20 the things that were not associated with the 09:20:14 21 intellectual property. 22 Q That allows you to calculate a per handset 23 or per revenue dollar royalty rate? 24 A Correct. 25 Q You said that -- 09:20:31</p> <p style="text-align: right;">17</p>

<p>1 Well, with respect to apportioning that 09:20:33 2 2006 royalty rate, have you come up with what you 3 believe is the best methodology for apportioning to 4 the intellectual property in suit? 5 A I don't think that's what I testified 09:20:56 6 to. What I said was after -- after the -- 7 determining the reasonable royalty on the 8 portfolio, then the apportionment is really 9 constrained by Judge Alsup's orders. And I 10 adopted the group and value methodology of 09:21:10 11 Professor Cockburn, but I'm not opining on whether 12 that's the best methodology for doing this. 13 Q When you say, "whether that's the best 14 methodology for doing this," what is "this"? 15 A Apportioning. 09:21:27 16 Q Did you consider other ways of 17 apportioning? 18 A Over the course of the last six months, 19 yes, a number of different ways. 20 Q Did you identify any means of apportioning 09:21:39 21 that is better than Professor Cockburn's group and 22 value approach, as permitted by Judge Alsup's 23 orders? 24 A No. 25 Q When I ask you "better," I mean, better in 09:21:57</p> <p style="text-align: right;">18</p>	<p>1 BY MR. NORTON: 2 Q So an approach that looks at the change in 3 market share of Android as a result of the 4 infringement? 5 A Yes. 09:23:52 6 Q And uses that to apportion? 7 A Yes. 8 Q Did you reach an opinion as to whether 9 that approach was, as a matter of economics, was 10 better or worse than the group and value approach? 09:24:03 11 A Both approaches have some problems, and 12 I think both approaches have some strengths, so 13 there is not -- it's not an easy call, which is 14 which one dominates the other. 15 Q Did you conduct an analysis, an 09:24:21 16 apportionment analysis, using the changes in market 17 share? 18 A Yes. 19 Q Is that analysis in your report? 20 A No. 09:24:35 21 Q Is it excluded from your report because of 22 your understanding of Judge Alsup's orders? 23 A That's correct. 24 Q When you conducted an analysis using the 25 changes in market shares, did you get to the point 09:24:46</p> <p style="text-align: right;">20</p>
<p>1 your estimation as an economist. 09:21:59 2 A No. 3 Q Are there other methods that you 4 considered to be reasonable methods of apportioning, 5 although perhaps not as good as the group and value 09:22:25 6 approach permitted by Judge Alsup? 7 MR. COOPER: Objection as to form. 8 THE WITNESS: Let me ask a clarifying 9 question -- 10 BY MR. NORTON: 11 Q Of course. 12 A -- of both attorneys. 13 Am I permitted to talk about things that 14 Judge Alsup has excluded in answer to that 15 question? 09:23:15 16 MR. PURCELL: I think so. 17 MR. NORTON: I agree with Mr. Purcell. 18 MR. PURCELL: This is just a deposition. 19 Your testimony at trial might be limited, but I 20 think you can answer. 09:23:28 21 THE WITNESS: Fair enough. Then I think 22 the approach that looks at the change in market 23 share, predicted change in market share, was a good 24 approach, an interesting approach. 25</p> <p style="text-align: right;">19</p>	<p>1 where you actually calculated a per unit royalty? 09:24:48 2 A We may have. 3 Q Did you get to the point where you 4 calculated a royalty as a percentage of Google 5 advertising revenues? 09:25:07 6 A Yes. 7 Q Under that analysis using the change in 8 market shares, what royalty rate did you calculate 9 as a percentage of Google advertising revenues? 10 A I don't recall at this point. 09:25:23 11 Q Was it greater than or less than the 12 royalty rate that you calculated using the group and 13 value approach? 14 A Greater, but not a lot. 15 Q Can you put any order of magnitude on "not 09:25:36 16 a lot"? 17 A Well, I need to preface this by saying 18 that we did some preliminary work. It did not go 19 through the kind of vetting that the final report 20 has, so as long as it's understood that this is -- 09:26:11 21 that we didn't complete the work because we were 22 instructed not to complete the work, it probably 23 would have been -- I don't know -- maybe twice as 24 high, in the 2 or 3 percent range, as opposed to 25 the under-2 percent range. It may have been as 09:26:25</p> <p style="text-align: right;">21</p>

<p>1 much as 50 to 80 percent higher than the fairly 09:26:32 2 low royalties.</p> <p>3 Q Were there any other apportionment 4 analyses that you began to use, but stopped because 5 of orders by Judge Alsup? 09:26:49</p> <p>6 A We worked at estimating this the same 7 way -- we've sort of tracked the experts here, 8 which is my job. And so in Professor Cockburn's 9 first report -- or second report, sorry, not his 10 first report, but his second report. 09:27:11</p> <p>11 Q So you used the method -- 12 You performed an analysis using the method 13 that Professor Cockburn used to apportion in his 14 September 2011 report?</p> <p>15 A Yeah, we explored that method, parts of 09:27:23 16 that method, sure.</p> <p>17 Q In exploring that method, did you reach a 18 conclusion as to what you believe the royalty rate 19 would be if that were a permissible method?</p> <p>20 A It would have been what I just told you 09:27:38 21 a few minutes ago. It would have been roughly 22 twice the current -- I need to be very cautious 23 here because I don't have the numbers in front of 24 me, and I didn't write the numbers down, but my 25 vague recollection is they would be roughly twice 09:27:48</p> <p style="text-align: right;">22</p>	<p>1 their phones. 09:29:39</p> <p>2 For example, you could imagine that the 3 way that Google could have offset the market share 4 effect would be to provide a subsidy to the phones 5 equal to the -- sort of the amount that they would 09:29:51 6 have lost because of the reduced functionality. 7 It's just unclear because if you think of these as 8 independent OEMs, and you think kind of a 9 competitive market here in which the handsets 10 themselves are priced at roughly equal to the cost 09:30:07 11 of the equipment and stuff in the handsets, then it 12 doesn't make a lot of sense to argue the adjudgment 13 would have been in the price.</p> <p>14 Q Okay. 15 So did you reach a conclusion as an 09:30:24 16 economist as to whether an approach using the change 17 in market shares would have been economically sound?</p> <p>18 A With the caveats I've just given, yes, 19 but it would have required a careful analysis 20 of -- of what would have happened as the 09:30:46 21 functionality of the phones decreased and what 22 part of that would have been reflected in market 23 share and what part of it would have been 24 reflected in perhaps the direct subsidy to Google. 25 I mean, Google presumably cares about 09:31:03</p> <p style="text-align: right;">24</p>
<p>1 the size of the current royalties, maybe not quite 09:27:49 2 that large.</p> <p>3 Q Now, with respect to the -- the change in 4 market share approach that you considered that you 5 did not include in your final report, did you reach 09:28:14 6 an opinion as an economist as to whether that 7 approach would be sound as a matter of economics?</p> <p>8 A It requires some additional work that I 9 think Professor Cockburn didn't do. The -- as I 10 understand, that approach was excluded by Judge 09:28:41 11 Alsup on an argument that when the predicted 12 willingness to pay was compared to the price, the 13 price of the phone was not allowed to move, that 14 this was Dr. Leonard's principal criticism. It's 15 my understanding that was at the heart of why 09:29:01 16 Judge Alsup excluded that.</p> <p>17 It's hard to believe these phones' prices 18 would have gone down. Google didn't control the 19 price. So it is a reasonable assumption that the 20 price of the Android phones would not have changed, 09:29:18 21 and this would have been mostly a market share, a 22 functionality would have affected market share, but 23 that required some additional stable work by 24 Professor Cockburn, having to do with the Google's 25 relationships with the OEMs and how the OEMs price 09:29:35</p> <p style="text-align: right;">23</p>	<p>1 market share, but it also cares about its 09:31:05 2 advertising revenues on these phones. So if you 3 netted out a subsidy they had to pay, that would 4 have reduced their -- their -- their net revenues, 5 which would have mattered to them as well. 09:31:15</p> <p>6 Let me put it a slightly different way. 7 Even if you don't have the same market share -- 8 even if the market share doesn't change by the full 9 amount predicted by Professor Cockburn, it's 10 partially offset, but it's offset by subsidies to 09:31:31 11 Google. Then Google's revenues from the handsets 12 goes down, in part, because of the market share 13 and, in part, because it has to offset the problems 14 that the OEMs have in selling their phones. That 15 was not explored carefully by Professor Cockburn. 09:31:49 16 I did not explore it. So short of exploring that, 17 you know, there is not much that can be said there, 18 except that it was an appropriate methodology if 19 that hole could have been filled.</p> <p>20 Q All right. Thank you. 09:32:06 21 Now, with respect to the copyright 22 reasonable royalty, is there any difference in your 23 approach to calculating a reasonable royalty for 24 copyright and a reasonable royalty for patents?</p> <p>25 A No. And here I need to be very 09:32:24</p> <p style="text-align: right;">25</p>

<p>1 cautious. I'm not a lawyer, obviously. It's my 09:32:26 2 understanding that there is not really a 3 reasonable royalty on a -- on copyrights. A 4 different term is used, but all of the experts in 5 this case have used a reasonable royalty approach 09:32:39 6 to deriving the -- the -- what would have been the 7 foregone revenues on the -- on the copyrights, and 8 I have adopted that approach. 9 Q To the extent that -- 10 To the extent that damages in a copyright 09:32:56 11 case can be measured by a hypothetical license that 12 would have been negotiated between the parties at 13 the time that infringement began, and to the extent 14 that in a patent case, damages could be calculated 15 by calculating a hypothetical license that would 09:33:14 16 have been negotiated by the parties at the time the 17 infringement began, is there any economic reason to 18 approach those two measurements any differently? 19 A Yes. The patents have a known life. 20 And it's my understanding that the copyrights have 09:33:31 21 a known life, but it's much longer. I don't know 22 what the life is, but it's a much longer period of 23 time. So presumably, if you were able to think 24 about these negotiations as separate on the two 25 different forms of intellectual property, they 09:33:49</p> <p style="text-align: right;">26</p>	<p>1 factors to calculate a reasonable royalty in a 09:34:58 2 patent case, does that make good economic sense? 3 A You're asking me to opine on the Georgia 4 Pacific factors? 5 Q A good -- an economically sensible way to 09:35:10 6 calculate a royalty in a patent case? 7 A Well, if you mean a -- a -- a 8 negotiation, a hypothetical negotiation, the 9 answer is in some cases yes, in some cases no. 10 I've opined in my report this makes sense 09:35:24 11 for a portfolio, doesn't really make sense for the 12 individual patents. But I think the Georgia 13 Pacific factors are -- don't have a lot of weight 14 among economists. I don't think this is -- this is 15 not the approach that an economist would take to 09:35:47 16 thinking about these matters. And you know, sort 17 of there is a constraint here that economists have 18 to pour themselves into. And so if you read these 19 reports, including the experts in this case, the 20 Georgia Pacific factors are a set of, we've got to 09:36:00 21 do this; let's just check off the list. They don't 22 seriously inform the analysis. 23 In defense of my report, I took them 24 seriously because they provided, as you know since 25 you have read it, a place to critique the experts, 09:36:21</p> <p style="text-align: right;">28</p>
<p>1 might take a slightly different character because 09:33:52 2 of the -- because of the lifetime, expected life 3 of that. 4 And, you know, you have invited me to 5 speculate a little bit here, so I will. It's 09:34:04 6 conceivable that the kind of noninfringing 7 substitutes could be different for patents than for 8 copyrights. 9 Q Okay. 10 You're familiar with the Georgia Pacific 09:34:16 11 factors? 12 A I am. 13 Q All right. 14 In the two observations that you just made 15 that might be different between copyrights and 09:34:22 16 patents, would those potential differences be 17 addressed by application of the Georgia Pacific 18 factors? 19 A I'm not quite sure how to answer. It's 20 my understanding the Georgia Pacific factors apply 09:34:39 21 to the reasonable royalty for patents and not for 22 copyrights, but I'm happy to be informed if I've 23 got that wrong. 24 Q Well, is there -- 25 Is application of the Georgia Pacific 09:34:57</p> <p style="text-align: right;">27</p>	<p>1 which was part of my assignment. And so they 09:36:25 2 allowed me an opportunity to address specifically a 3 number of topics the experts brought on. In this 4 case they happened to be useful, but in lots of 5 cases they are not terribly useful. 09:36:38 6 Q So is the approach that you used to 7 calculate a reasonable royalty for patents, is it 8 just as good a method for calculating the 9 hypothetical license for the copyrights in this 10 case? 09:36:49 11 MR. COOPER: From an economic point of 12 view? 13 MR. NORTON: From an economic point of 14 view, yes. 15 THE WITNESS: I think I've answered that 09:36:59 16 question. You know, if you had separate licenses 17 for patents and for copyrights, as opposed to a 18 portfolio of intellectual property, and had 19 negotiations that would inform you about how the 20 parties thought about those two separate things, 09:37:20 21 then I think in principle, given my earlier answer, 22 one could think about the negotiations as being 23 somewhat different between the two. But in this 24 case, we have a single negotiation over an aggregate 25 that includes both the patents and the copyrights, 09:37:34</p> <p style="text-align: right;">29</p>

1 [REDACTED] 09:43:20

2 [REDACTED]

3 [REDACTED]

4 **Q So when you use an irrevocable or**

5 **perpetual license in this case, if the license were** 09:43:20

6 **irrevocable as you treat it in your report, Google**

7 **would have the rights to the intellectual property**

8 **for as long as the intellectual property exists; is**

9 **that right?**

10 A Yes, I assume it's for the life of the 09:43:42

11 product, is what these contracts are about.

12 **Q But Google would also be required to pay**

13 **Sun for as long as it was exploiting that**

14 **intellectual property; is that also correct?**

15 A That's correct. 09:43:53

16 **Q If you are correct in your conclusion that**

17 **the license would be a perpetual one, you would**

18 **also, at the same time, conclude that Google would**

19 **continue to pay royalties into the future; is that**

20 **right?** 09:44:13

21 A Yes, that's correct.

22 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 44:26

34

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 **Q To the extent that there is a legal** 09:44:42

6 **requirement to calculate damages through the day of**

7 **trial, does that have any effect on your approach to**

8 **the structure of this license?**

9 MR. COOPER: Objection; form.

10 THE WITNESS: No. My approach is to 09:45:00

11 estimate the royalty rate. That is the rate that

12 they would have agreed to in 2006, and so to the

13 date of trial it's applied to actual Google

14 revenues. And if asked about going forward by the

15 court, I would simply say you apply the same royalty 09:45:16

16 rate either as a running royalty, or if it's a lump

17 sum, that you have to get reasonable testimony about

18 the expectations of the parties going forward.

19 BY MR. NORTON:

20 **Q Now, in the 2006 negotiation, would the** 09:45:32

21 **parties have necessarily concluded that the**

22 **intellectual property in that bundle was both valid**

23 **and to be infringed by Google?**

24 A The actual or hypothetical?

25 **Q In the actual 2006 negotiations between** 09:45:55

35

1 **Google and Sun.** 09:45:57

2 A They would have individually had their

3 expectations about the validity and enforceability

4 of the intellectual property. And presumably,

5 that affects the license in that the party 09:46:12

6 licensing, Sun in this case, probably doesn't want

7 those challenged and would rather get the money.

8 And Google doesn't want to spend the time and

9 money to challenge. I assume that's why licenses

10 are taken. So -- so they would have -- they may 09:46:28

11 have had differing expectations, for all I know,

12 but they would not have assumed in those

13 negotiations that the intellectual property was

14 not valid or not enforceable.

15 **Q Are you familiar with the term "litigation** 09:46:43

16 **premium"?**

17 A I am.

18 **Q What is a litigation premium?**

19 A It's -- the litigation creates an

20 uncertain environment -- takes an uncertain 09:46:53

21 environment and creates certainty about certain

22 aspects of that environment, and that movement

23 from uncertainty to certainty has a dollar value.

24 That's the litigation premium.

25 **Q So prior to the litigation being brought** 09:47:06

36

1 **and resolved, there is some uncertainty?** 09:47:09

2 A There is.

3 **Q And uncertainty about what?**

4 A Lots of things. That's a pretty broad

5 question. 09:47:23

6 **Q That's fair.**

7 **Uncertainty with respect to what that**

8 **bears on the litigation premium?**

9 A Well, that's also a broad question, and

10 I address this in the report. There is 09:47:34

11 uncertainty about which of the patents might be

12 needed. If you don't believe there is any

13 uncertainty about that, then the 2006 negotiation

14 was over these patents and the value of it is the

15 value of these patents. 09:47:52

16 So you've got sort of which -- which

17 course through this technology Google is actually

18 going to take. And then if it takes the course

19 through this technology, which patents end up being

20 and copyrights end up being infringed, and then 09:48:10

21 sort of the issue of the validity and the

22 enforceability of those patents and copyrights that

23 happened to have been infringed, all of that is not

24 known in 2006.

25 **Q So would the royalty that was negotiated** 09:48:27

37

<p>1 in 2006 reflect a discount because of the 09:48:31 2 uncertainty that existed at that time, in comparison 3 to the state of knowledge after the litigation? 4 A It may have. 5 Q And -- 09:48:44 6 A And as I've indicated in a number of 7 points in my report -- let me back up. 8 It's unclear what "conservative" means 9 into my role, so I'm not -- when I say 10 "conservative," I don't know who I'm supposed to be 09:48:58 11 conservative for, and I've tried not -- but the 12 approach in the end I took -- I took was to say, 13 this is a lower bound, and there are a number of 14 reasons why the actual royalty would be above the 15 number I put forward. It's not an upper bound. 09:49:16 16 So -- and I didn't necessarily try to bias it that 17 way, but it just turns out the way things fall, it 18 appears to be a lower bound, and it would be a 19 lower bound on this argument as well. 20 Q So to the extent that there was 09:49:34 21 uncertainty with respect to validity and 22 infringement with respect to the IP in suit in 2006, 23 one would expect that after the litigation, if the 24 parties had a new negotiation, the royalty rate 25 would be higher than what you have calculated; is 09:49:52 38</p>	<p>1 litigation premium. 09:51:28 2 BY MR. NORTON: 3 Q I'm sorry. 4 When you say, "there is empirical evidence 5 that there is a positive litigation premium," are 09:51:34 6 you talking about this case? 7 A No, not this case. I'm just talking 8 about the economists who studied this matter have 9 found that there is a positive litigation premium. 10 Q And so in general, one expects there to be 09:51:47 11 a litigation premium? 12 A Yes, based on that empirical work. 13 Q And that empirical work is focused on the 14 issue of uncertainty with respect to validity and 15 infringement; is that right? 09:52:01 16 A I think so. I'd have to go back and 17 look at the study. I just know there is this 18 premium that we're talking about. 19 Q I'm sorry. 20 Now, you have used the term "conservative" 09:52:10 21 in a number of places in your report to describe 22 your methods and conclusions; is that right? 23 A Yes. 24 Q When you use the term "conservative" in 25 your report, by that, you mean that you have 09:52:19 40</p>
<p>1 that true? 09:49:54 2 A Well, maybe. It's not altogether clear 3 which way this goes. I mean, Sun has uncertainty 4 about which of its patents and copyrights are 5 valid and enforceable, right? And Google has 09:50:07 6 uncertainty about sort of the cost of figuring 7 that out and discovering it. So it's unclear 8 which way that goes, frankly. 9 Q But it is possible, if the parties were to 10 renegotiate a license after determination of 09:50:32 11 infringement and validity in this case with respect 12 to the patents and copyrights in suit, that they 13 would negotiate for a higher royalty rate than the 14 one you have calculated? 15 MR. COOPER: Objection; form. 09:50:45 16 THE WITNESS: That's possible, but I want 17 to emphasize again the point I just made, which is 18 Google may have been willing to pay a small premium 19 in order to -- for the -- for the portfolio, in 20 order to avoid the litigation that could come if it 09:51:07 21 subsequently infringed. 22 So there is -- the uncertainty here cuts a 23 couple of different ways. I don't think it cuts 24 uniformly one way. I am aware, however, I think 25 there is empirical evidence that there is a positive 09:51:23 39</p>	<p>1 calculated damages that are lower than what might 09:52:22 2 be -- lower than what would be the case if you had 3 perfect information? 4 A For the most part, yes. 5 Q Is there any example where you have used 09:52:34 6 the term "conservative" to describe a methodology or 7 conclusion you have reached that might be too high? 8 A Not that comes readily to mind, but 9 there may be. I don't recall. I think, in 10 general, the estimates I have, you would expect 09:52:51 11 the adjustments to go the other -- go up. 12 Q And so given that, wouldn't it be the case 13 that if the parties were to renegotiate the license 14 after a finding of infringement and validity, that 15 the royalty that they would negotiate would be 09:53:14 16 higher than the one you have calculated? 17 A Well, that goes to an issue that really 18 starts with Professor Cockburn a long time ago 19 about whether or not the Sun Armstrong project 20 expected revenues are a way of thinking about -- 09:53:40 21 about that issue. And if they are, the answer is 22 the royalty that I estimated, for the most part, 23 incorporates that. 24 Q Other than the measure of the anticipated 25 Armstrong revenues, are there approaches you have 09:54:23 41</p>

[REDACTED]

10:11:46

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[REDACTED]

8 Q And so if one were to make a comparable
9 adjustment to the 2006 bundle royalty, there would
10 be an upward adjustment, but it wouldn't be double 10:13:20
11 the entire amount?
12 A Correct.
13 Q All right.
14 Do you have a sense for how big of an
15 adjustment that ought to be? 10:13:27
16 A I have not estimated anything, no.
17 Q Should it be at least a 10 percent
18 increase?
19 A I have no opinion about this matter.
20 Q Do you have an opinion as to whether it 10:13:36
21 would be a substantial increase?
22 MR. PURCELL: Object to the form.
23 THE WITNESS: I don't have an opinion
24 about what the adjustment would be.
25

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1 A I agree. 10:11:48
[REDACTED]

10:12:09

11 Q Do you have any idea how much bigger it
12 should be?
13 A No.
[REDACTED]

10:12:45

55

1 BY MR. NORTON:
2 Q But whatever the adjustment is, there
3 should be an adjustment, correct?
4 MR. COOPER: Objection; form.
5 THE WITNESS: Well, it's unclear. If you 10:13:59
6 look at the draft agreements between Sun and Google,
7 that provision is not, at least as I read those
8 draft agreements, in those draft agreements. So
9 it's unclear whether it was envisioned.
10 BY MR. NORTON:
11 Q So the draft agreements, you're referring
12 to the agreements exchanged between the parties in
13 March and April of 2006; is that right?
14 A Yes.
[REDACTED]

24 Q All right.
25 And is it of value to Sun or Oracle to 10:14:42

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1 have Google promoting the Java brand in the mobile 10:14:46
 2 space?
 3 A Probably.
 4 Q In connection with Android?
 5 A Probably. 10:14:51
 6 Q Is there any way in which it would not be
 7 to the benefit of Sun to have Google promoting Java
 8 in the mobile space?
 9 MR. COOPER: Objection; form.
 10 BY MR. NORTON:
 11 Q You said "probably," and I'm trying to
 12 figure out what makes it something less than
 13 certain.
 14 A Do you want me to speculate? Is this an
 15 invitation to speculate? 10:15:22
 16 Q No. Is there a specific reason, that you
 17 can think of, as to why it would not be valuable to
 18 Sun to have Google promoting Android as Java?
 19 MR. COOPER: Same objection; form.
 20 THE WITNESS: This is really speculation, 10:16:02
 21 but to the degree that project Armstrong was not
 22 successful and that Sun did not gain -- or it's
 23 getting most of its monetization of this
 24 intellectual property -- so suppose going forward
 25 it's not successful, then Sun may very well have 10:16:18

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1 been interested in an alternative or competitive 10:16:25
 2 product, in which case, it's not of interest to have
 3 your competitors saying, "I'm just like the product
 4 that just came on the market."
 5 BY MR. NORTON:
 6 Q And all the evidence that you have seen
 7 suggests that Sun expected Project Armstrong to be
 8 successful?
 9 A Yes.
 10 Q Okay. 10:16:42
 11 So at the time of the 2006 negotiation,
 12 Sun would have expected that Google's promotion of
 13 Java in the mobile space in connection with Android
 14 would be valuable to Sun?
 15 A I think so, yes. 10:16:52
 16 Q And would you agree that Sun would have
 17 expected that Google's promotion of Java in the
 18 mobile space in connection with Android would be
 19 very valuable?
 20 MR. COOPER: Objection; form. 10:17:04
 21 MR. PURCELL: Join.
 22 THE WITNESS: I don't know.
 23 BY MR. NORTON:
 24 Q So when you have to bring the future
 25 revenues back to net present value of 2006, you use 10:17:18

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1 a discount rate? 10:17:21
 2 A I do.
 3 Q And the discount rate that you used was
 4 15 percent?
 5 A Yes. 10:17:25
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED] 10:17:33
 12 Q All right.
 13 What is the reason to use a discount rate
 14 in the first place?
 15 A Because the future is uncertain.
 16 Q All right. 10:17:41
 17 A And money is costly.
 18 [REDACTED]
 19 [REDACTED]
 20 [REDACTED]
 21 [REDACTED]
 22 Q The fixed fee payments come over a
 23 three-year period?
 24 A Correct.
 25 Q You characterize those as low risk; is 10:18:06

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1 that right? 10:18:07
 2 A Correct.
 3 Q Are they lower risk than the future
 4 revenues?
 5 A Yes. 10:18:15
 6 Q Is it appropriate to apply the same
 7 discount rate for the relatively low-risk fixed
 8 payments as it is for the future revenues?
 9 A I think so. I think you want to use a
 10 project-specific discount rate. You're arguing 10:18:25
 11 for a subproject-specific discount rate. One
 12 could do that, but I think typically a firm or a
 13 venture capitalist or whomever is doing this
 14 doesn't split the project into particular parts.
 15 They just use a discount rate. And the discount 10:18:42
 16 rate, overall, reflects the relative risks in
 17 this, so you could argue to the degree that the
 18 15 percent -- well, you could argue that the
 19 15 percent, in some sense, aggregates these risks
 20 and reflects those. 10:18:56
 21 Let me put it slightly differently. [REDACTED]
 22 [REDACTED]
 23 at, let's say, the money market rate or something
 24 like this because they're certain, then I think,
 25 you know, one might argue that the Project 10:19:09

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<p>1 Armstrong monies have to be discounted at a 10:19:10 2 substantially higher interest rate because they are 3 more -- far more speculative and 15 percent is too 4 low. 5 Q So in a sense, the 15 percent discount 10:19:21 6 rate is a -- is right for the whole project? 7 A It is. That's how we've treated it. 8 Q Now, the 15 percent discount rate itself 9 is another number that you characterize as 10 conservative; is that right? 10:19:33 11 A Correct. 12 Q And again, it's conservative in the sense 13 that it is a larger discount factor, discount rate, 14 than might reasonably apply? 15 A Well, this goes to an issue about -- 10:19:46 16 that economists struggle with some on damages. 17 You can get the rate of return, the cost of 18 capital, essentially, for firms that look like Sun 19 and Google. And I think, actually, Professor -- 20 or Dr. Cox does that, and it's 11-point something 10:20:05 21 percent. 22 And then the question is, is a specific 23 project more or less risky than the average risk of 24 the firm's because that's the way the market values 25 the firm as a whole. What you'd like to have, and 10:20:19</p> <p style="text-align: right;">62</p>	<p>1 Q And your use of 15 percent instead of 10:21:39 2 11.77 percent is conservative, correct? 3 A Correct. 4 Q And conservative, again, in the sense that 5 had you used 11.77 percent, the royalty damages 10:21:46 6 would be great? 7 A Agreed. 8 Q To the extent that -- well, let me strike 9 that. 10 So one part of the equation is to figure 10:22:17 11 out what Sun's expected benefits are, expected 12 profits are, and discount them back to net present 13 value, correct? 14 A Correct. 15 Q And then the second part of the equation 10:22:27 16 is to determine what Google's expected profits are 17 and discount those back to net present value? 18 A Correct. 19 Q Now, in calculating Google's anticipated 20 benefits, what benefits did you consider? 10:22:39 21 (Whereupon, Allyson Franco with 22 Farella Braun & Martel, just 23 entered the conference room.) 24 THE WITNESS: I make the argument early in 25 the report that the parties would have agreed to a 10:22:52</p> <p style="text-align: right;">64</p>
<p>1 the theoretically appropriate thing, is to have 10:20:22 2 the -- the interest rate that reflects the risk of 3 the project, not the risk of the firm. We don't 4 have that, and typically you don't have that. So 5 it's conservative in the sense that it's above the 10:20:37 6 average user cost of capital for firms that look 7 like Sun, but it may not be conservative relative 8 to the risks of specific projects. I just don't 9 have information on that. 10 Q All right. 10:20:54 11 But in Footnote 28 to your report, you 12 state that: 13 "I conclude use of the 14 15 percent discount rate is 15 conservative in this instance"? 10:21:02 16 A That's correct, because typically damage 17 experts are left to use the average, not the 18 project specific. And we know the average for the 19 group of firms in that industrial classification 20 is, what, 11 something, 11.8 percent. So in that 10:21:19 21 sense, it's conservative. That's all I meant. 22 Q So in your report, you note that the 23 discount rate for 6 code 737, which includes both 24 Sun and Google, was 11.77 percent? 25 A Yes. 10:21:38</p> <p style="text-align: right;">63</p>	<p>1 license on Google's Android revenues on the 10:22:54 2 argument, a monitoring argument, that you don't want 3 to have things that are difficult to measure, so we 4 just look at Google's Android revenues. 5 MR. COOPER: Let the record show that 10:23:07 6 Allyson Franco from our firm has joined the 7 deposition. 8 MR. NORTON: Thank you. 9 BY MR. NORTON: 10 Q Does it make any difference in your 10:23:15 11 calculation whether Google expected other 12 substantial benefits from watching Android? 13 A I'm not certain I know what you have in 14 mind, so you need to be more specific about that. 15 Q Okay. 10:23:55 16 In your review of the evidence, have you 17 seen any evidence that Google expected Android to 18 provide benefits to its Desktop search business? 19 A Not really. There are vague allusions 20 to this, but I haven't seen, quote, evidence. 10:24:28 21 Q To the extent that Google expected that 22 Android would provide benefits to its Desktop search 23 business, are those benefits factored into your 24 royalty analysis? 25 A Yes, in a sense they are. One of the 10:24:56</p> <p style="text-align: right;">65</p>

1 points that I make in the -- in the report, and 10:24:59
 2 it's an important point, is that the expectations
 3 that the parties held in 2006 are reflected in the
 4 offer, they're baked into the offer. [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED] They may
 14 have come from lots of different sources, but
 15 they're there. They were part of the negotiation. 10:25:48
 16 **Q In calculating a royalty rate -- strike**
 17 **that.**
 18 **So if, in fact, Google expected that as a**
 19 **result of launching Android with Sun's Java**
 20 **technology, Google would earn additional benefits 10:26:17**
 21 **above and beyond advertising revenues that would**
 22 **double the value of Android to Google, your royalty**
 23 **analysis would be unchanged?**
 24 A Yes. To the degree those expectations
 25 were held by Google when they negotiated it, 10:26:37

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1 they're reflected in Google's willingness to pay 10:26:39
 2 whatever it agreed to pay in the 2006 contract.
 3 MR. PURCELL: Object to form.
 4 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 8 BY MR. NORTON:
 9 **Q Now, by using that 2006 negotiation as a**
 10 **starting point, is it correct to say that to the 10:27:09**
 11 **extent that Java was already fragmented in 2006,**
 12 **that that existing fragmentation is also already**
 13 **factored into -- baked into the negotiations between**
 14 **the parties at that time?**
 15 A Yes, as is any fragmentation that may 10:27:37
 16 come from open sourcing.
 17 **Q As is any fragmentation that may come from**
 18 **open sourcing that is compatible, correct?**
 19 A Correct. Presumably the fragmentation
 20 that may have occurred before was fragmentation 10:27:54
 21 within compatible implementations, assuming that
 22 Sun protected its intellectual property. So we
 23 have a compatible implementation post 2006. And
 24 whatever was occurring with regard to
 25 fragmentation would have been expected to have 10:28:12

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1 continued. 10:28:15
 2 **Q That's an assumption?**
 3 A Sure. But it's always an assumption in
 4 contracts that the parties are well informed about
 5 their histories and understand and have 10:28:33
 6 expectations based on both their histories and
 7 looking forward, and that those expectations are
 8 built into their offers and counteroffers in the
 9 deal.
 10 **Q Just so we're clear, to the extent that 10:28:48**
 11 **there was fragmentation already in existence --**
 12 **strike that.**
 13 **To the extent that there was fragmentation**
 14 **of Java that had already occurred as of the spring**
 15 **of 2006, that fragmentation is already baked into 10:28:59**
 16 **the negotiations between the parties in 2006,**
 17 **correct?**
 18 A Correct. But my answer was a bit --
 19 little bit different than that.
 20 **Q I want to do it in pieces. 10:29:12**
 21 A Okay.
 22 **Q All right.**
 23 **And then to the extent that an agreement**
 24 **between Sun and Google, consistent with the terms**
 25 **that they were discussing in 2006, to open source 10:29:24**

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1 **Java would have caused some additional 10:29:27**
 2 **fragmentation, that's your opinion that is also**
 3 **baked into the value?**
 4 A Correct.
 5 **Q To the extent that Sun expected that the 10:29:35**
 6 **deal with Google would slow fragmentation, that**
 7 **would have been a benefit that Sun would expect from**
 8 **this that you have not factored into the analysis,**
 9 **correct?**
 10 A No. That would have been factored into 10:29:52
 11 their expectations.
 12 **Q To the extent that actual infringing --**
 13 **To the extent that the actual use of the**
 14 **Java technology by Google is infringing and has**
 15 **caused fragmentation that is greater than Sun would 10:30:07**
 16 **have expected from the 2006 deal, that is not**
 17 **accounted for in your reasonable royalty, correct?**
 18 A That's correct. And I have indicated in
 19 several places that this doesn't account for --
 20 fully account for an upward adjustment for 10:30:20
 21 fragmentation.
 22 **Q And to the extent that Sun would have --**
 23 A Fragmentation from a noncompatible
 24 implementation, as opposed to fragmentation
 25 from -- that may have occurred because of a 10:30:30

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1 compatible implementation. 10:30:33
 2 **Q** So when we look at the hypothetical
 3 negotiation, imagine the parties negotiating for the
 4 infringement that Google actually did, do you agree
 5 that Sun would have expected some additional 10:30:49
 6 compensation to account for the risk of increased
 7 fragmentation from an incompatible implementation?
 8 A Yes.
 9 **Q** And that additional compensation that Sun
 10 would have expected is not included in your royalty 10:31:09
 11 calculations; is that right?
 12 A Correct.
 13 **Q** Now, in addition to the issue of
 14 fragmentation, by using the 2006 starting point, is
 15 it correct to say that the -- strike that. I'm 10:31:28
 16 sorry.
 17 Is it fair to say that by using the 2006
 18 starting point, the consideration of alternatives is
 19 already baked into the numbers?
 20 A Yes, I say that explicitly in my report. 10:31:48
 21 **Q** When you say "explicitly," is that
 22 Paragraphs 177 to 179 of your report?
 23 A Yes. But in addition, there are a
 24 couple of footnotes.
 25 **Q** I hate to do this to you, but can you 10:32:12

70

1 direct me to those? 10:32:14
 2 A Sure. One in verse -- paragraph --
 3 **Q** Some of us write in poetry. Some of us
 4 write in prose.
 5 A Yes. Paragraph 76, Footnote 38, this is 10:32:29
 6 talking about Sun, but it's equally true about
 7 Google.
 8 **Q** So in Footnote 38 -- let me catch up to
 9 you.
 10 In Footnote 38, you're referring to 10:32:58
 11 Paragraph 76. You say:
 12 "This is another example of a
 13 point I made earlier: What Sun
 14 knew in 2006 about its Java ME
 15 business and Sun's expectations 10:33:09
 16 with regard to the effects of an
 17 agreement with Google for an
 18 open-source Java-VM Android on its
 19 Java ME business would be fully
 20 reflected in its 2006 offer." 10:33:21
 21 And you say that's equally true of Google.
 22 Can you explain what you mean?
 23 A The expectations that the parties held
 24 about what would happen going forward are
 25 reflected in the agreements that they would have 10:33:32

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1 made in 2006. 10:33:35
 2 **Q** Okay.
 3 And so to the extent that there were
 4 alternatives available to Google in 2006, the
 5 economic effect of those alternatives is already 10:33:45
 6 baked into the bargain the parties would have struck
 7 at that time?
 8 A Yes.
 9 **Q** And if that's correct, then there should
 10 be no need to make any adjustment to the portfolio 10:33:55
 11 royalty based on arguments that there are
 12 alternatives; is that right?
 13 A That's my opinion.
 14 **Q** So if we could turn to Paragraph 86.
 15 Now, in paragraph 86 here in your report, 10:35:06
 16 you describe, if I understand correctly, the step
 17 where you convert the expected value to Google and
 18 expected value to Sun into an effective report for
 19 the entire portfolio; is that right?
 20 A Correct. 10:35:24
 21 **Q** Now, at the beginning of the deposition
 22 you explained that there is a change that you would
 23 make to the calculation here that would slightly
 24 decrease the denominator of the equation.
 25 A Yes. 10:35:41

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1 **Q** All right. 10:35:41
 2 And do you have a calculation as to what
 3 the percentage royalty would be after you make that
 4 correction?
 5 A This affects it as second decimal place 10:35:50
 6 or the first decimal place. It's a teeny effect.
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]
 14 [REDACTED]
 15 [REDACTED]
 16 [REDACTED]
 17 [REDACTED]
 18 [REDACTED]
 19 [REDACTED]
 20 [REDACTED]
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED]

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1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 **Q And that's true of the 2006 negotiation,**
right? 10:38:05

20

21 **A Yes, because we're trying to convert it**
into a royalty that Sun would have accepted in
lieu of its opportunity to monetize through
Project Armstrong and the other payments that were
being made. 10:38:18

22

23

24

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1 reflects the aggregate value of the two parties' 10:39:20
 2 expectations of what this intellectual property
 3 was worth in 2006.

4 **Q Is there a difference between the two**
 5 **parties' expectation of what the aggregate value of 10:39:33**
 6 **this project was in 2006, and what that value**
 7 **actually turned out to be in real life?**

8 **A I'm sure there is.**

9 **Q Is one of the ways in which it's different**
 10 **is that Sun did not get the opportunity to monetize 10:39:45**
 11 **Android through Project Armstrong?**

12 **A Correct.**

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

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1 **Q Right. 10:38:18**

2 **Now, the Google's actual infringement,**
 3 **however, denied Sun the opportunity to earn that**
 4 **money from Project Armstrong, correct?**

5 **MR. PURCELL: Object to the form. 10:38:30**

6 **THE WITNESS: Right, but that's why we're**
 7 **estimating a royalty here that they would have**
 8 **accepted in lieu of having that opportunity.**

9 **BY MR. NORTON:**

10 **Q Right. 10:38:39**

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 **Q So Sun expected to get the Project**
Armstrong -- 10:39:05

20

21 **A So Sun -- Google wasn't paying Sun a**
for-certain amount equal to the Project Armstrong.
 22 **This was fully Sun's risks. It undertook a**
 23 **business project, and there were these risks, so**
 24 **you should net that out. But it certainly 10:39:18**

25

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1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

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<p>[Redacted text block 1]</p>	<p>[Redacted text block 2]</p>
<p>[Redacted text block 3]</p>	<p>[Redacted text block 4]</p>

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[REDACTED]

16 Q Okay.

17 Are you aware that, however, that Dr. Cox

18 only calculated Google revenues through

19 September 2011 and not year end?

20 A Yes. 11:14:01

21 Q And you're aware that Dr. Cockburn

22 calculated revenues through the end of 2011?

23 A Yes.

24 Q You understand that's part of the reason

25 for the disparity between the numbers? 11:14:11

1 A It may very well be, sure. 11:14:14
 2 Q For purposes of your calculations in your
 3 report, you have used the numbers from Dr. Cox's
 4 report?
 5 A Correct. 11:14:19
 6 Q And to the extent that revenues as of the
 7 date of trial are greater than they were calculated
 8 by Dr. Cox back in September, that would increase
 9 the royalty -- well, increased the damages number?
 10 A Sure. I think I've been clear, but if I 11:14:35
 11 haven't been clear, what I'm putting forth is a
 12 methodology that if asked to testify, I would
 13 instruct the jury about -- or not instruct, but
 14 testify to, and the jury would then multiply this
 15 number, times the actual revenues that had come 11:14:49
 16 into evidence in some other way. So the numbers
 17 here for damages, the dollar numbers are
 18 illustrative. They are not my opinion of what
 19 damages actually are.
 20 Q And when you calculate -- 11:15:04
 21 The revenues that you consider for
 22 purposes of your royalty calculation are limited to
 23 the United States; is that correct?
 24 A Yes.
 25 Q You only use advertising revenue and not 11:15:17

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1 Android market revenue or direct sales of handsets? 11:15:20
 2 A I think it's just advertising revenue.
 3 Q Is there a reason why you did not consider
 4 Android market revenue in your calculation of
 5 damages on the royalty? 11:15:31
 6 A There is interesting literature in
 7 economics about monitoring, and the argument
 8 essentially is that parties will agree in
 9 contracts typically to things that are easy to
 10 monitor; that is, that have -- where they can have 11:15:51
 11 external verification. And so I make the argument
 12 that the parties would have agreed to a royalty on
 13 revenues, on Android's advertising revenues, okay,
 14 because they are a direct measure of the benefit
 15 of having the Android operating system on the 11:16:13
 16 phones. To the degree there are convoyed sales or
 17 other kinds of things that are difficult to
 18 monitor, I don't believe they would be in the
 19 royalty base.
 20 Q So you characterize -- 11:16:29
 21 For this purpose, are you characterizing
 22 revenues from the Android market as convoyed sales?
 23 A Yeah. If you mean by the Android
 24 market, the sales of apps?
 25 Q I do. 11:16:41

95

1 A Yes. 11:16:43
 2 Q And same for direct sales of the Nexus
 3 handset?
 4 A Yes. Although it's unclear how to treat
 5 that to the degree that's not a particularly large 11:16:53
 6 part of this business, as I understand, so it's
 7 not going to matter very much.
 8 Q Actually, would you look at your Table 9?
 9 A Sure.
 10 Q On Table 9, you're using Dr. Cox's 11:17:18
 11 numbers; is that right?
 12 A Yes.

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<p>1 [REDACTED]</p> <p>2 [REDACTED]</p> <p>3 [REDACTED]</p> <p>4 [REDACTED]</p> <p>5 [REDACTED]</p> <p>6 [REDACTED]</p> <p>7 [REDACTED]</p> <p>8 [REDACTED]</p> <p>9 [REDACTED]</p> <p>10 [REDACTED]</p> <p>11 [REDACTED]</p> <p>12 [REDACTED]</p> <p>13 [REDACTED]</p> <p>14 [REDACTED]</p> <p>15 [REDACTED]</p> <p>16 [REDACTED]</p> <p>17 [REDACTED]</p> <p>18 Q That is your best economic advice?</p> <p>19 A Yes.</p> <p>20 Q It would be fair to say that's your best economic judgment? 11:25:09</p> <p>21</p> <p>22 A Yes.</p> <p>23 Q So is it correct to say that your best economic judgment is that the value of the in-suit IP in this case is the value of the Java ME 11:25:19</p> <p>24</p> <p>25</p> <p style="text-align: right;">102</p>	<p>1 agreement for that bundle of intellectual 11:26:37</p> <p>2 property.</p> <p>3 If you assume that Google did not know in</p> <p>4 2006 what it needed, then you can think about this</p> <p>5 in a couple of different ways. One, you can think 11:26:50</p> <p>6 of it as -- as an option to use some, all or none</p> <p>7 of the intellectual property, and what's the option</p> <p>8 value for being able to choose both what you want</p> <p>9 to use and the timing in which you use it. And the</p> <p>10 option value, I think, would be the portfolio 11:27:10</p> <p>11 value. That's what portfolio licenses are,</p> <p>12 essentially, in this setting.</p> <p>13 A third way to think about it is, suppose</p> <p>14 that Google didn't really want to use Java ME</p> <p>15 directly, but wanted to use a Java Virtual Machine 11:27:26</p> <p>16 and write in Java so that applications and OEMs</p> <p>17 would be attracted to the platform because they</p> <p>18 thought Java was necessary. So they are going to</p> <p>19 go out and write their own thing. But they</p> <p>20 understood, or would understand, I think 11:27:43</p> <p>21 reasonably, that Sun, that had done this for many,</p> <p>22 many years, had bumped into the problems that it</p> <p>23 would encounter as it -- as it went out and did its</p> <p>24 own Java Virtual Machine. And as it solved those</p> <p>25 problems, it was likely to solve them in the same 11:28:02</p> <p style="text-align: right;">104</p>
<p>1 portfolio from 2006? 11:25:25</p> <p>2 A Yes. I'm quibbling about this only</p> <p>3 because, as I suggest in the previous paragraphs,</p> <p>4 paragraphs running up to this paragraph, there are</p> <p>5 several ways to think about this. And in my 11:25:40</p> <p>6 economic opinion, there would have been a</p> <p>7 portfolio negotiation. All right? And therefore,</p> <p>8 if some subset of the portfolio is infringed, the</p> <p>9 value is the portfolio value.</p> <p>10 Q Okay. 11:25:57</p> <p>11 A But I don't mean -- the way you frame it</p> <p>12 suggests that I've apportioned this to those, and</p> <p>13 that's not quite what I've done.</p> <p>14 Q Okay.</p> <p>15 I know this isn't in the report, but why 11:26:09</p> <p>16 don't you explain what it is that you have done in</p> <p>17 reaching the conclusions that you express in Section</p> <p>18 K?</p> <p>19 A Three different things, three or four</p> <p>20 different things. First, if you think of the 11:26:21</p> <p>21 hypothetical negotiation as the parties knowing in</p> <p>22 2006 what intellectual property they needed,</p> <p>23 Google knew what it needed, it needed these two</p> <p>24 patents and it needed the 37 copyrights, then</p> <p>25 whatever the agreement was in 2006 was the 11:26:35</p> <p style="text-align: right;">103</p>	<p>1 way that Sun had solved them and, hence, crossed 11:28:04</p> <p>2 the boundaries of a Sun patent. So in that sense,</p> <p>3 you can think of the portfolio license as an</p> <p>4 insurance against subsequent litigation if you</p> <p>5 happened to have crossed a boundary when you, in 11:28:20</p> <p>6 fact, were doing your own thing here.</p> <p>7 Q So in each of those three scenarios,</p> <p>8 Google knows exactly what it wants. Google doesn't</p> <p>9 know what it wants. Google is looking for insurance</p> <p>10 as it goes down the Java path. In each of those 11:28:41</p> <p>11 three scenarios, the value of the IP-in-suit would</p> <p>12 be the value of the 2006 portfolio; is that correct?</p> <p>13 A Yes, although I think you misstated</p> <p>14 that. In the first one, I assume that Java --</p> <p>15 that Google knows what it needs. Okay? In the 11:28:56</p> <p>16 second two, Google doesn't know what it needs. It</p> <p>17 just believes it might need some part of this.</p> <p>18 Q Okay.</p> <p>19 A Okay? But again, we need to be careful</p> <p>20 about pushing this in a certain way to suggest 11:29:12</p> <p>21 that this is a -- I mean, it would be this if it</p> <p>22 had gone a different route and infringed a</p> <p>23 different set of patents. It would have been this</p> <p>24 if they had infringed 80 percent of the patents,</p> <p>25 because it's the portfolio that they were buying 11:29:27</p> <p style="text-align: right;">105</p>

1 into in order to get the option or the insurance 11:29:31
 2 value.
 3 Q I think I follow all of that. I want to
 4 see if I can put it in somewhat different words.
 5 And if my words are wrong, then, you know, I know 11:30:01
 6 you'll tell me.
 7 Is it fair to say that you can be
 8 confident that the value of the IP-in-suit is equal
 9 in value to the portfolio because of what we know
 10 about which Java technologies Google has actually 11:30:22
 11 incorporated into Android?
 12 A No.
 13 Q No.
 14 Can you tell me why that statement is not
 15 correct? 11:30:30
 16 A On scenarios -- well, on Scenario 1,
 17 that is true. If Google knew which technologies
 18 it was going to incorporate, then, even though
 19 this is about a portfolio, in fact, the
 20 negotiation was about precisely the in-suit 11:30:51
 21 intellectual property, and whatever the value is
 22 that these folks were bouncing back and forth is
 23 the value of those -- of the in-suit.
 24 In the second and third scenarios, it's
 25 Google's uncertainty and lack of knowledge about 11:31:06

[REDACTED]

1 what it needed, so you can't say then, you know -- 11:31:09
 2 well, whatever you said a few minutes ago doesn't
 3 make sense because it's precisely that they didn't
 4 know what they were going to do that would lead
 5 them to pay the portfolio value for the right to go 11:31:22
 6 wherever they wanted to go as the future unfolded.
 [REDACTED]

[REDACTED]

17 that.

18 **If the jury were to apply a per-unit**

19 **royalty, as opposed to a percentage of revenue**

20 **royalty, using activations as of April 16, 2012, do** 11:36:11

21 **you believe there is any adjustment that should be**

22 **made in order to have that royalty be as of present**

23 **value as of the date of trial?**

24 A Perhaps, but this is really complex and

25 goes to some legal issues I don't understand, but 11:37:04

110

1 let me sort of put out what -- I mean, the parties 11:37:08

2 shouldn't be able to choose, ex post, the most

3 advantageous to them. All right? These are ex

4 ante numbers, and you shouldn't be able to say,

5 well, this one works better for me than this one, 11:37:21

6 because the actual path over that period is

7 different than we anticipated. All right? That's

8 the first point.

9 The second point is that, clearly, an

10 assumption in this, an implicit assumption as I 11:37:35

11 think about it, is we're sort of talking about

12 steady-state income on these phones. And to the

13 degree there is a ramp-up, then these two numbers

14 give you slightly different numbers. But I don't

15 know the evidence on that, and I don't think 11:37:48

16 anybody has addressed it, so I have no way of

17 making an adjustment for that. But I would agree

18 that the fact that you're talking about April 2012,

19 and that you have had a lot of phones that have

20 sort of -- what's the word I want -- been -- 11:38:04

21 **Q Activated?**

22 A -- activated, but don't have much

23 royalty on them yet, that's a bit of a problem.

24 So there is a steady-state assumption in

25 here. 11:38:20

111

1 **Q Okay.** 11:38:21

2 **Is it appropriate to include damages for**

3 **phones that have been activated as of the date of**

4 **trial?**

5 A That have not? 11:38:39

6 **Q That have, all phones that have been**

7 **activated as of the date of trial.**

8 A That's a legal issue.

9 **Q As an economic matter, do you have an**

10 **opinion?** 11:38:47

11 A Well, to the degree that Google gets, or

12 Oracle gets, a going-forward royalty, then it gets

13 a royalty on the revenues those phones will

14 generate going forward. So in that sense, it's

15 not disadvantaged by not getting the damages at 11:39:01

16 trial.

17 So suppose I have a ramp-up in which I

18 have almost no revenue now, but a lot of revenue a

19 year from now on phones that were activated before

20 trial. Then presumably, Oracle would get the 11:39:17

21 return on those phones when those revenues are

22 reported in the -- and the royalty rate was applied

23 to the royalty -- I mean, to the -- to the

24 revenues.

25 **Q To the extent that the outcome of the case** 11:39:39

112

1 **is that there is an award of historical damages and** 11:39:40

2 **an injunction going forward that prevents Google**

3 **from using -- from infringing the patents and**

4 **copyrights, do you have an opinion as to whether**

5 **it's appropriate to calculate a per-unit royalty** 11:39:54

6 **based on the activations prior to the entry of the**

7 **injunction?**

8 A I'm not sure that matters because if

9 you -- if you -- to some degree, the per-unit

10 royalty, as I said, is a steady-state royalty, so 11:40:15

11 you've sort of taken the forward revenues and

12 awarded them to Oracle as damages as of the date

13 of trial. That would reduce Oracle's negotiating

14 position in the -- with the -- with the

15 injunction. 11:40:32

16 To the degree that you haven't done that

17 and those royalties are forward, that would enhance

18 Oracle, so it just changes sort of slightly the

19 value of the injunctive remedy, depending upon

20 whether or not more of it was loaded before the 11:40:45

21 injunction or more of it came afterwards.

22 **Q Now, in various points in your report, you**

23 **address the issue of incompatibility, and you also**

24 **talk about fragmentation; is that correct?**

25 A Correct. 11:41:23

113

<p>1 Q Can you tell me how you define 11:41:27 2 "incompatibility" in the way that you have attempted 3 to compensate for it in your report? 4 A "Incompatibility," as I understand it, 5 is a Dalvik VM versus a Java VM in Android. 11:41:46 6 Q In considering compatibility, do you 7 consider the use of the 37 copyrighted APIs in a way 8 that is incompatible with the Java specification? 9 A I'm not quite sure what that means. You 10 need to help me on that. 11:42:24 11 Q Do you understand that Oracle contends in 12 this case that not only is the Dalvik VM not 13 compatible, but that the way in which Google has 14 used the Java APIs is incompatible with the Java 15 specification? 11:42:39 16 A I understand what you just described, 17 but I frankly don't understand the legal issue 18 here. I mean, let me tell you what -- I mean, if 19 there is copyright infringement, presumably the 20 infringement occurred because Google made the 37 11:43:02 21 APIs close enough to Java APIs that Java writers 22 could, with minimal effort, write programs for 23 Android in Java that would run on Android, but not 24 run on other things. So they're not so 25 incompatible, or else they wouldn't be useful. 11:43:24</p> <p style="text-align: right;">114</p>	<p>1 incompatibility with respect to the copyrights, is 11:44:44 2 that considered in your report? 3 A I don't want to use weasel words here, 4 but it may or may not be. And it depends upon 5 something I don't have expertise in, and that's 11:45:18 6 how to construct and read the contracts, the 7 formal -- not the formalized contracts, but the 8 deals that were put onto paper in March of 2006. 9 And I don't know enough about how to construct or 10 think about those to know whether or not the grant 11:45:37 11 of intellectual property in the one paragraph that 12 grants it envisions that Android was free to then 13 use this -- that Google was then free to use it in 14 the way that it has used the APIs -- let me back 15 up. 11:45:56 16 If I took the 37 APIs and I licensed them 17 and Android then -- then Google then put together 18 with them other APIs, which it then sort of used to 19 propagate applications that ran on a Java VM 20 Android, if that's what's envisioned in the 11:46:15 21 license, then yes, I've incorporated it. All 22 right? Okay? 23 Q Okay. 24 You understand that the 2006 negotiations 25 contemplated an Android that would be compatible, 11:46:30</p> <p style="text-align: right;">116</p>
<p>1 Q All right. 11:43:28 2 Let me try to -- 3 Do you understand that Oracle contends 4 that Sun would not license the 37 APIs on terms that 5 would allow those APIs to be superseded or 11:43:44 6 subsetted in comparison to the specification? 7 A I've seen that discussion. And frankly, 8 that's technical stuff, and I have no opinion 9 about it. 10 Q Okay. 11:44:00 11 Do you have an understanding as to 12 whether -- well, assume with me that the problem is 13 not that Google used the 37 APIs in a way that is 14 different from the way that Sun used them, the 15 specific APIs, but rather that Google used them with 11:44:16 16 other APIs that make it impossible for a program 17 written to the Android specification using the 37 18 Java APIs and the remaining Android APIs to run on a 19 Java platform? 20 A Okay. 11:44:33 21 Q Further assume that Sun would not have 22 agreed to that without substantial compensation. 23 A Okay. 24 Q All right. 25 So if that is the meaning of 11:44:40</p> <p style="text-align: right;">115</p>	<p>1 correct? 11:46:33 2 A Right. 3 Q Do you also assume that Sun's ability to 4 obtain the benefits of the Armstrong project 5 depended upon Android being compatible? 11:46:46 6 MR. PURCELL: Object to the form. 7 THE WITNESS: I don't know. You're 8 venturing into technical areas that I can't opine 9 on. 10 BY MR. NORTON: 11:46:59 11 Q Is the reason why the Android revenues -- 12 I'm sorry. 13 Is the reason why the Armstrong revenues 14 are included in the royalty calculation because that 15 is value that Sun expected to get in the 2006 11:47:18 16 negotiation, but did not receive in the hypothetical 17 world? 18 A Yes. 19 Q Okay. All right. 20 And so to the extent that Google's 11:47:30 21 infringement prevented Sun and Oracle from obtaining 22 the benefits of the Armstrong project, have you 23 fully accounted for that in your royalty 24 calculations? 25 A I believe so, the Armstrong project 11:47:48</p> <p style="text-align: right;">117</p>

<p>1 itself. 11:47:50</p> <p>2 Q Subject to the fact that the number of</p> <p>3 your calculations are conservative?</p> <p>4 A Correct.</p> <p>5 Q And so to the extent that any of your 11:47:59</p> <p>6 Armstrong calculations are conservative, you would</p> <p>7 have undercompensated for the harm of</p> <p>8 incompatibility, correct?</p> <p>9 A I don't know. It depends upon whether</p> <p>10 or not you think the Armstrong expectations are a 11:48:27</p> <p>11 reasonable way of thinking about what they lost</p> <p>12 when you've got an incompatible deal.</p> <p>13 Q To the extent --</p> <p>14 A If they are, then you fully incorporated</p> <p>15 them. 11:48:41</p> <p>16 Q To the extent that the Armstrong</p> <p>17 calculations are an appropriate way to address the</p> <p>18 issue of incompatibility, your royalty addresses</p> <p>19 incompatibility because it takes into consideration</p> <p>20 the Armstrong projections? 11:49:00</p> <p>21 A Correct.</p> <p>22 Q Nonetheless, to the extent that your net</p> <p>23 present value of the Armstrong benefit is</p> <p>24 conservative, it necessarily does not capture all of</p> <p>25 the harm of incompatibility, correct? 11:49:14</p> <p style="text-align: right;">118</p>	<p>1 which you have addressed incompatibility is by 11:50:36</p> <p>2 considering the benefits that Sun expected to get</p> <p>3 from Armstrong; and, two, to the extent that your</p> <p>4 net present value calculation of the benefits to Sun</p> <p>5 from Armstrong are conservative, it is necessarily 11:50:52</p> <p>6 the case that your adjustment to compensate for</p> <p>7 incompatibility must also be conservative?</p> <p>8 A Agree.</p> <p>9 Q All right.</p> <p>10 Is there any other calculation in your 11:51:06</p> <p>11 approach, other than the Armstrong benefits, that</p> <p>12 would address the issue of incompatibility?</p> <p>13 A That I can imagine or that I considered?</p> <p>14 Q That you have --</p> <p>15 Numbers that you have actually calculated 11:51:26</p> <p>16 and incorporated into your analysis.</p> <p>17 A No.</p> <p>18 Q All right.</p> <p>19 Now, another term that appears in your</p> <p>20 report is "fragmentation." Do you understand 11:51:33</p> <p>21 "fragmentation" to mean something different from</p> <p>22 "incompatibility"?</p> <p>23 A Yes, with the caveat I'm not a technical</p> <p>24 expert here.</p> <p>25 Q Okay. 11:51:44</p> <p style="text-align: right;">120</p>
<p>1 A Well, I wouldn't put it that way. It's 11:49:17</p> <p>2 conservative along a number of different</p> <p>3 dimensions that may or may not have anything to do</p> <p>4 with compatibility. So I agree that my estimate</p> <p>5 is conservative, for example, the discount rate 11:49:28</p> <p>6 issue that we discussed earlier. So it's</p> <p>7 conservative for a number of different points that</p> <p>8 I've made. All right? But that's -- that means</p> <p>9 that it underestimates the true value for those</p> <p>10 reasons, not necessarily for incompatibility. 11:49:45</p> <p>11 Q But if the only way in which you have</p> <p>12 addressed the harm of incompatibility is by</p> <p>13 factoring the Armstrong projections, then it is</p> <p>14 necessarily the case that if your Armstrong</p> <p>15 projections are conservative, then your adjustment 11:49:59</p> <p>16 for incompatibility is conservative?</p> <p>17 MR. COOPER: Objection; form.</p> <p>18 MR. PURCELL: Join.</p> <p>19 THE WITNESS: Sure. I mean I'll agree to</p> <p>20 that. I don't know what you mean by the, "Armstrong 11:50:22</p> <p>21 projections are conservative." Again, that could go</p> <p>22 to the discount. I've discounted them at too high a</p> <p>23 discount rate.</p> <p>24 BY MR. NORTON:</p> <p>25 Q To the extent that, one, the only way in 11:50:33</p> <p style="text-align: right;">119</p>	<p>1 Why don't you just give me the 11:51:44</p> <p>2 understanding that you have employed, regarding the</p> <p>3 report, as to the term "fragmentation."</p> <p>4 A Well, I have fudged the issue, as has</p> <p>5 everybody else, about what the open-source license 11:51:57</p> <p>6 is, whether it's the Apache license or the GPL.</p> <p>7 It's my understanding -- and again, it's a</p> <p>8 technical issue, so I'm not -- I may be wrong in</p> <p>9 my understanding -- that the GPL would have led to</p> <p>10 less fragmentation than the Apache license. And 11:52:16</p> <p>11 to the degree that Android was built and</p> <p>12 distributed with the Apache license, then that's</p> <p>13 my understanding of incremental fragmentation,</p> <p>14 okay, beyond what we talked about earlier today,</p> <p>15 which was the fragmentation that was going on 11:52:30</p> <p>16 anyway and would have occurred with open sourcing</p> <p>17 under whatever license you would have used.</p> <p>18 Q Do you agree that the hypothetical license</p> <p>19 should ideally account for the incremental</p> <p>20 fragmentation that would be expected to occur as a 11:53:02</p> <p>21 result of Google's infringing use?</p> <p>22 A The hypothetical license, yes, I agree.</p> <p>23 Q All right.</p> <p>24 And one question that you have is, in</p> <p>25 determining the incremental fragmentation, are we 11:53:23</p> <p style="text-align: right;">121</p>

<p>1 comparing Google's infringement to a 2006 11:53:26 2 negotiation that would open source under the GPL or 3 under Apache? 4 That was a terrible question. Let me try 5 that again. 11:53:38 6 You want to measure the anticipated 7 incremental fragmentation, right? 8 A Yes. Based on some questions you asked 9 this morning, or earlier today, there are two 10 potential incremental fragmentations. To the 11:53:52 11 degree that Java ME was fragmented before, and 12 became fragmented in the normal course of 13 business, I don't know whether it was or it 14 wasn't, but your question implied that it may have 15 been -- there may have been some baseline 11:54:08 16 fragmentation. Then going forward, you would have 17 expected that fragmentation to continue. 18 And we had a discussion earlier about 19 whether an open-source license would have enhanced 20 that, that baseline fragmentation of Java ME. That 11:54:18 21 would have been baked into the negotiation because 22 the parties knew that -- Sun knew that it was going 23 to have an open-source license on this matter. 24 Okay? 25 Then to the degree that Sun would never 11:54:36</p> <p style="text-align: right;">122</p>	<p>1 fragmentation as a result of open sourcing would be 11:56:27 2 exactly the same, regardless of whether Sun remained 3 in control or Google remained in control, if the 4 parties had agreed in 2006 on an Apache license? 5 A No. That's an interesting question in 11:56:53 6 that I don't think the issue of Sun's subsequent 7 control has been factored into anybody's analysis, 8 including mine, except to the degree the control 9 was embedded in the license itself, the type of 10 license. So to the degree that Sun and Google are 11:57:11 11 no longer partners in the hypothetical world, and 12 because Sun's not weighing into the development 13 here, that that -- I just don't know whether that 14 would have led to more fragmentation or not. I 15 really don't know. 11:57:28 16 Q Well, do you understand that one of the 17 sources of fragmentation is the fact that Android is 18 incompatible, not just that it's open source, but 19 that it's incompatible? 20 A Yes. 11:57:49 21 Q All right. 22 And if in the 2006 negotiation the parties 23 expected that -- let's just assume the parties 24 expected they would use an Apache license for Java 25 and Android in the 2006 negotiation, but that Sun 11:58:13</p> <p style="text-align: right;">124</p>
<p>1 have accepted an open-source license that was 11:54:39 2 potentially more fragmenting than a different 3 open-source license, then that would not have been 4 built in, although it may have been if they had 5 agreed on that license. It's really unclear on 11:54:56 6 which license they were going to agree on, and it's 7 my understanding that's, in part, why the 8 negotiations fell apart, was over that license. 9 Q All right. 10 So if I understand you correctly, part of 11:55:07 11 what you're wrestling with is if Android is released 12 under the Apache license, and it was anticipated by 13 the parties in 2006 that Android would be released 14 under the Apache license, then you wonder whether 15 there is any incremental fragmentation as a result 11:55:32 16 of open source -- 17 A No. In that case, I don't wonder. In 18 that case, I assume there is not. 19 Q As the result of open sourcing? 20 A No, as a sole source -- yeah, that's 11:55:40 21 right, of the -- the license would have that 22 fragmentation, anticipated fragmentation, built 23 into it, the 2006, not the hypothetical, the 2006 24 license. 25 Q Is it your opinion that the extent of 11:56:24</p> <p style="text-align: right;">123</p>	<p>1 would remain in a position where it could ensure 11:58:16 2 that Android remained compatible with the existing 3 Java specifications. 4 In that scenario, the anticipated 5 fragmentation as of 2006 would be less than the 11:58:28 6 anticipated fragmentation as a result of the 7 hypothetical license, correct? 8 A Possibly. 9 Q Can you give me probably? 10 Let me ask you this way: Who has a 11:58:45 11 greater interest in ensuring that Android remained 12 compatible with existing Java? Google or Sun? 13 A Sun did, but it's not clear that Google 14 had an interest in sort of going out and 15 specifically fragmenting. I mean, Google had an 11:59:00 16 interest in creating its own platform. And to the 17 degree that that's incompatible, that is, itself, 18 a fragmentation, I agree. That a fragment, 19 however you want to think about this, fork off of 20 this. Okay? But the reason I gave the answer I 11:59:14 21 did is my reading of the record is that Google 22 was, itself, very concerned about fragmenting the 23 Android platform. So to the degree that it didn't 24 allow for further fragmentation, one. Second step 25 is, to the degree -- and I'm going to get the 11:59:34</p> <p style="text-align: right;">125</p>

1 names wrong here -- the TCK and the Android 11:59:36
 2 equivalent of the TCK were more or less testing
 3 the same thing, then there is no reason to believe
 4 that you've got fragmentation beyond sort of
 5 what -- the initial step. 11:59:47
 6 **Q Right.**
 7 **The initial step, which is, in fact,**
 8 **fragmentation?**
 9 A It is fragmentation.
 10 **Q All right. 11:59:55**
 11 **Now, with respect to the fragmentation**
 12 **that is the result of the initial step, is there**
 13 **anyplace in your report where you have attempted to**
 14 **calculate the value of or the harm of that**
 15 **fragmentation? 12:00:08**
 16 A No.
 17 **Q So that's unquantified throughout your**
 18 **report?**
 19 A Correct.
 20 **Q And are you aware of any way of 12:00:13**
 21 **calculating that fragmentation from the infringing**
 22 **use?**
 23 A No.
 24 **Q Hold on one second.**
 25 **I want to talk for a minute about the 12:00:37**

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1 **Danger license. You examined the Danger license in 12:00:39**
 2 **your report at Paragraphs 87 through 96; is that**
 3 **right?**
 4 A Yes.
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]
 14 [REDACTED]
 15 [REDACTED]
 16 [REDACTED]
 17 [REDACTED]
 18 [REDACTED]
 19 [REDACTED] 12:01:53
 20 [REDACTED]
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED]

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1 **Q Is that a economically important 12:02:05**
 2 **difference?**
 3 A Maybe.
 4 **Q What consideration have you given to**
 5 **whether it's economically important? 12:02:10**
 6 A Well, we're cursed with hindsight,
 7 right? I mean, the -- the smartphones have sort
 8 of taken the market, although not worldwide, but
 9 in the U.S., and feature phones have become less
 10 important. It's unclear whether this was clear in 12:02:35
 11 2005, 2006. When Sun -- or when Apple announced
 12 its new iPhone, it was unclear whether this was
 13 going to be a successful product or not. So at
 14 the time, I don't know that the expectations of
 15 these two different phones were all that 12:02:55
 16 different.
 17 **Q Based on the Google projections you have**
 18 **seen, did Google expect smartphones to be more**
 19 **valuable to its business than feature phones?**
 20 A Yes. 12:03:11
 21 **Q Based on the Armstrong projections, did**
 22 **Sun expect smartphones to be more valuable to its**
 23 **business than feature phones on a per-unit basis?**
 24 A I don't know because I don't know the
 25 universal business with smartphones. I know it 12:03:32

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1 had lots of these royalty arrangements with 12:03:35
 2 smartphone manufacturers, the OEMs. I just don't
 3 know the universe of that.
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]
 14 [REDACTED]
 15 **Q Okay. 12:04:18**
 16 A But that doesn't mean that the aggregate
 17 of the market was -- I mean, I could have a niche
 18 that was extraordinarily profitable, but I thought
 19 it was going to remain a niche, and a large
 20 fraction of my business that was less profitable, 12:04:33
 21 but I thought it was going to bring in a large
 22 fraction. So the fact that they thought these
 23 feature phones had higher per-unit expected
 24 profits for them doesn't imply that this was a big
 25 part of their business. I just don't know the 12:04:47

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1 part of a pure intellectual property license that 12:54:05
 2 did not also involve distribution of Google content?
 3 MR. NORTON: Objection; form.
 4 THE WITNESS: I'm not sure what the last
 5 clause in that question means, but it's my 12:54:19
 6 understanding that Google, for placing the Google
 7 widget on the boot-up screen or, at least, on the
 8 screen that came up, shared revenues with OEMs.
 9 BY MR. PURCELL:
 10 Q Right. 12:54:37
 11 Are you aware of any other case in which
 12 Google wasn't placing the Google widget on startup
 13 screens where it agreed to a revenue share deal in
 14 exchange just for a license of intellectual
 15 property? 12:54:49
 16 A Not beyond the -- not beyond the two I
 17 mentioned, no.
 18 Q Not beyond the license with Java or Java
 19 ME?
 20 A Right. 12:54:58
 21 Q And what was the second one?
 22 A And the widget deals.
 23 Q Leaving aside the widget, which is what
 24 I'm defining as distribution of Google content --
 25 A Okay. 12:55:07

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1 Q -- just talking about a pure intellectual 12:55:07
 2 property license, a license for a patent or a
 3 copyright, are you aware of any instance other than,
 4 I suppose, the Java ME deal where Google agreed to a
 5 revenue share? 12:55:18
 6 A No.
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 Let's assume that in real world
 13 negotiations, Sun's initial position was that it
 14 wanted \$100 million, plus a revenue share.
 15 Are you with me so far? 12:55:49
 16 A Uh-huh.
 17 Q Okay.
 18 And then by the time negotiations broke
 19 off, Sun had agreed to drop its demand to
 20 \$28 million without a revenue share. Again, this is 12:55:56
 21 just an assumption; I'm not representing that as
 22 fact.
 23 But assuming those facts to be true,
 24 wouldn't that suggest to you that Sun would have
 25 been willing to accept less money in the 12:56:08

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1 hypothetical negotiation? 12:56:10
 2 MR. NORTON: Objection; form.
 3 THE WITNESS: Less money than what? It
 4 suggests that they were willing to accept less money
 5 in the actual negotiations, so to the degree that 12:56:20
 6 the actual negotiations are a model for the
 7 hypothetical, the answer is yes. But if you mean
 8 less than that, because it is a hypothetical, then I
 9 don't know.
 10 BY MR. PURCELL: 12:56:34
 11 Q I actually meant the former.
 12 So do you take account for the fact that,
 13 in the real world, the last offer on the table
 14 before negotiations broke down did not involve a
 15 revenue share component in hypothesizing the 12:56:55
 16 negotiation in your report?
 17 A The only answer I can give you,
 18 Mr. Purcell, is the one I just gave a few minutes
 19 ago, which is I don't know what the clause means,
 20 "other terms to be determined." To the degree 12:57:08
 21 that was included in the revenue share on the part
 22 of Sun, I just don't think we know.
 23 Q If Sun had -- strike that.
 24 [REDACTED]
 25 [REDACTED] 12:57:24

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[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 8 So if you look at the numerator of the
 9 reasonable royalty fraction that I estimate, a
 10 large -- the largest fraction of that, I mean, the 12:57:58
 11 predominant number there is due to the monetization.
 12 That's where Sun expected to get most of this. So
 13 if you peel off these other numbers, they don't
 14 change that ratio very much.
 15 BY MR. PURCELL: 12:58:11
 16 [REDACTED]
 17 [REDACTED]
 18 [REDACTED]
 19 [REDACTED]
 20 [REDACTED]
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED]

1 [REDACTED]
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]
 14 [REDACTED]
 15 [REDACTED]
 16 [REDACTED]
 17 [REDACTED]
 18 [REDACTED]
 19 [REDACTED]
 20 [REDACTED]
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED]

11 **Q** Are you aware of any other internal Sun
 12 material that's supportive of the data you used to
 13 estimate Project Armstrong revenues?
 14 **A** Well, we used Google's projected numbers
 15 in the Project Armstrong; so to be fair, we're not 12:59:15
 16 using what Dr. Leonard characterized as overly
 17 optimistic.
 18 **Q** So you're not using the single Sun
 19 PowerPoint, you're using Google forecasts?
 20 **MR. NORTON:** Objection; form. 12:59:32
 21 **THE WITNESS:** We're using the single Sun
 22 forecast using Google's numbers rather than the
 23 Project Armstrong forecast of Android.
 24 **BY MR. PURCELL:**
 25 **Q** All right. 12:59:40

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1 Dr. Cockburn does. 01:00:52
 2 **Q** Is the only thing that you're taking from
 3 the Google projection and importing into the Sun
 4 Project Armstrong projection the per-unit revenue
 5 number, or is there something else from Google? 01:01:01
 6 **A** No, we take the -- import the number of
 7 units, as I remember, not the per-unit revenue.
 8 **Q** Right. So, okay. I misspoke.
 9 So is the only thing that you're importing
 10 from the Google projection into the Sun Project 01:01:15
 11 Armstrong projection the number of units to be
 12 activated?
 13 **A** Yes.
 14 **Q** And everything else, you're using the
 15 numbers from the Sun projection with the additional 01:01:24
 16 adjustments you just described?
 17 **A** Yes.
 18 **Q** One other thing that you discussed this
 19 morning related to your opinion on apportionment of
 20 the 2006 bundle. 01:01:39
 21 Do you recall that?
 22 **A** Uh-huh.
 23 **Q** If you could just turn to Paragraph 97 of
 24 your report. I believe it's Paragraphs 97 through
 25 105 discuss your opinion on apportionment of the 01:01:55

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1 So you're using Google's numbers with 12:59:41
 2 respect to what? The number of units?
 3 **A** Yeah, expected under these different
 4 scenarios. I think there's six different
 5 projections; we take the high and the low, one 12:59:51
 6 from each of the high and the low.
 7 **Q** All right.
 8 So if you're using Google's numbers with
 9 respect to the per-unit projections as to Project
 10 Armstrong, what from the internal Sun projection are 01:00:05
 11 you using?
 12 **A** We use their cost numbers, profit --
 13 well, therefore, back out the profit -- the
 14 per-unit profit. Everything else we use from the
 15 Sun projections except we use Google's numbers in 01:00:23
 16 there.
 17 We do a couple of other things. We
 18 discount them back, but we're using these
 19 projections over the life of the project rather
 20 than the three or four years in the PowerPoint 01:00:37
 21 presentation.
 22 And we assume that these numbers are
 23 large enough that, loosely, there wouldn't be fixed
 24 costs of all the costs that were variable costs, so
 25 we've included more costs than, I think, 01:00:50

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1 2006 bundle, correct? 01:01:59
 2 **A** Yes.
 3 **Q** And your opinion, ultimately, is that no
 4 apportionment is economically appropriate?
 5 **A** That's correct. 01:02:06
 6 **Q** In fact, in Paragraph 101, you can take a
 7 look at that.
 8 At the beginning of the last sentence, you
 9 state:
 10 "In this case, the 2006 value 01:02:20
 11 of the in suit IP is also the 2006
 12 value of the Java ME IP
 13 portfolio...."
 14 Correct?
 15 **A** Correct. 01:02:28
 16 **Q** So are you assuming that only the two
 17 remaining patents in the case and the asserted
 18 copyrights out of all the IP in the 2006 bundle had
 19 value to Google in building Android?
 20 **A** I'm not sure I understand the question. 01:02:53
 21
 22 What's assumed in this discussion is that
 23 what was valuable to Google in building Android was
 24 either the option to use what it needed to use or
 25 the insurance against litigation if it happened to 01:03:08

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1 [REDACTED] 01:08:32
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]
 14 [REDACTED]
 15 [REDACTED]
 16 [REDACTED]
 17 [REDACTED]
 18 [REDACTED]
 19 BY MR. PURCELL:
 20 Q And you're thinking of it as an ex ante 01:08:32
 21 negotiation for an entire portfolio, not an ex ante
 22 negotiation for two patents and 37 API packages?
 23 A The way I start is to say, let's think
 24 about what the portfolio was worth, okay, and then
 25 ask, you know, does apportionment make sense? And 01:08:47

1 in 2006 Google knows -- knew or expected what we 01:10:09
 2 now know to be the case in 2012. The negotiation
 3 in 2006 was over the stuff we're talking about in
 4 2012. That was all I was saying is "if."
 5 If they didn't know, then one really does 01:10:26
 6 have to think about sort of an option value or an
 7 insurance value. It's a little bit like -- I tried
 8 to think about how to sort of get my head around
 9 this.
 10 Suppose I don't pay a subscription. I 01:10:43
 11 subscribe to a magazine, I don't pay a
 12 subscription. I get sued for failure to pay my
 13 subscription, and I say, "Well, I only read one
 14 page out of each hundred," okay? I mean, the ex
 15 ante negotiations for the subscription is for the 01:10:57
 16 full 100-page magazine. I don't get to say, after
 17 the fact, "Gee, I only read one page." At least
 18 that seems wrong from an economics perspective.
 19 Q And why is that analogy opposite? Why is
 20 this situation where one is negotiating over a 01:11:15
 21 magazine subscription rather than negotiating over
 22 two patents and 37 API packages?
 23 A Because not knowing what Google needed,
 24 in 2006 not knowing sort of the course of its
 25 technological development, so it doesn't know 01:11:31

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 1 the answer is no. But if apportionment is 01:08:52
 2 required by the law, then here's an apportionment.
 3 Q And why doesn't apportionment make sense?
 4 A Well, for the three reasons that are
 5 here that I've already discussed, which is, if 01:09:04
 6 they knew that they wanted this intellectual
 7 property, then that would have been the value of
 8 the deal.
 9 Q How do you know that?
 10 A Because if I'm only negotiating over, 01:09:13
 11 really, 37 APIs, plus two patents, and I've got
 12 all this other stuff here, then the value that I'm
 13 putting forward, the numbers I'm putting forward
 14 are the value of those 39 things.
 15 Q But when Google was negotiating the 01:09:33
 16 license in 2006, it wasn't negotiating for a license
 17 for two patents and 37 API packages, correct?
 18 A That's correct, sure.
 19 Q So how can you conclude that Google's
 20 behavior in that real world negotiation over a 01:09:50
 21 different set of objects necessarily is the same as
 22 what Google would have been willing to pay for a
 23 much smaller set of objects in the hypothetical
 24 negotiation?
 25 A I think you misunderstood me. I said if 01:10:03

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 1 which of these it needs, all right? Think of 01:11:34
 2 this -- my analogy here, inept may it be, I don't
 3 know which of the 100 pages I want to read; I just
 4 know I want to read one. Then I'd be willing to
 5 pay the subscription price for the right to read 01:11:47
 6 whatever page I wanted to read.
 7 Q Doesn't the hypothetical negotiation in
 8 this case presuppose a negotiation over just the
 9 intellectual property in-suit?
 10 A I understand that is what the law 01:12:01
 11 requires. This opinion simply says that doesn't
 12 make a lot of sense to an economist, but -- and
 13 Judge Alsup asked for my best economic view, so
 14 here it is.
 15 Q So I know the answer to this question 01:12:16
 16 already, but you've reviewed Judge Alsup's orders in
 17 this case?
 18 A I have.
 19 Q And I'm sure you've read them carefully.
 20 A I've read them carefully. 01:12:25
 21 Q And you've reviewed the transcript of the
 22 various hearings on challenges the damage experts
 23 report in this case?
 24 A I have.
 25 Q Do you perceive any tension between your 01:12:32

1 **opinion in Section K of your report and any of** 01:12:33
 2 **Judge Alsup's orders or statements --**
 3 MR. COOPER: Objection as to form.
 4 MR. NORTON: Join.
 5 THE WITNESS: I can imagine there will be 01:12:42
 6 some tension, yes.
 7 BY MR. PURCELL:
 8 **Q Do you intend to tell the jury that, in**
 9 **your opinion, no apportionment of the 2006 IP bundle**
 10 **is appropriate as a matter of economics?** 01:12:50
 11 A I expect I'll be permitted to tell the
 12 jury what Judge Alsup tells me I can tell the
 13 jury, so....
 14 **Q That's a very diplomatic way of putting**
 15 **it.** 01:13:05
 16 **So moving forward just a little bit to**
 17 **paragraph 118 of your report, there's a section on**
 18 **"Other Copyright Damages," and it starts with a**
 19 **section on "Disgorgement of Infringer's Profits."**
 20 A Yes. 01:13:27
 21 **Q Do you see that?**
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

1 **Q Is there any way you can narrow that range** 01:14:37
 2 **based on the information that you have?**
 3 A Not really. Again, it's unclear who had
 4 the obligation to put forward the argument here,
 5 but since I have to rely on the record, that's 01:15:07
 6 sort of what the experts have done, as opposed to
 7 going out and doing this independently, there's
 8 nothing in this record that I could use to make
 9 that apportionment or that division.
 10 **Q If you were starting from scratch and one** 01:15:21
 11 **of the parties retained you to address this**
 12 **question, is there some set of information that you**
 13 **would want them to provide to you so you could**
 14 **apportion the percentage of Android profits**
 15 **attributable to the alleged copyright infringement?** 01:15:32
 16 A As I indicated this morning, I think the
 17 shift in market share is potentially useful but
 18 has been excluded, so....
 19 But if I were to do it, I would probably
 20 look at the shift in the market share. What 01:15:55
 21 fraction of the incremental revenues was due to the
 22 incremental market share due to the APIs.
 23 **Q So would that be along the lines of**
 24 **looking at the benefits provided to Android by the**
 25 **copyrighted APIs and then the incremental increase** 01:16:14

1 **Q And then in Paragraph 122, the next** 01:13:45
 2 **paragraph, you state that neither party has offered**
 3 **a viable methodology for separating out Android**
 4 **profits attributable to the infringement versus**
 5 **Android profits not attributable to the** 01:13:58
 6 **infringement?**
 7 A Correct.
 8 **Q And then paragraph 124 on the next page**
 9 **starts with:**
 10 **"Based on the admissible** 01:14:10
 11 **evidence in this matter, I am not**
 12 **aware of a quantitative method to**
 13 **estimate the percent of Android**
 14 **revenue or profit that is due to**
 15 **the alleged copyright** 01:14:18
 16 **infringement."**
 17 **Do you see that?**
 18 A Yes.
 19 **Q And as a result of that, you conclude that**
 20 **the percentage of Android profit attributable to the** 01:14:24
 21 **alleged copyright infringement is not zero but less**
 22 **than 100 percent, correct?**
 23 A Yes.
 24 **Q That's a pretty broad range.**
 25 A It is. 01:14:36

1 **in market share as a result of those benefits being** 01:16:18
 2 **in the software?**
 3 A Correct.
 4 **Q And what's your understanding regarding**
 5 **what benefits the copyrighted APIs provide to the** 01:16:26
 6 **Android platform, if any?**
 7 A That's a technical issue. I'll tell you
 8 my understanding of it but not -- it's not an
 9 opinion in that sense.
 10 That it provided a couple of benefits 01:16:40
 11 sort of going forward, that is, in 2006. I think
 12 the record suggests, or at least there's argument
 13 in the record that Google believed that it needed a
 14 Java-based platform. It needed to appeal to Java
 15 application writers or people who would write in 01:17:01
 16 Java.
 17 The OEMs were accustomed to using Java,
 18 in fact, were taking Java ME licenses, many of
 19 them. And, therefore, having APIs that said, if
 20 you write in your accustomed fashion, an 01:17:16
 21 application, it's going to work on this new machine
 22 or this new virtual machine and/or the
 23 modifications you have to make aren't very large;
 24 that is, it's kind of within the genre of -- of --
 25 that was one benefit to them. 01:17:43

<p>1 And the second benefit, as I understand 01:17:45 2 it, there is some evidence that getting to the 3 market quickly mattered, and to the degree that 4 there's testimony in evidence at trial that shows 5 that getting to the market quickly was really the 01:18:00 6 principal way to do that was through Java, then it 7 had that benefit, as well. 8 Q You looked at Dr. Shugan's conjoint 9 analysis as part of your work in this case, correct? 10 A I did. 01:18:15 11 Q And Dr. Shugan, his conjoint analysis 12 included some testing and evaluation of the relative 13 importance of certain features of a smartphone 14 platform to consumers? 15 A Correct. 01:18:29 16 Q And I believe Dr. Shugan tested seven 17 features of smartphone platforms in his conjoint 18 analysis; is that correct? 19 A Correct. 20 Q And I think that you write in your report 01:18:47 21 that Dr. Shugan's omission of other potentially 22 relevant features of a smartphone platform might 23 have balanced his relative importance results, 24 correct? 25 MR. NORTON: Objection; form. 01:18:59</p> <p style="text-align: right;">162</p>	<p>1 So I suggest that it has -- it's useful 01:20:13 2 for that limited purpose, maybe not for some other 3 purposes, but -- but I also didn't go off and do 4 some econometrics in which we pull in applications 5 and get numbers that aren't a lot different than 01:20:28 6 the conjoint from actual market behavior, so... 7 Q If we could turn to Paragraph 203, and 8 this actually, I think, is in the following exhibit. 9 In the last sentence of Paragraph 203, you write: 10 "However, the direction of 01:21:11 11 bias on Professor Shugan's results 12 caused by these omitted features is 13 ambiguous and can only be fully 14 assessed if a new survey were 15 conducted that included the omitted 01:21:20 16 features." 17 Do you see that? 18 A Correct. 19 Q That's what we've just been discussing? 20 A Yes, with regard to the market share 01:21:25 21 estimates. Well, the potential bias in these 22 coefficients which might cancel out when you're 23 doing a ratio. 24 Q Let's leave the market share calculations 25 aside and just talk about the relative importance 01:21:35</p> <p style="text-align: right;">164</p>
<p>1 THE WITNESS: No. 01:19:00 2 BY MR. PURCELL: 3 Q Did I say "balanced"? 4 A Yes, you did. 5 Q I meant to say "biased," excuse me. Let 01:19:02 6 me say that again. 7 In your report, you concluded that 8 Dr. Shugan's omission of other potentially relevant 9 smartphone platform features might have biased his 10 relative importance results, correct? 01:19:17 11 A Well, no, that's not quite correct. 12 There are two different kinds of biases here. I 13 think the -- my pretty extensive analysis of 14 conjoint suggests that it's likely to be biased; 15 that it omitted important things. Which direction 01:19:35 16 those biases go is a very hard thing to tease out. 17 With regard to the market share forecast 18 and predictions which use -- and I'm not speaking 19 loosely here -- use sort of a coefficient that's 20 estimated, that bias is likely to matter. In the 01:19:54 21 relative share, you have -- it's a ratio of 22 coefficients, and to the degree that the bias is 23 the same and the numerator and the denominator, it 24 cancels out, and you get an accurate estimate of 25 the relative share. 01:20:08</p> <p style="text-align: right;">163</p>	<p>1 features. 01:21:37 2 With the relative importance features, do 3 you have any particular opinion about the degree of 4 bias in Dr. Shugan's relative importance features? 5 A The paragraph says it's ambiguous. It's 01:21:51 6 difficult to know which way the bias goes. 7 Q But are you reasonably confident that the 8 bias isn't particularly significant in either 9 direction? 10 A No, I'm not, but again, loosely, this is 01:22:01 11 the difference between using a coefficient to 12 forecasting and looking at the ratio of the 13 coefficients. And if you look at the ratio of the 14 coefficients, you could have substantial bias in 15 the numerator/denominator, and as long as it's the 01:22:17 16 same percentage, then it cancels out and you get a 17 more or less accurate estimate of the relative. 18 So to the degree that we're talking about 19 speed relative to applications and that those are 20 accurately measured by the proxies he uses, then 01:22:34 21 even if they're biased, as long as they're biased 22 in the same direction by roughly the same amount, 23 you get the right ratio. 24 Q You mentioned some econometric work that 25 you did to validate Dr. Shugan's conclusions? 01:22:47</p> <p style="text-align: right;">165</p>

<p>1 A I wasn't trying to validate his 01:22:51 2 conclusions. I was simply looking at an 3 independent way of trying to assess the importance 4 of speed versus applications. 5 Q And what work did you do to try to assess 01:23:00 6 the importance of speed versus applications? 7 A This is a long answer. 8 Q That's fine. 9 A Dr. Cockburn uses -- first, uses eBay 10 data and I use the eBay data. I use the same data 01:23:19 11 he does. He then uses an approach in which he 12 writes his own maximum likelihood function and 13 runs an algorithm to maximize that. He does 14 what's known in economics as a bootstrap, which is 15 a way of getting at the standard errors of the 01:23:39 16 coefficient, yes, the standard errors of the 17 coefficient. 18 When we implemented his -- we just took 19 his stuff and implemented. It takes, literally, 20 240 computer hours to run, so it's 10 days from 01:24:00 21 when you push the button until something pops out 22 the other end. 23 Dr. Leonard's criticism of Dr. Cockburn 24 was that he could write a likelihood function that 25 could be estimated much simpler that was the 01:24:15</p> <p style="text-align: right;">166</p>	<p>1 .5 as the ratio of these. We cannot find that 01:26:02 2 number in the conjoint analysis; it's nowhere to be 3 found. The number that comes out of the conjoint 4 analysis is .7, so -- and Dr. Cockburn just has a 5 single sentence in his report that says: "From the 01:26:19 6 conjoint analysis, I have learned --" or something 7 to the effect -- "that it's .5." 8 No reference, no footnote, no cite to the 9 table or anything. So that's where we are in that. 10 You can think about the econometrics as validation, 01:26:36 11 if you want, of the conjoint or an independent way 12 of looking at the relative value. 13 In my analysis in the -- back in the 14 Reasonable Royalty section, I used .8. I just take 15 the simple mean between .7 and .9 of the two 01:26:55 16 different kinds of estimates. 17 And were The Court to find that the 18 conjoint -- or the jury to find the conjoint wasn't 19 reliable for a whole set of reasons, I have an 20 independent estimate of the value of the -- an 01:27:10 21 independent way of apportioning the copyrights that 22 I don't think anybody else has at this point. 23 Q All right. 24 And what's your independent way of 25 apportioning the copyrights? 01:27:23</p> <p style="text-align: right;">168</p>
<p>1 equivalent of Dr. Leonard's -- Dr. Cockburn. In 01:24:20 2 fact, he didn't need to write it; he could simply 3 use a canned program to do this. And if you use 4 his program, it takes a tenth of the time; it takes 5 12 hours or 10 hours. 01:24:34 6 So in all of the econometrics I did, I 7 did the Dr. Leonard implementation. I did not do 8 the Dr. Cockburn. 9 Now, we tested the difference, and the 10 coefficients are more or less the same in the two 01:24:50 11 to sort of the second decimal place; sometimes 12 they're a little bit higher, sometimes a little bit 13 lower. So it appears that using the more 14 simplified approach of Dr. Leonard gets you into 15 the same -- gets you roughly the same. So that's 01:25:08 16 the long lead into this. 17 Using that approach, then we went out and 18 retrieved information on applications and on the 19 various phones, brought that applications data in 20 and meshed it with the data that Dr. Cockburn had 01:25:29 21 used and estimated a version of the Cockburn model 22 using the Leonard technique with applications and 23 find that the ratio of speed to applications is 24 about .9 -- so applications to speed is about .9. 25 One other observation: Dr. Cockburn uses 01:25:58</p> <p style="text-align: right;">167</p>	<p>1 A It would be the econometric. 01:27:24 2 Q That you just described? 3 A Yes. 4 Q Okay. 5 Just wanted to be sure you weren't leading 01:27:31 6 into something else that you had done. 7 A No. 8 Q So we've gone through the universe of 9 everything you've done with respect to your 10 econometric analysis on copyright apportionment? 01:27:38 11 A Yes. I mean, there are lots of details 12 in the econometrics themselves, but that's the big 13 picture. 14 Q Dr. Shugan and Dr. Cockburn use -- strike 15 that. 01:27:55 16 In Dr. Shugan's and Dr. Cockburn's view, 17 the primary benefit provided to Android by the 18 copyrighted APIs was an increased number of 19 applications, correct? 20 MR. NORTON: Objection. 01:28:07 21 THE WITNESS: Correct. 22 BY MR. PURCELL: 23 Q And they use -- 24 Dr. Cockburn uses, essentially, an 25 increased number of applications as a proxy for the 01:28:13</p> <p style="text-align: right;">169</p>

<p>1 benefits provided by the copyrighted APIs, correct? 01:28:16</p> <p>2 A That's correct.</p> <p>3 Q Can you take a look at Paragraph 303 of</p> <p>4 your report?</p> <p>5 Paragraph 303, you write: 01:28:33</p> <p>6 "Professor Shugan reports</p> <p>7 relative importance estimates of</p> <p>8 7.85 percent and 11.17 percent for</p> <p>9 availability of applications and</p> <p>10 applications startup time, 01:28:43</p> <p>11 respectively."</p> <p>12 Do you see that?</p> <p>13 A Yes.</p> <p>14 Q So he uses a relative importance figure of</p> <p>15 7.85 percent for availability of applications, 01:28:50</p> <p>16 Professor Shugan?</p> <p>17 A Yes.</p> <p>18 Q Would he be reasonable to use that</p> <p>19 7.85 percent figure as an estimate of the percentage</p> <p>20 of Android revenue attributable to the copyrighted 01:29:05</p> <p>21 APIs as opposed to other features of the Android</p> <p>22 software?</p> <p>23 MR. NORTON: Object.</p> <p>24 THE WITNESS: In what setting? I'm not</p> <p>25 sure -- 01:29:18</p> <p style="text-align: right;">170</p>	<p>1 Cockburn, which is, what's the change in the market 01:30:34</p> <p>2 share attributable to that, and then sort of back</p> <p>3 out sort of what the revenue effects of that change</p> <p>4 in market share are. You've got to go from this</p> <p>5 utility measure to some measure of sort of how that 01:30:46</p> <p>6 affects the prospects in the market, and there's no</p> <p>7 way to go from 7.85 percent utility effect to a</p> <p>8 revenue effect just by making -- by applying it</p> <p>9 directly to util- -- to revenue.</p> <p>10 BY MR. PURCELL: 01:31:02</p> <p>11 Q And do you have any methodology in mind</p> <p>12 for translating the 7.85 percent utility effect into</p> <p>13 a market share effect?</p> <p>14 A Well, that's been excluded by -- by</p> <p>15 Judge Alsup. Apparently, the Sawtooth software 01:31:18</p> <p>16 has a button you push, and it tells you what</p> <p>17 happens to the market share. That's the button</p> <p>18 that Dr. Shugan pushed. So it translates it by</p> <p>19 sort of looking at all of the other sort of</p> <p>20 relative utility effects, utility from the 01:31:37</p> <p>21 different kinds of things.</p> <p>22 But that's been excluded because, as I</p> <p>23 understand the argument that Dr. Leonard made and</p> <p>24 Judge Alsup and the part in Google is that because</p> <p>25 of the bias, the potential bias in that number, you 01:31:52</p> <p style="text-align: right;">172</p>
<p>1 BY MR. PURCELL: 01:29:19</p> <p>2 Q Well, in the sense of disaggregating the</p> <p>3 inputs to Android revenues that are not due to the</p> <p>4 copyrighted APIs?</p> <p>5 A I don't think so, no. 01:29:28</p> <p>6 Q Why not?</p> <p>7 A Well, the conjoint analysis doesn't</p> <p>8 really get to revenues. It gets -- purportedly,</p> <p>9 it's an estimate of the utility that people place</p> <p>10 on things, but there's no way to go -- at least, I 01:29:39</p> <p>11 don't see an easy path from there to revenues.</p> <p>12 Q If 7.85 percent of consumers are most</p> <p>13 influenced by the availability of applications, it</p> <p>14 wouldn't be reasonable to assume that roughly</p> <p>15 7.85 percent of the benefit provided by the software 01:29:57</p> <p>16 is due to the availability of applications?</p> <p>17 A I don't think so.</p> <p>18 Q How would you go about translating, if you</p> <p>19 could, that 7.85 percent figure into an</p> <p>20 apportionment of the value of the software 01:30:12</p> <p>21 attributable to the APIs that enable the</p> <p>22 availability of applications?</p> <p>23 MR. NORTON: Objection.</p> <p>24 THE WITNESS: I think you have to do it</p> <p>25 the way that Professor Shugan does and Professor 01:30:28</p> <p style="text-align: right;">171</p>	<p>1 can't get a reliable estimate of the market share 01:31:56</p> <p>2 change.</p> <p>3 Q Other than the Sawtooth method that</p> <p>4 Judge Alsup excluded, can you think of any other way</p> <p>5 to go from the 7.85 percent relative consumer 01:32:08</p> <p>6 preference figure to a market share figure?</p> <p>7 A No.</p> <p>8 Q If you were asked to estimate the likely</p> <p>9 change in market share if the copyrighted APIs were</p> <p>10 removed from the Android software, what -- what 01:32:33</p> <p>11 would you do?</p> <p>12 MR. NORTON: Object.</p> <p>13 THE WITNESS: I would use the</p> <p>14 econometrics.</p> <p>15 BY MR. PURCELL: 01:32:46</p> <p>16 Q How would you go about using the</p> <p>17 econometrics to translate the consumer preference</p> <p>18 share into a market share number?</p> <p>19 A Well, you can use the econometrics to</p> <p>20 predict the reduction in willingness to pay, and 01:32:58</p> <p>21 then, you know, there's dispute on all of these</p> <p>22 matters, and I understand that; I'm not here to</p> <p>23 resolve that dispute.</p> <p>24 But then you could then use parties -- I</p> <p>25 think Dr. Cockburn did something that was 01:33:10</p> <p style="text-align: right;">173</p>

<p>1 reasonably innovative and creative here, which is 01:33:11 2 to look at parties that were bidding -- individuals 3 who were bidding on two different phones, two 4 different operating systems, within a reasonable 5 period of time and asking if the willingness to pay 01:33:22 6 fell below a certain level, would they switch the 7 phones -- switch from one -- from an Android to 8 another non-Android phone. 9 And if they did, you just count that up 10 and divide by the number of people in the 01:33:37 11 population, or the sample you're looking at, and 12 that's a measure of the market share shift due to 13 that effect. You could do exactly the same thing 14 with -- with applications as he did with speed. 15 But to get there, as I indicated earlier this 01:33:54 16 morning, you then have to deal with -- with the 17 problem of the phone price not changing when the 18 relative -- when the willingness to pay for that, 19 so the consumer surplus -- consumer surplus falls, 20 and the question is, what would that do to the 01:34:10 21 price? 22 It got excluded on that basis, and I have 23 not done further work on that because of the 24 exclusion, but that, at least, is a sensible place 25 to start. And as I said this morning, it doesn't 01:34:26</p> <p style="text-align: right;">174</p>	<p>1 look at applications in this case. The conjoint 01:35:38 2 analysis appears to be quite seriously biased 3 or -- it's got some problems that keep it from 4 being very useful in that regard, so I think you 5 had to move some other place. 01:35:58 6 Q Prior to Judge Alsup's excluding the 7 econometric analysis, have you reached any tentative 8 conclusions about the drop in market share that 9 would be likely if the copyrighted APIs weren't 10 available to Google? 01:36:10 11 A No, we never finished that analysis. 12 Q You didn't have any preliminary results 13 that would shed any light on that? 14 A We have the coefficient. We could back 15 it out pretty quickly but -- we used a coefficient 01:36:20 16 for purposes of the relative speed versus 17 application, but we never did the calculation, to 18 my knowledge. I don't recall having done the 19 calculation. 20 Q Is the coefficient for the speed versus 01:36:34 21 applications, is that in the report or appendices 22 somewhere? 23 A It is, it is. 24 Q Could you actually direct me to it? 25 A Sure. It's Paragraph 401, and Exhibit 01:36:47</p> <p style="text-align: right;">176</p>
<p>1 make sense to argue that price would go down 01:34:29 2 because that's the price the OEMs are selling this 3 at. It's not Google that's selling these phones. 4 So it's hard to believe that Google could 5 put a product out in the market that was less 01:34:39 6 functional and expect the OEMs to eat the 7 consequences of that, but you'd have to think about 8 how the shift would occur in that case, and you 9 might be able to do it as a composite between the 10 market share change and some predicted price 01:34:53 11 change. 12 In either case, assuming that Google has 13 to make it up to the OEMs, it's a revenue decline 14 for Google, and as I said this morning, it's not 15 clear to me that just looking at the market share 01:35:06 16 shift below and assuming the cost price doesn't 17 change doesn't get you in about the right place. 18 But once Judge Alsup cut that off, we 19 quit working on it. 20 Q So had Judge Alsup not excluded that piece 01:35:20 21 of the econometric analysis, do you think you could 22 have used that econometric analysis to estimate 23 change in market share? 24 A Yes, we were prepared to with what we 25 call the enhanced econometric model to actually 01:35:35</p> <p style="text-align: right;">175</p>	<p>1 F10 provides, I think, the estimate of 01:37:24 2 coefficients. 401 is the paragraph that describes 3 the results. 4 Q Thank you. 5 I'd like to talk a little bit about your 01:37:40 6 analysis of Oracle's and Sun's lost profits from 7 Java ME. 8 A Yes. 9 Q Just to orient you, that discussion starts 10 on Paragraph 126 of your report at page 50. 01:37:54 11 [REDACTED] 12 [REDACTED] 13 [REDACTED] 14 [REDACTED] 15 [REDACTED] 01:38:18 16 [REDACTED] 17 [REDACTED] 18 [REDACTED] 19 [REDACTED] 20 [REDACTED] 01:38:29 21 Q And in Paragraph 139, that paragraph 22 starts off with the statement: 23 "However, while I agree some 24 apportionment of Java ME lost 25 profits to the iPhone is 01:38:49</p> <p style="text-align: right;">177</p>

1 appropriate, I do not agree with 01:38:51
 2 Dr. Cox's formula for doing so."
 3 In apportioning Java ME lost profits due
 4 to Android versus due to other causes, what other
 5 causes did you look at? 01:39:04
 6 A The context here is, as I recall -- is
 7 that Dr. Cox says the iPhone came along, all of
 8 this is attributable or, at least, a large
 9 fraction of this is attributable to the iPhone.
 10 Dr. Cockburn response -- Professor Cockburn 01:39:21
 11 responds, "No, it's not the iPhone. It wasn't the
 12 effect."
 13 The question really is, when you look at
 14 the expected sales or expected placements going
 15 forward, did they have included in them some 01:39:41
 16 expectation about the iPhone? If they did, then
 17 it's only the unexpected success of the iPhone that
 18 would not -- would have -- sort of creates an
 19 apportionment problem because, otherwise, they're
 20 already there. They've already been taken out and 01:39:59
 21 no apportionment is necessary.
 22 So you've got to argue this is the
 23 unexpected part of this. And it's hard to know
 24 what the expectations with regard to the iPhone.
 25 Our reading of this in 2006 is that people were 01:40:11

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1 mildly surprised that the iPhone did as well as it 01:40:16
 2 did, so it appears that there were unexpected
 3 results here that would not have been included in
 4 the forecast.
 5 Dr. Cox has a reasonably complex way of 01:40:28
 6 doing this, and we just take the proportional
 7 market shares, just as the paragraph says.
 8 Q But other than the iPhone, were there any
 9 other factors that you looked at and considered that
 10 might have caused Sun's projected forecast to fall 01:40:43
 11 short in the real world?
 12 A I don't think so.
 13 Q Now, the --
 14 A I need to remind myself of what this
 15 section says. 01:40:56
 16 Q Okay.
 17 A Well, the answer is, yes, we did. In
 18 some cases, yes; in some cases, no.
 19 Dr. Cockburn comes back and says:
 20 "The strategic forecast is not 01:41:47
 21 the right one to use because of a
 22 variety of reasons."
 23 The reasons may or may not hold water, but
 24 I don't have any expertise to evaluate sort of those
 25 reasons, so I simply say in Paragraph 131 that this 01:41:58

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1 is a dispute between these two experts about a 01:42:02
 2 factual matter, and the trier of fact will have to
 3 decide on that, not an expert. There's no economics
 4 involved in deciding that.
 5 Q Sorry to interrupt, but I think you said 01:42:14
 6 Dr. Cockburn had taken issue with the strategic
 7 forecast.
 8 Did you mean Dr. Leonard?
 9 A Dr. Leonard.
 10 Q Dr. Cockburn used the strategic forecast, 01:42:21
 11 and Dr. Leonard said that was not the appropriate
 12 forecast?
 13 A Yes. Sorry. I got that backwards.
 14 So there's a factual dispute there that I
 15 don't weigh in on. There is -- then there's a 01:42:32
 16 couple of issues associated with Java ME being used
 17 for non-handset devices, Blu-ray devices, soda pop
 18 machines, a variety of things where Java ME is in,
 19 and Dr. Cox argues they should be.
 20 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED] 01:43:10

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[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 9 Q Focusing on the issue of whether the
 10 strategic forecast or some other forecast is 01:43:46
 11 appropriate, if you were to adopt Dr. Leonard's
 12 methodology rather than Dr. Cockburn's, do you have
 13 any sense of how your bottom line number of about
 14 \$56 million would be affected?
 15 A Do you mean Dr. Cox's methodology or 01:44:02
 16 Dr. Leonard's? Dr. Cox is -- takes on the --
 17 Q Correct.
 18 If you were not to use the strategic
 19 forecast but you were to use the forecast that
 20 Dr. Cox prefers, have you done any calculation as to 01:44:18
 21 how that would affect your bottom line?
 22 A I have not.
 23 Q Do you have any sense of how using
 24 Dr. Cox's preferred forecast would affect the bottom
 25 line number? Would it cut it in half? Would it -- 01:44:29

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[REDACTED]

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1 A I don't think so. 01:59:07
2 MR. PURCELL: All right. That's all I've
3 got. We can go off the record.
4 THE VIDEOGRAPHER: The time is now
5 1:59 p.m. and we're going off the record. 01:59:29
6 (Brief pause in proceedings.)
7 THE VIDEOGRAPHER: The time is now
8 2:01 p.m. and we're back on the record.
9 FURTHER EXAMINATION
10 BY MR. NORTON: 02:01:46
11 Q All right. I want to talk a little bit
12 about the econometrics.
13 A Okay.
14 Q Now, you conclude that the -- Professor
15 Cockburn's econometric analysis is generally useful 02:01:54
16 and reliable for estimating consumer willingness to
17 pay for both speed and applications?
18 A Yes.
19 Q And then you actually calculate
20 willingness to pay for increased speed and for 02:02:10
21 applications; is that correct?
22 A Correct.
23 Q Now, I want to go through a few points on
24 Professor Cockburn's analysis.
25 He uses eBay data in his econometrics 02:02:22

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[REDACTED]

23 Q All right.
24 So you don't believe you have any sort of
25 double counting or double recovery problem? 01:59:04

1 analysis, correct? 02:02:25
2 A Correct.
3 Q And you agree that that's appropriate?
4 A I think I'm a bit more cautious about
5 that which is to say that, you know, in fairness, 02:02:33
6 we'd like to have information on new phone
7 purchases, but new phone purchases are embedded in
8 plans that are impossible -- so it's impossible to
9 disentangle the phone from the plan. And in those
10 cases, the economists look for reasonable proxies, 02:02:51
11 and the eBay data strikes me as a reasonable
12 proxy, but it has embedded in it an assumption
13 that I've not tested, and I don't think anybody
14 else can test, and that is that the -- and here
15 I'm using "relative" in a very loose way, but the 02:03:08
16 relative preferences for used phones are the same
17 as the relative preferences for new phones.
18 And all I mean by that is that since the
19 econometric estimates what economists term
20 "elasticities," that the elasticity response here 02:03:23
21 is the same for both used and new phone buyers to
22 the degree that eBay phones are used phones. I
23 don't think all of them are but to the degree they
24 are. So there is that assumption that lets you go
25 from the proxy to measuring what you really want to 02:03:40

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<p>1 measure. 02:03:45</p> <p>2 Q Do you know whether Professor Cockburn's</p> <p>3 analysis of eBay data included new phones?</p> <p>4 A I don't. I mean, they're stripped</p> <p>5 phones, so I don't know -- I'd have to go back and 02:03:56</p> <p>6 look at the data. I don't recall.</p> <p>7 Q So you're not aware of whether Professor</p> <p>8 Cockburn has actually analyzed whether the effect on</p> <p>9 its econometrics analysis if you look exclusively at</p> <p>10 the new phones -- 02:04:07</p> <p>11 A No, as I recall, he did that and gets</p> <p>12 about the same results.</p> <p>13 Q And do you disagree with his conclusion</p> <p>14 that when he focuses exclusively on new phones, he</p> <p>15 gets the same results? 02:04:18</p> <p>16 A No, I don't. As I indicated in both the</p> <p>17 conjoint analysis and the econometric analysis,</p> <p>18 the first thing we did, as I think in response to</p> <p>19 Judge Alsup's charge, was to simply ask whether it</p> <p>20 was implemented as represented it was implemented, 02:04:35</p> <p>21 and we were able to replicate Professor Cockburn's</p> <p>22 work, all of his work, and Professor Shugan's</p> <p>23 work, all of their work.</p> <p>24 Q But it's your opinion that use of eBay</p> <p>25 data in Professor Cockburn's econometric study is a 02:04:49</p> <p style="text-align: right;">194</p>	<p>1 And I assume that Dr. Leonard must not have seen it 02:06:05</p> <p>2 because he doesn't criticize it, but you can put in</p> <p>3 an alternative auxiliary regression that does make</p> <p>4 sense in which the coefficients have the right</p> <p>5 signs, for example, and get results similar to 02:06:23</p> <p>6 Professor Cockburn's.</p> <p>7 Again, let me make sure that the answer</p> <p>8 here is understood in the same context as my</p> <p>9 earlier answers with Mr. Purcell, which is, I'm</p> <p>10 using the Leonard implementation of the Cockburn 02:06:43</p> <p>11 model; I'm not estimating the 240-hour estimation</p> <p>12 every time.</p> <p>13 Q Right. Okay.</p> <p>14 And the fix that you described of</p> <p>15 Professor Cockburn's econometric analysis, that had 02:06:59</p> <p>16 to do with patents that are no longer in this</p> <p>17 lawsuit?</p> <p>18 A Yes.</p> <p>19 Q Now, the -- you have an enhanced model for</p> <p>20 willingness to pay, correct? 02:07:14</p> <p>21 A Correct.</p> <p>22 Q And you calculated a willingness to pay</p> <p>23 value for the incremental speed benefits associated</p> <p>24 with the '104 patent, right?</p> <p>25 A Well, I estimated, to be technical -- 02:07:32</p> <p style="text-align: right;">196</p>
<p>1 reasonable proxy? 02:04:53</p> <p>2 A Yes.</p> <p>3 Q And then you're aware of the critiques</p> <p>4 that Dr. Leonard has made of the econometrics</p> <p>5 analysis; is that right? 02:05:00</p> <p>6 A I am.</p> <p>7 Q And you considered those in your report?</p> <p>8 A I have.</p> <p>9 Q And you, nonetheless, conclude that the</p> <p>10 econometrics analysis is useful and reliable -- 02:05:07</p> <p>11 A Yes.</p> <p>12 Q -- as performed by Professor Cockburn?</p> <p>13 A Yes, with one exception. There is --</p> <p>14 and it has to do with the memory patents that are</p> <p>15 excluded. Professor Cockburn did a fix for that 02:05:25</p> <p>16 that I think is problematic. Until that part of</p> <p>17 the -- until those patents were dropped, I did a</p> <p>18 fix that I think is better, but it was a fix, and</p> <p>19 my fix gets tighter results but roughly the same</p> <p>20 results as his fix did but is easier to interpret 02:05:47</p> <p>21 and easier to implement.</p> <p>22 This is an auxiliary regression. It</p> <p>23 turns out it's embedded in the code so you actually</p> <p>24 don't see the regression output, but if you see the</p> <p>25 regression output, it doesn't make a lot of sense. 02:06:02</p> <p style="text-align: right;">195</p>	<p>1 I'm careful here. I estimated the speed benefits 02:07:34</p> <p>2 associated with the Linpack score, and as I made</p> <p>3 clear in my report, I'm not opining on the</p> <p>4 technical effect of the patents. That's a</p> <p>5 different issue, but I've assumed that technical 02:07:46</p> <p>6 effect of the patent is what the Oracle engineers</p> <p>7 have said it is and then gone forward with that</p> <p>8 assumption.</p> <p>9 Q Oracle engineers conducted tests that</p> <p>10 would indicate the -- according to them, the effect 02:08:01</p> <p>11 of removing the '104 patent and the '205 patent from</p> <p>12 an Android phone, correct?</p> <p>13 A That's correct.</p> <p>14 Q And you rely on their tests?</p> <p>15 A Yes. 02:08:12</p> <p>16 Q And there are no Google tests, correct?</p> <p>17 A That's correct.</p> <p>18 Q And the Linpack score, you agree, is a</p> <p>19 useful proxy for the speed that consumers care</p> <p>20 about? 02:08:23</p> <p>21 A Yes, in the sense that -- it's a useful</p> <p>22 proxy in that it bridges from the patent to</p> <p>23 something that you can measure. It's useful in</p> <p>24 that sense. I mean, we're sort of stuck with the</p> <p>25 Linpack score, like it or not, because it's the 02:08:49</p> <p style="text-align: right;">197</p>

<p>1 score in which the patents' effect on speed was 02:08:53 2 measured. So in that sense, it's useful and it 3 has -- has regression validity in the sense that 4 it has coefficients that have, you know, standard 5 errors that make it reliable estimates of the 02:09:08 6 coefficients for that, but we use it because of 7 the fact that it's tied to the patents. 8 Q And then when you did your willingness to 9 pay analysis, you assumed that the -- there would be 10 an 80 percent reduction in the Linpack score if the 02:09:34 11 '104 patent were not included in the Android phone, 12 correct? 13 A Approximately 80 percent, yes. 14 Q And you described that 80 percent estimate 15 as conservative, correct? 02:09:46 16 A Yes. 17 Q And by "conservative," that means that 18 your use of it would tend to understate willingness 19 to pay? 20 A Could, yes. 02:09:56 21 Q Now, the -- you conclude that consumers 22 would pay an additional \$21 more for an average 23 priced Android phone if it had the incremental speed 24 benefits of the '104 patent indicated by the Linpack 25 test; is that right? 02:10:17</p> <p style="text-align: right;">198</p>	<p>1 report -- let me know if you're there. 02:11:59 2 A I'm there. 3 Q You state: 4 "The marginal value 5 contribution of the patents and 02:12:14 6 copyrights in suit is substantial." 7 A I'm sorry, 41? 8 Q Paragraph 41. 9 MR. COOPER: Oh, Paragraph 41. 10 MR. NORTON: Did I say "Page"? 02:12:22 11 MR. COOPER: I thought you said "Page 41." 12 Sorry. 13 THE WITNESS: Yes. 14 BY MR. NORTON: 15 Q So you state there: 02:12:28 16 "The marginal value 17 contribution of the patents and 18 copyrights in suit is substantial." 19 A Yes. 20 Q And there, are you referring to what's 02:12:34 21 indicated by the engineering assessments and the 22 willingness to pay? 23 A Yes. I put it slightly differently, 24 which is, I'm looking at the econometric 25 evaluation of the willingness -- of the technical 02:12:51</p> <p style="text-align: right;">200</p>
<p>1 A Do you want to refer me to the -- 02:10:19 2 Q Sure, I'm sorry. I think you can look at 3 paragraph 400 and Table F9. 4 A Yes. 5 Q So do I understand correctly that based on 02:10:43 6 your econometric study, consumers would pay \$21 more 7 for a phone that had the speed benefits indicated by 8 the Linpack test by the engineers than they would 9 for a noninfringing Android phone? 10 A Yes. 02:10:59 11 Q And you also used your enhanced model to 12 calculate willingness to pay for applications; is 13 that right? 14 A That's correct. 15 Q And if we look at paragraph 401, you found 02:11:07 16 that limiting the number of applications available 17 on the phone between 6,000 and 40,000 results in a 18 reduction in willingness to pay between, on average, 19 12 and \$22; is that right? 20 A That's correct. 02:11:28 21 Q So the willingness to pay for the assumed 22 incremental increase in applications is between 12 23 and \$22 per average-priced Android phone? 24 A Correct. 25 Q Now, if you go to Page 41 of your 02:11:42</p> <p style="text-align: right;">199</p>	<p>1 assessments. 02:12:55 2 Q Okay. 3 And you say: 4 "Google would presumably have 5 been willing to pay up to this 02:12:59 6 amount for the in-suit patents and 7 copyrights." 8 A Yes. 9 Q When you say, "Google presumably would 10 have been willing to pay up to this amount," does 02:13:07 11 "this amount" refer to the per-unit willingness to 12 pay? 13 A No. 14 Q What does that refer -- 15 A This is a general comment that -- I use 02:13:14 16 the econometrics since it's been excluded from 17 market share for the simple proposition that the 18 consumers valued this. There's a lot of talk in 19 the record about they value speed, they value 20 applications, and so on, and what the econometrics 02:13:31 21 shows is they do. 22 And, therefore, that Google, if it had 23 understood that in 2006, would have put a high 24 value, relatively high value on the intellectual 25 property associated with achieving those gains. 02:13:48</p> <p style="text-align: right;">201</p>

█ [REDACTED] █
 █ [REDACTED]
 █ [REDACTED]
 █ [REDACTED]
 █ [REDACTED] █
 █ [REDACTED]
 █ [REDACTED]
 █ [REDACTED]
 █ [REDACTED]

9 **Q Now, if you were to assume that Google did**
 10 **not have good noninfringing alternatives to the APIs** 02:19:59
 11 **or the '104 patent, and you also assume that the**
 12 **willingness to pay calculations are accurate, would**
 13 **that suggest to you that the reasonable royalty for**
 14 **the '104 patent and for the copyrights would both be**
 15 **substantially in excess of what you calculated on** 02:20:19
 16 **Table 8?**

17 MR. PURCELL: Object to the form.
 18 THE WITNESS: I really don't think you can
 19 go there, Mr. Norton. The -- the -- what -- the
 20 reasonable -- I mean, the noninfringing substitutes 02:20:34
 21 available to Google in 2006, as I've argued in
 22 dismissing Dr. Leonard's arguments about this, are
 23 embedded in the offer, so if I believe they agreed
 24 to the February 2006 offer, that embeds and reflects
 25 whatever noninfringing substitutes there are, and so 02:20:51

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1 **to Android are, in fact, correctly allocated to** 02:22:20
 2 **Android?**

3 A Yes and no. I mean, we took the
 4 expenses for what they were, and we talked about
 5 the way -- or tried to analyze how Dr. Cox then 02:22:34
 6 uses those -- how he accounts for those expenses,
 7 whether he amortizes them, over what period of
 8 time he amortizes them, and so forth. And I made
 9 some criticisms about that, but we've not gotten
 10 involved in sort of whether these numbers in the 02:22:51
 11 Google reports are accurate. I mean, I have no
 12 way of knowing.

13 **Q So you have no way of determining whether**
 14 **or not the actual expense items that show up on the**
 15 **P&L really are properly allocated to Android as** 02:23:02
 16 **opposed to some other Google business operation?**

17 A I do not.
 18 **Q So you just take that one on faith?**
 19 A Well, I don't take it on faith. I
 20 assume that, following Dr. Cox, these numbers are 02:23:14
 21 right, and if at trial -- I've been careful here;
 22 it's an important point, which is -- what I've
 23 tried to do is set forth methodologies for doing
 24 these things with an understanding that those
 25 methodologies are implemented with a set of 02:23:29

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1 you can't, then, make a side argument about that. 02:20:55
 2 That's in the number that you're going to allocate
 3 in this, okay?

4 Then, this goes to the issue about what is
 5 an accurate way of apportioning that to these 02:21:06
 6 particular patents and, you know, the difference
 7 between the willingness to pay may sort of cause you
 8 to think hard about whether or not the group and
 9 value method got it right or was in the ballpark.
 10 But beyond that, I don't think it helps. There's no 02:21:25
 11 way for me to go from the willingness to pay to an
 12 adjustment that I ought to make to the group and
 13 value apportionment.

14 BY MR. NORTON:
 15 **Q So I want to talk for a moment on** 02:21:46
 16 **infringer's profits.**

17 **Now, for infringer's profits, you have**
 18 **deducted from Android U.S. revenues its expenses**
 19 **through September 2011, correct?**

20 A Yes. 02:22:04
 21 **Q And the evidence you have for those**
 22 **expenses is Dr. Cox's report; is that correct?**
 23 A That's correct.
 24 **Q And have you done anything to ascertain**
 25 **whether or not the expenses that Dr. Cox allocated** 02:22:15

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1 assumptions, some of which are empirical 02:23:31
 2 assumptions, in which The Court will have better
 3 evidence at the date of trial than any of the
 4 experts had at the point at which they were
 5 implemented. But that the methodology will work, 02:23:42
 6 whatever -- whatever the evidence is at trial.

7 So if the evidence is these costs are
 8 less, or they should have been amortized
 9 differently, then the methodology would have -- you
 10 know, I would tell the jury, if asked, that the 02:23:57
 11 jury needs to make those adjustments, or I would
 12 make the adjustments for the jury and present the
 13 numbers to them.

14 **Q Now, on the topic of infringer's profits,**
 15 **Mr. Purcell asked you some questions about double** 02:24:13
 16 **recovery, and I want to approach it a little bit**
 17 **differently.**

18 **When you cal- -- well, when you calculated**
 19 **the reasonable royalty for copyright, that is based**
 20 **on the 2000 net present value of Sun's anticipated** 02:24:31
 21 **profits from the 2006 transaction, correct?**

22 A Using Google's estimates of Sun's
 23 success, yes.
 24 **Q Google's estimates of the number of units,**
 25 **correct?** 02:24:49

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<p>1 A Yes. That was poorly put. It's not 02:24:49 2 Google's estimates of Sun's success; it's Google's 3 estimates of Android's success. 4 Q But the number that you are using is based 5 on Sun's anticipated profits? 02:24:58 6 A Yes. 7 Q So to the extent that the copyright 8 statute says that a Plaintiff is entitled to actual 9 damages -- 10 I'll ask you to assume that the copyright 02:25:16 11 statute provides that a Plaintiff is entitled to 12 actual damages which can be measured as a lost 13 license or as a lost profit, and in addition to 14 actual damages, the Plaintiff is entitled to 15 infringer's profits to the extent not already 02:25:31 16 counted in the actual damages. 17 A Okay. 18 Q So with that understanding of actual 19 damages, is there any overlap between the 20 infringer's profits and the copyright royalty? 02:25:46 21 A I don't know. 22 MR. COOPER: I'm going to retrospectively 23 object to the question as to form. 24 MR. NORTON: I understand. I'll stick 25 with that, though. 02:26:48</p> <p style="text-align: right;">210</p>	<p>1 Is that much clearer? 02:29:54 2 A Yes. 3 MR. COOPER: And you're asking him to 4 assume that's the statement of the law? 5 MR. NORTON: I am. 02:29:59 6 MR. COOPER: Okay. 7 BY MR. NORTON: 8 Q And then am I correct in understanding 9 that the copyright royalty that you have calculated 10 is based on anticipated profits that Sun would have 02:30:08 11 received from a hypothetical license? 12 A Correct. 13 Q Okay. 14 In that case, and assuming that my 15 statement of the law is correct, is there any 02:30:21 16 overlap between your measure of the copyright, 17 reasonable royalty and your measure of the copyright 18 infringer's profits? 19 A May I ask you a clarifying question? 20 Q Okay. 02:30:40 21 A I mean, is what you're getting at here 22 that there could have been a difference between 23 the expected profits to which was used in 24 calculation of the reasonable royalty and the 25 actual profits that history produced? Is it a 02:30:49</p> <p style="text-align: right;">212</p>
<p>1 THE WITNESS: Just a second. Can I talk 02:27:01 2 to my attorney off the record? 3 MR. NORTON: Let's go off the record. 4 THE VIDEOGRAPHER: The time is 2:27 p.m. 5 and we'll go off the record. 02:27:07 6 (Discussion held off record.) 7 THE VIDEOGRAPHER: The time is now 8 2:29 p.m. and we're back on the record. 9 MR. COOPER: Counsel, I've had an 10 opportunity to confer with Dr. Kearl while we were 02:29:08 11 off the record, and it's apparent that Dr. Kearl 12 didn't understand your question. 13 Can I ask you to rephrase it, please? 14 MR. NORTON: Of course. I'm sorry, that 15 was confusing. 02:29:17 16 BY MR. NORTON: 17 Q So assume that the copyright statute 18 identifies actual damages and infringer's profits, 19 and actual damages can be measured one of two ways: 20 Either lost profits or a lost license fee, a 02:29:32 21 hypothetical license. And the copyright statute 22 further provides that the Plaintiff is entitled to 23 actual damages, plus infringer's profits to the 24 extent the infringer's profits are not taken into 25 consideration in the actual damages. 02:29:50</p> <p style="text-align: right;">211</p>	<p>1 distinction between the forecast and actual? 02:30:56 2 Q Well, I guess my point is just -- 3 I don't believe my question depends on 4 that distinction, so obviously, my question is still 5 not clear. 02:31:07 6 If actual damages can be measured -- 7 Is there anything in your -- 8 Let me ask it this way: Is there anything 9 in your measure of the copyright reasonable royalty 10 that factors in Google's infringer's profits? 02:31:20 11 A I don't think so. 12 Q Okay. 13 A Because the reasonable royalty is based 14 on the -- it starts, as we've discussed a number 15 of times, on the 2006 license and the implied 02:32:50 16 royalty that comes out of that, that included, not 17 infringement, but compliant Android. 18 So the projected profits don't include 19 whatever incremental profits, if any, whichever 20 they go, negative or positive, that might have 02:33:11 21 occurred because you have a -- an Android machine 22 that is not -- or an Android product that is not 23 compliant. 24 Q Okay. 25 Now, you talked a little bit about 02:33:29</p> <p style="text-align: right;">213</p>

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<p>1 Professor Cockburn's group and value approach? 02:33:30</p> <p>2 A Yes.</p> <p>3 Q And when you were referring to Professor</p> <p>4 Cockburn's group and value approach, you're</p> <p>5 referring to the version of the group and value 02:33:36</p> <p>6 approach that was permitted by Judge Alsup which</p> <p>7 uses, in part, Professor Cockburn's lower bound,</p> <p>8 correct?</p> <p>9 A That's correct.</p> <p>10 Q Have you looked at Professor Cockburn's 02:33:47</p> <p>11 group and value upper bound approach?</p> <p>12 A No.</p> <p>13 Q Have you made --</p> <p>14 Did you ever reach any opinions as to the</p> <p>15 reasonableness of the upper bound approach? 02:33:55</p> <p>16 A No. We simply waited for The Court to</p> <p>17 decide on this matter.</p> <p>18 Q Do you have an opinion as to whether the</p> <p>19 upper bound approach is a reasonable version of</p> <p>20 group and value? 02:34:10</p> <p>21 A There are things that go different</p> <p>22 directions here. One is as indicated in my</p> <p>23 report. Professor Cockburn uses three studies,</p> <p>24 picks one that seemed to be out of the norm for</p> <p>25 the academic studies in this area, and I provide 02:34:31</p> <p align="right">214</p>	<p>1 you sort of pick a bunch of independent things, or 02:36:07</p> <p>2 think of it as a conglomerate, a firm that has a</p> <p>3 roll-up of a bunch of independent firms, or you can</p> <p>4 think about a portfolio as a set of things that are</p> <p>5 designed to do one or two, to move forward the 02:36:15</p> <p>6 technology, and you might think of that in terms of</p> <p>7 a vertically integrated firm that has divisions that</p> <p>8 are productive because they're integrated as opposed</p> <p>9 to a conglomerate that has divisions that are</p> <p>10 independent of one another. 02:36:32</p> <p>11 Portfolios are used loosely to describe</p> <p>12 both of those, right, and typically, it's used to</p> <p>13 describe the latter, that is, a group of unrelated</p> <p>14 patents that happen to be assembled by somebody who</p> <p>15 then is sort of licensing the patents for whatever 02:36:41</p> <p>16 use in the portfolio.</p> <p>17 If you think that the Java ME portfolio is</p> <p>18 not that, but it's a portfolio of patents that are</p> <p>19 designed to advance a particular technology, they</p> <p>20 have a particular technology, then it is a bit 02:36:58</p> <p>21 unlike the portfolio studies that Professor Cockburn</p> <p>22 and Dr. Leonard appeal to in that they -- they're</p> <p>23 unlikely to be those kind of portfolios, right?</p> <p>24 And the difference here is that you could</p> <p>25 imagine that there are alternative paths through 02:37:16</p> <p align="right">216</p>
<p>1 some evidence from a paper by John Putnam that 02:34:35</p> <p>2 surveys the license renewal literature and the</p> <p>3 estimates of the value function for the -- for</p> <p>4 the -- for the annual literature that suggest that</p> <p>5 the top 5 percent gets a lower fraction than does 02:34:54</p> <p>6 Professor Cockburn. So this is the difference</p> <p>7 between 77-point something and my 53.3 percent.</p> <p>8 Okay?</p> <p>9 So in that sense, I think he's not -- my</p> <p>10 criticism here is that he could have used the 02:35:15</p> <p>11 universe of studies in this area, and for whatever</p> <p>12 reason, picked a subset, and the better thing would</p> <p>13 be to use the universal studies in the area, in</p> <p>14 which case, you come to a smaller, smaller</p> <p>15 fraction. 02:35:30</p> <p>16 But there is a bit of a problem in all of</p> <p>17 this, and here I think Dr. Leonard gets this quite</p> <p>18 wrong, and we have these synthetic portfolios --</p> <p>19 let me back up. This is a long answer. Witnesses</p> <p>20 are not supposed to give long answers, but my 02:35:49</p> <p>21 lawyer is a nice guy.</p> <p>22 MR. COOPER: We're in a special situation.</p> <p>23 THE WITNESS: Let me be clear about how</p> <p>24 I'm thinking about portfolio. You can think about a</p> <p>25 portfolio as sort of like a stock portfolio, which 02:36:03</p> <p align="right">215</p>	<p>1 this portfolio that are substitutes for one another. 02:37:20</p> <p>2 So, for example, suppose -- to make this simple,</p> <p>3 suppose there are 500 patents in the Java ME</p> <p>4 portfolio, each of which is -- and there are five</p> <p>5 paths, so you only need 100 patents to implement the 02:37:34</p> <p>6 technology. You just need one of them. Then, in</p> <p>7 fact, one -- you don't take one five-hundredths to</p> <p>8 value this; you take one one-hundredth to value</p> <p>9 this, and the mean value is higher, as well, because</p> <p>10 it's the mean of 100. It's the portfolio divided by 02:37:52</p> <p>11 100; not the portfolio divided by 500.</p> <p>12 So there is this problem with the group</p> <p>13 and value approach that I have, and I allude to it</p> <p>14 in several different places about this portfolio</p> <p>15 likely being composed of substitutes and 02:38:05</p> <p>16 complements. There's no evidence in this matter. I</p> <p>17 mean, people talk loosely about their substitutes</p> <p>18 here, but I've seen nothing in the record that</p> <p>19 allows me or Professor Cockburn or Dr. Leonard, or</p> <p>20 anybody else, to tease out that, but it is a 02:38:22</p> <p>21 potential problem, because it treats these 500</p> <p>22 patents as if they were 500 independent patents, and</p> <p>23 there are unlikely to have been 500 independent</p> <p>24 patents. And to the degree there are substitutes in</p> <p>25 there, this means that the group and value method 02:38:35</p> <p align="right">217</p>

1 probably undervalues and maybe substantially 02:38:37
 2 undervalues the top 22 patents.
 3 BY MR. NORTON:
 4 **Q Thank you, that was actually quite**
 5 **helpful. 02:38:57**
 6 **Once you decide to use a group and value**
 7 **approach, do you have an opinion as to whether it's**
 8 **more appropriate to assume that the '104 patent is**
 9 **of average value with the other patents in the top**
 10 **22 or is above average value in the group of the top 02:39:11**
 11 **22?**
 12 MR. PURCELL: Object to form.
 13 THE WITNESS: I have no evidence one way
 14 or the other. There is this citation evidence.
 15 There were disputes about the citation evidence. I 02:39:22
 16 suppose if the citation evidence had been more fully
 17 developed and account had been made for the fact
 18 that some of the patents are shorter-lived and some
 19 of the patents had been renewed, perhaps citation.
 20 But the record here is really messy and, therefore, 02:39:36
 21 I don't think that there's anything for me to rely
 22 on that would suggest to me that this -- the
 23 '104 was anything other than a group of 22 and,
 24 therefore, your best guess, if you're uninformed --
 25 the uninformed prior here is the mean. 02:39:55

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1 A I need to check on something here. I'm 02:41:12
 2 blanking on one thing, and it goes to a question
 3 that Mr. Purcell asked me, as well, so let me
 4 clarify.
 5 I don't know if we -- if the denominator 02:41:42
 6 here is Apple plus Android or the denominator is
 7 Apple plus Android, plus all of the other operating
 8 systems, including the -- the --
 9 MR. COOPER: BlackBerry?
 10 THE WITNESS: -- BlackBerry. Including 02:41:59
 11 BlackBerry. If it's that, then I have accounted for
 12 the BlackBerry issue, because I'm just using their
 13 market share of this larger pie, in an answer to an
 14 earlier question today. And in this case, I'm just
 15 using the actual shares. 02:42:18
 16 MR. NORTON: Let me mark Exhibit 479.
 17 [sic]
 18 (Deposition Exhibit 579 marked
 19 for identification.)
 20 [REDACTED]
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED] 02:43:07
 25 [REDACTED]

220

1 BY MR. NORTON: 02:40:00
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
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 22 [REDACTED]
 23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED]

219

1 [REDACTED]
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED]
 5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 **Q But, in fact, the number that you have in**
 10 **row 8 is exactly the same as Dr. Cox's Exhibit 4B, 02:43:23**
 11 **row G, and what I've marked as Exhibit 479 I'll**
 12 **represent to you is Dr. Cox's 4B with highlighting**
 13 **and two additional lines added for explanation. But**
 14 **the A through G lines are the same as they appeared**
 15 **in Dr. Cox's report. 02:43:47**
 16 A You're correct.
 17 **Q I'm sorry, what is correct?**
 18 A You are correct.
 19 **Q You've only said it twice, but I've made**
 20 **you say it four times. 02:44:13**
 21 **To do your Table 10, would it be correct**
 22 **to use the line that appears immediately beneath on**
 23 **G on Exhibit 479 to determine the percent of lost**
 24 **Java ME profits attributable to Android?**
 25 A Yes. 02:44:39

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1 Q So that would -- 02:44:40
 2 If you were to plug those numbers in to
 3 your Table 10, that would increase the total Java ME
 4 lost profits, assuming everything else stays the
 5 same? 02:44:50
 6 A I think so. I think you're correct.
 7 Q You could go back and rerun those numbers,
 8 right?
 9 A Yes.
 10 Q I'm not asking you to do that right now, 02:45:02
 11 but you could make those adjustments and generate
 12 new Java ME lost profits and --
 13 A Yeah, let me -- let me answer more
 14 cautiously, if you'll permit, which is, it appears
 15 I've made a mistake here, and to the degree I've 02:45:13
 16 made a mistake, I will fix the mistake, but I'll
 17 need to go back and look and see whether or not
 18 the actual Excel sheets and the things we did this
 19 with, in fact, reflect the mistake and whether it
 20 was a mistake. 02:45:30
 21 So if it's a mistake, I will notify both
 22 parties that I've made an error in this case, of
 23 course.
 [REDACTED]
 [REDACTED] 02:45:43
 222

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED] 02:46:16
 11 MR. NORTON: Thank you very much. I
 12 appreciate your time today. I have nothing further.
 13 THE VIDEOGRAPHER: This marks the end of
 14 Disk 3 of 3 and concludes the deposition of James
 15 Kearl. The time is now 2:46 p.m. and we're going 02:46:28
 16 off the record.
 17 Thank you, Counsel.
 18 (Time noted: 2:46 p.m.)
 19
 20
 21
 22
 23
 24
 25
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1 STATE OF CALIFORNIA)
) :ss
 2 COUNTY OF SAN FRANCISCO)
 3
 4 I, KELLI COMBS, CSR NO. 7705, a Certified Shorthand
 5 Reporter of the State of California, do hereby certify:
 6 That the foregoing proceedings were taken before me
 7 at the time and place herein set forth; that any
 8 witnesses in the foregoing proceedings, prior to
 9 testifying, were placed under oath; that the verbatim
 10 record of the proceedings was made by me using machine
 11 shorthand which was thereafter transcribed under my
 12 direction; further, that the foregoing is an accurate
 13 transcription thereof.
 14 I further certify that I am neither financially
 15 interested in the action nor a relative or employee of
 16 any attorney of any of the parties.
 17 IN WITNESS WHEREOF, I have this date subscribed my
 18 name.
 19
 20 Dated: March 27, 2012
 21
 22
 23
 24 _____
 KELLI COMBS, CSR NO. 7705
 25
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EXHIBIT H



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<i>User 3</i>	<i>User 11</i>
<i>User 4</i>	<i>User 12</i>
<i>User 5</i>	<i>User 13</i>
<i>User 6</i>	<i>User 14</i>
<i>User 7</i>	<i>User 15</i>
<i>User 8</i>	

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Status

<i>Last Reach</i>	<i>ID/Status</i>
<i>Last Meeting</i>	<i>Last Results</i>
<i>Last Attempt</i>	<i>Public/Private</i> Public

Notes/History

	<i>Date Range:</i>	All Dates	
Note	11/12/07	5:44 PM	Google today released the Android S/W SDK.
Note	5/26/06	7:53 PM	After many meetings incl. Alan Brenner, it was agreed that the two companies cannot come to a meeting of minds on how to work together re CDC-HI and open source.
Note	8/19/05	7:52 PM	Andy is interested in CDC-HI for wireless devices.
Note	8/5/05	10:45 PM	Andy informed me today that the co. by which Android Research was acquired was Google. Vineet and I w/meet w/Andy and Tim Lindholm at on Fri. 8/19 at Google.

Created 2/26/2011 at 11:34 AM

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UNITED STATES DISTRICT COURT
 NORTHERN DISTRICT OF CALIFORNIA
TRIAL EXHIBIT 2720
 CASE NO. 10-03561 WHA
 DATE ENTERED _____
 BY _____
 DEPUTY CLERK