

# Exhibit B

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

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

CONFIDENTIAL TESTIMONY - ATTORNEYS' EYES ONLY

VIDEOTAPED DEPOSITION OF ROBERT GRIESEMER  
THURSDAY, JUNE 23, 2011

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Videotaped Deposition of ROBERT GRIESEMER,  
taken at 333 Twin Dolphin Drive, 4th Floor,  
Redwood Shores, California, commencing  
at 9:32 p.m., Thursday, June 23, 2011,  
before Kelli Combs, CSR No. 7705.

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12 ALSO PRESENT:  
13

14 NICK KASAMATIS, videographer  
15  
16  
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1 ROBERT GRIESEMER,  
2 after having been duly sworn, testified as follows:

3 ---o0o---

4  
5 THE VIDEOGRAPHER: Good morning. We're 9:32AM  
6 on the record at 9:32 on June 23rd, 2011.

7 This is the videotaped deposition of  
8 Robert Griesemer. My name is Nick Kasamatis, here  
9 with our court reporter, Kelli Combs. We are here  
10 from Veritext National Deposition & Litigation 9:33AM  
11 Services at the request of counsel for Plaintiff.

12 This deposition is being held at King &  
13 Spalding, 333 Twin Dolphin Drive in the City of  
14 Redwood Shores.

15 The caption of this case is Oracle of 9:33AM  
16 America versus Google, Inc., Case Number CV 10-03561  
17 WHA.

18 Please note that audio and video recording  
19 will take place unless all parties agree to go off  
20 the record. Microphones are sensitive and may pick 9:33AM  
21 up whispers, private conversations, and cellular  
22 interference.

23 At this time, will counsel and all present  
24 please identify themselves for the record.

25 MR. JACOBS: Michael Jacobs, Morrison & 9:33AM

1 policies at Sun that specifically related to 2:38PM  
2 retention by Sun of, for example, notebooks of  
3 individuals who had been named as inventors on any  
4 patents?

5 A I don't remember. 2:38PM

6 Q Okay.  
7 I'd like to go back to some of your  
8 earlier testimony, Mr. Griesemer, about the '205  
9 patent, so if you could get it back in front of you.  
10 It's PX164. 2:38PM

11 And I just want to be sure that the  
12 testimony you have given is clear for both The Court  
13 and a jury to the extent they ever hear your  
14 testimony about this patent.

15 In response to Mr. Jacobs' questions, you 2:39PM  
16 identified at least three different techniques for  
17 optimizing performance of a virtual machine,  
18 correct?

19 A Yes.  
20 Q One of them was the so-called snippet 2:39PM  
21 technique that is described in the '205 patent,  
22 correct?

23 A Correct.

24 Q You also testified to some length about  
25 in-line caching, correct? 2:39PM

1 A Correct. 2:39PM

2 Q And you also testified about something  
3 called on-stack replacement, correct?

4 A Correct.

5 Q I'd like you to go back in time with me 2:39PM

6 for a second to the time when you were working at  
7 Animorphic and then when you were working at Sun, up  
8 until the time the first patent application that  
9 became the '205 patent was filed, which would be

10 June 30th of 1997, okay? 2:39PM

11 A Yes.

12 Q The timeframe I want to focus on is your  
13 time at Animorphic up until June 30th, 1997 at Sun,  
14 okay?

15 A Yes. 2:39PM

16 Q During that time period, do you believe  
17 that what you came up with in terms of the snippet  
18 technique was something new?

19 A I must have, but I don't recall.

20 Q Okay. 2:40PM

21 During that same time period, do you  
22 believe that you came up with anything new that  
23 related to techniques for in-line caching?

24 A They were very, very platform-specific  
25 variations of it. 2:40PM



1 Q When you say "platform-specific 2:40PM  
2 variations," what do you mean?

3 A I found that on the X86 platform, you  
4 could use an instruction that was not doing  
5 anything, so to speak, in the code to store -- to 2:40PM  
6 store some in-line cache information.

7 Q Okay.  
8 And during that same time period we're  
9 talking about now, your Animorphic days and then  
10 through June 30th of 1997 at Sun, do you believe you 2:41PM  
11 came up with anything new with respect to on-stack  
12 replacement?

13 A I don't recall.

14 Q Okay.  
15 And now I'd like you to look at the '205 2:41PM  
16 patent.

17 The '205 patent does describe and explains  
18 the snippet technique, correct?

19 A Correct.

20 Q And it describes the snippet technique 2:41PM  
21 both can be used with in-line caching and without  
22 in-line caching, correct?

23 A Correct.

24 Q Okay.  
25 You mentioned a few minutes ago some very 2:41PM

1 specific platform-specific techniques for in-line 2:41PM  
2 caching that you believe you developed during those  
3 days.

4 Are any of those platform-specific  
5 techniques for in-line caching described in the '205 2:41PM  
6 patent?

7 A I believe they are not.

8 Q Okay.

9 And do you believe that any techniques  
10 that you were using or came up with for on-stack 2:41PM  
11 replacement during that time period are described in  
12 the '205 patent?

13 A No.

14 Q Okay.

15 I believe you also testified that at one 2:42PM  
16 point, there was a use in the HotSpot Virtual  
17 Machine of the snippet technique that's described in  
18 the '205 patent, correct?

19 A Yes.

20 Q And if I recall, your testimony is you're 2:42PM  
21 not sure when that was taken out, whether it was  
22 still at Animorphic or whether it was at Sun; is  
23 that right?

24 A Correct.

25 Q Okay. 2:42PM

1           If you had available to you today the           2:42PM  
2    source code for the HotSpot Virtual Machine going  
3    back into that time period, would it be easy or  
4    difficult for you to determine when the snippet  
5    technique was discontinued?                           2:42PM

6           A     It would be very easy.

7           Q     How would you do it?

8           A     There -- in this patent, there is a  
9    specific bytecode described.  It's called go\_native,  
10   which was used to invoke those snippets.           2:42PM

11           In the HotSpot Virtual Machine, there is a  
12   table of all the bytecodes.  And if that bytecode is  
13   in that table, then -- and active -- it could be in  
14   the table, but is deactivated.  But if it's in a  
15   table and active, then the technique is in use.  If     2:43PM  
16   it's not -- if it's not in a table at all, it's for  
17   certain not there.  If it's in a table, one would  
18   have to make sure it's actually invoked, but that  
19   would be fairly easy.

20           Q     Okay.                                     2:43PM

21           And you testified that the use of this  
22   snippet technique that's described in the '205  
23   patent was discontinued in the HotSpot Virtual  
24   Machine, correct?

25           A     I believe that's correct.                   2:43PM

1 Q Why was it discontinued?

2:43PM

2 A Because when you have a system where you  
3 both have an interpreter, but also a compiler or a  
4 JIT, then the benefit of having snippets is unclear  
5 and maybe actually counterproductive because of the  
6 complexity it introduces into the system.

2:43PM

7 Q Okay.

8 And what experience did you have or  
9 what -- what happened during the time period that  
10 the snippet technique was in use in the HotSpot  
11 Virtual Machine that led you to conclude that it was  
12 not beneficial?

2:44PM

13 A I believe we had measurements that show it  
14 didn't make a difference.

15 Q Okay.

2:44PM

16 Did you have --

17 When you say -- you say you had  
18 measurements that it didn't make a difference, are  
19 you saying you had measurements that there was no  
20 improvement of performance or that any improvement  
21 of performance was offset by the cost of having it  
22 in there in the first place?

2:44PM

23 A I don't recall, but they seem to be the  
24 same at the end of the day, yeah.

25 Q Okay.

2:44PM

1           And during your testimony with Mr. Jacobs,           2:44PM  
2           you referred several times -- and again, I just want  
3           to make sure your testimony is clear to a  
4           layperson -- you talked about the cost of something,  
5           doing something in a program, and you also talked           2:45PM  
6           about overhead.

7           Could you explain what those two concepts  
8           are when you use them in terms of the performance of  
9           a virtual machine?

10          A       So this is all about making programs run           2:45PM  
11          faster.

12                 And so by cost, one usually refers to, in  
13                 this context, the extra time it takes to run a  
14                 program. So if it takes more time, then it means  
15                 that there is an extra cost.                           2:45PM

16                 Overhead goes into the same direction.  
17                 Implementing the snippets causes some extra  
18                 machinery to be executed, which one might casually  
19                 refer to as overhead. So if that overhead is not  
20                 offset by performance gains that are at least as           2:45PM  
21                 large, then you end up with an extra cost at the  
22                 end.

23          Q       Okay.

24                 And again, just on these different  
25                 techniques that we talked about -- make sure we're           2:46PM

1 clear -- the snippet technique you felt was 2:46PM  
2 something new that you came up with, correct?

3 A That Lars and I came up with.

4 Q In-line caching was old and known and  
5 people had been doing for quite some time? 2:46PM

6 A That is correct.

7 Q Is the same true of on-stack replacement?

8 A I don't recall when on-stack replacement  
9 was introduced the first time. It may have been at  
10 Animorphic. 2:46PM

11 Q How about use of a just-in-time compiler?  
12 Was that something that was new with Animorphic?

13 A No.

14 Q That had been done for many years before  
15 that? 2:46PM

16 A In fact, we had a paper that referred to  
17 it.

18 Q Now, during the time that you were at Sun  
19 from approximately February of 1997 until November  
20 of 2001, right, that was your time at Sun? 2:47PM

21 A Yes.

22 Q Were you familiar with the different  
23 virtual machines that were being offered by Sun or  
24 any licensees of Sun?

25 A I did not follow any of Sun's offerings. 2:47PM

1 Q Okay. 2:47PM

2 Were you familiar with the HotSpot Virtual  
3 Machine during that time period?

4 A I was familiar because I was familiar with  
5 it in the past, but I have not followed its 2:47PM  
6 development.

7 MR. JACOBS: I think you disconnected on  
8 that.

9 MR. BABER: Yeah, I think we did, too.

10 BY MR. BABER: 2:47PM

11 Q I'm talking about during the time you were  
12 at Sun.

13 A Oh, during the time at Sun. Okay.

14 Of course I was familiar with the HotSpot  
15 Virtual Machine, yes. 2:47PM

16 Q Were you also familiar, during that same  
17 time, with other virtual machines that were being  
18 developed or commercialized at Sun or by Sun's  
19 licensees?

20 A I have heard of other virtual machines, 2:47PM  
21 yes.

22 Q And during your time at Sun, you worked  
23 not just on the HotSpot Virtual Machine, but you  
24 worked on other Sun virtual machines for the Java  
25 language, correct? 2:48PM





1 I, ROBERT GRIESEMER, do hereby declare under penalty of  
2 perjury that I have read the foregoing transcript; that  
3 I have made any corrections as appear noted, in ink,  
4 initialed by me; that my testimony as contained herein,  
5 as corrected, is true and correct.

6 EXECUTED this \_\_\_\_\_ day of \_\_\_\_\_, 2011, at

7 \_\_\_\_\_, \_\_\_\_\_.

8 (city)

(State)

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13 ROBERT GRIESEMER  
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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: June 27, 2011  
21

22  
23 \_\_\_\_\_  
24 KELLI COMBS, CSR No. 7705  
25