Oracle America, Inc. v. Google Inc. Doc. 1085

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ORACLE AMERICA, INC. Plaintiff, v. GOOGLE INC. Defendant.	Case No. CV 10-03561 WHA **ORACLE AMERICA, INC'S OPPOSITION TO GOOGLE'S MOTION IN LIMINE TO EXCLUDE EVIDENCE REGARDING COMPATIBILITY TESTING SUITE** Dept.: Courtroom 8, 19th Floor Judge: Honorable William H. Alsup

Dockets.Justia.com

Oracle opposes Google's motion to exclude evidence regarding the Android Compatibility Test Suite ("CTS").

I. THE CTS PROVIDES PROOF OF INFRINGEMENT OF THE '104 PATENT

Google's Compatibility Definition Document (TX 2802) requires Android devices to meet certain performance characteristics in order to be certified as Android-compatible: "Compatible implementations must ensure not only that applications simply run correctly on the device, but that they do so with reasonable performance and overall good user experience. Device implementations MUST meet the key performance metrics of an Android 2.3 compatible device," as specified in the document. (TX 2802 at 122; *see also* Brady Topic 9 Dep. 121:6-128:1, attached as Exhibit A; Morrill Dep. 167:3-169:20, attached as Exhibit B.)

The CTS ensures that devices meet these characteristics through testing. Some CTS tests test the performance of Android phones—these tests are highly relevant to Oracle's infringement claims. The fact that OEM device manufacturers must pass these tests before calling their phone "Android" suggests that they have not changed Android's symbolic reference resolution functions, which would significantly and negatively affect performance. The Android Gingerbread source code (TX 47) includes a number of CTS performance tests:

- 0047\gingerbread23 - GOOGLE-00-00000527\cts\tests\tests\performance\src\android\performance\cts\MultiAppStartupTest.java (Tests that restart of calculator takes less time than start of calculator)
- 0047\gingerbread23 - GOOGLE-00-00000527\cts\tests\tests\performance2\src\android\performance2\cts\AppStartup.java (Tests for average MusicBrowserActivity in com.android.music startup time of less than 500 milliseconds)
- 0047\gingerbread23 - GOOGLE-00-00000527\cts\tests\tests\performance3\src\android\performance3\cts\AppStartup.java (Tests for average BrowserActivity in com.android.browser startup time of less than 1300 milliseconds)
- 0047\gingerbread23 - GOOGLE-00-00000527\cts\tests\tests\performance4\src\android\performance4\cts\AppStartup.java (Tests for average ui.ConversationList in com.android.mms startup time of less than 700 milliseconds)

- 0047\gingerbread23 - GOOGLE-00-00000527\cts\tests\tests\performance5\src\android\performance5\cts\AppStartup.java (Tests for average AlarmClock in com.android.alarmclock startup time of less than 650 milliseconds)

The CTS thus provides circumstantial evidence that OEMs include on their devices the infringing functionality that Google provides to them.

II. THE CTS PROVIDES PROOF OF INFRINGEMENT OF THE '520 PATENT

The Court should allow Oracle to present evidence regarding the Android CTS for the '520 patent because the CTS directly tests the accused behavior in Android. Specifically, the CTS includes a test for the fill-array-data instruction that the Android code accused of infringement creates. (*See* TX 47 at 0047\gingerbread23 - GOOGLE-00-00000527\cts\tools\vm-tests\src\dot\junit\opcodes\fill_array_data\Test_fill_array_data.java.) That OEMs pass these tests suggests that they do not change Dalvik's ability to execute the fill-array-data instruction, a Dalvik instruction used for array initialization. Indeed, the final step in claim 1 of the '520 patent is "interpreting the instruction by a virtual machine to perform the static initialization of the array." By requiring OEMs to pass the CTS to certify their devices as Android-compatible, Google actually requires them to perform a step of the patented method (a step that Google has refused to admit that its licensees perform, the Court may recall). This evidence is highly probative, and the jury should hear it.

Google's only argument to exclude CTS evidence for the '520 patent is that "the CTS includes no tests directed at the Android Software Development Kit." That is flat wrong. The CTS includes tests directed to confirm the proper functioning of dx tool's simulation of Java bytecodes that participate in static array initialization. (*See, e.g.*, bytecode tests in 0047\gingerbread23 - GOOGLE-00-00000527\cts\tools\dx-tests\src\dxc\junit\opcodes (opcodes newarray, iastore, lastore, fastore, dastore, aastore, bastore, and sastore).) The dx tool is part of the Android SDK, and is part of the software accused of infringing the '520 patent. If any developer or OEM were to change the dx tool, speculation for which there is no evidence, the CTS tests suggest that the manner of creating the fill-new-array instruction would not be changed.

III. GOOGLE'S OBJECTIONS ARE INSUFFICIENT TO EXCLUDE THIS EVIDENCE

Google claims that Professor Mitchell did not utilize performance tests to prove infringement. In fact, Professor Mitchell refers to the performance tests of the CTS in paragraph 188 of his opening report, which Google attached to its motion as Exhibit C.

Google's argument that testimony in this area would duplicate Phase I testimony (ECF No. 1080 at 5) is false. Mr. Morrill's testimony during Phase I did not cover tests for the Dalvik Virtual Machine, let alone performance tests. Oracle expects Mr. Morrill's and Mr. Brady's testimony to confirm the presence of the patented technology.

IV. CONCLUSION

For the reasons stated above, the Court should deny Google's motion to exclude the CTS evidence from trial.

Dated: May 6, 2012

MORRISON & FOERSTER LLP

By: /s/ Marc David Peters

Attorneys for Plaintiff
ORACLE AMERICA, INC.

EXHIBIT A

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

_____

ORACLE AMERICA, INC.,)

Plaintiff,)

vs.) No. CV 10-03561 WHA

GOOGLE, INC.,)

Defendant.)

_____)

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Videotaped Deposition of DANIEL MORRILL, taken at 333 Twin Dolphin Drive, Suite 400, Redwood Shores, California, commencing at 9:43 a.m., Tuesday, July 12, 2011, before Leslie Rockwood, RPR, CSR No. 3462.

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MS. TERAGUCHI: Yuka Teraguchi of Morrison & Foerster for plaintiff Oracle America.

MR. WEINGAERTNER: Scott Weingaertner of King & Spalding for Google.

MR. KAMBER: Matthias Kamber of Keker & Van Nest for Google. 09:41:11

MR. HWANG: Renny Hwang of Google.

THE VIDEOGRAPHER: Thank you, Counsel.

The witness will be sworn in and we may proceed. 09:41:21

THE REPORTER: Would you raise your right hand, please, Mr. Morrill.

You do solemnly state that the evidence you shall give in this matter shall be the truth, the whole truth and nothing but the truth, so help you God.

THE WITNESS: I do.

THE REPORTER: Thank you.

EXAMINATION

BY MR. MUINO:

Q. Good morning, Mr. Morrill. 09:41:34

A. Good morning.

Q. Can you please state your full name for the record.

A. My full name is Daniel Lawrence Morrill.

Q. And what is your home address? 09:41:43

do you know if one of the optimizations performed by the dexopt tool is to change symbolic references in the DEX bytecode to the memory location of the data referred to by those references?

A. I don't know either way. 15:33:39

Q. Okay. With respect to the dexopt tool, do you know if one of the optimizations that it makes is to change certain bytecode instructions into in-line native code?

A. I don't know either way. 15:33:54

MR. WEINGAERTNER: Object to the form.

Q. BY MR. MUINO: Okay. Let's go back to the Android 2.2 compatibility definition.

A. Uh-huh.

Q. And take a look at page 10, Section 5. And 15:34:06 this is the application packaging compatibility. It's entitled "Application Packaging Compatibility." The first sentence says: "Device implementations must install and run Android.APK files as generated by the AAPT tool included in the official Android SDK." 15:34:28

Do you see that?

A. I do.

Q. Second paragraph says: "Device implementations must not extend either the .APK, Android manifest, the Dalvik bytecode formats in such a way that 15:34:42

would prevent those files from installing and running correctly on other compatible devices. Device implementers should use the reference upstream implementation of Dalvik and the reference implementations package management system." 15:34:56

Do you see that?

A. I do.

Q. Did you author this -- those two paragraphs?

A. In this form, yes, but I did not originate this section. 15:35:14

Q. Okay. The last sentence that I read there with respect to the reference upstream implementation of Dalvik, does that refer to the Dalvik virtual machine?

A. It would refer to the source code of the Dalvik virtual machine, yes. 15:35:27

Q. Okay. And pursuant to the CDD, Google is instructing the device implementers should use the Dalvik source code; is that correct?

A. Device as it is written, device implemented -- -- device implementers should use the 15:35:47 reference upstream implementation.

Q. Okay.

A. It's probably worth noting that this is merely a reinforcement of the language in section -- well, in Section 1 in the introduction where we refer to, 15:36:06

again, the reference implementation and the upstream Android Open Source Project.

Q. Okay. Let's refer to Section 10 now. This is on page -- page 18. I'm sorry, I misspoke. Let's look at Section 9 on page 17. It's the bottom of page 17. 15:36:35

And the first paragraph, the first sentence there says: "One of the goals of the Android compatibility program is to enable consistent application experience to consumers. Compatible implementations must ensure not only that applications simply run correctly on the device, but that they do so with reasonable performance and overall good user experience." 15:36:49

Do you see that?

A. I do see that. 15:37:03

Q. Did you write that portion?

A. I actually think I did not, but I don't recall clearly.

Q. Okay. Do you have an understanding of what "reasonable performance" means here? 15:37:23

A. In context it would refer to the contents of the table immediately following, but I do not have a precise answer for what "reasonable performance" would be meant -- or would mean here.

Q. Okay. Is it a requirement of the CDD that 15:37:48

Android devices meet the performance thresholds that are shown in the chart below in this Section 9?

A. Section 9 is included in the CDD, and the CDD is the definition of a compatible device, yes. Compatible devices must meet the performance specifications in the table -- or in Section 9. 15:38:08

Q. Okay. And if you look at the table there, the first row of the table, well, second row, the first row of data is application -- says "application launch time." And the second column there says: "The following applications should launch within the specified time: Browser less than 1300 milliseconds, MMS-SMS less than 700 milliseconds, alarm clock less than 650 milliseconds." 15:38:24

Do you see that? 15:38:46

A. I do.

Q. Okay. It's required for an Android-compatible device that these applications launch in these specified times in order to be compatible under the CDD; is that right? 15:38:59

A. That is correct.

Q. Why is -- why is speed important to Google for the launch of applications?

A. Because an end-user might obtain a phone and unknowingly purchase a, you know, poor quality phone, 15:39:23

such as it might have an obsolete processor in it or it might have a, you know -- excuse me -- a poor driver implementation or some other defect that makes it unreasonably slow or at least slower than its competitors in its class. 15:39:43

This user would then install applications on it, you know, such as from Android market and then judge the quality of those applications in a negative light because the device is slow. In other words, the device's poor performance would reflect -- in the user's eyes, 15:40:00 would reflect poorly on the application. Whereas if the user were more informed and knowledgeable, they would know that the blame should properly be placed on the OEM.

The intent of this section in the CDD is to make sure that Android devices meet a minimal threshold 15:40:17 of performance to rule out the scenario that I just described. So that we can rely on the fact that applications will launch in a reasonable amount of time and that the user will not blame third-party developers for the errors or implementation issues of an OEM. 15:40:36

Q. Is the launch speed of applications something that's important to consumers?

A. In the way I just described, yes.

Q. Okay. And are you aware of portions of Android or elements of Android that are designed to 15:41:01

increase the speed of the launch of applications?

MR. WEINGAERTNER: Objection to form.

THE WITNESS: Yes. We have several performance optimization avenues that we routinely pursue in launching a device. 15:41:21

Q. BY MR. MUINO: Okay. And tell me the ones that you're aware of.

A. Sure. One example is the specific type and nature of the -- you know, would we call the flash part or the storage chip. Some models are faster than others; 15:41:40 some storage types or classes are faster than others.

Another example is the -- the file system in use on that partition. In some cases, the -- for example, I believe today we use the X4 -- EXT 4 file system because it tends to be faster and more reliable 15:42:08 than the file systems we've used previously.

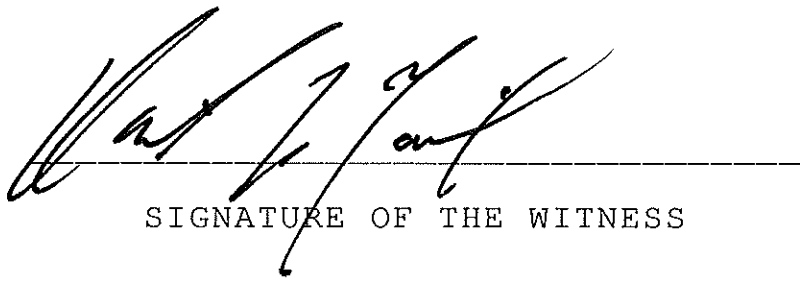
We have a variety of deferred loading, you know, and load-on-demand techniques that we use in the software, and we have a variety of pre-caching or pre-loading techniques that we use, one of which is the 15:42:31 dexopt tool that you referred to previously, and another is the Zygote technique that you also referred to previously.

Q. Okay.

A. There are others, but those are two of the 15:42:43

I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on 15 August, 2011, 2011, at Mountain View, California.



SIGNATURE OF THE WITNESS

STATE OF CALIFORNIA) ss:
COUNTY OF MARIN)

I, LESLIE ROCKWOOD, CSR No. 3462, do hereby certify:

That the foregoing deposition testimony was taken before me at the time and place therein set forth and at which time the witness was administered the oath;

That testimony of the witness and all objections made by counsel at the time of the examination were recorded stenographically by me, and were thereafter transcribed under my direction and supervision, and that the foregoing pages contain a full, true and accurate record of all proceedings and testimony to the best of my skill and ability.

I further certify that I am neither counsel for any party to said action, nor am I related to any party to said action, nor am I in any way interested in the outcome thereof.

IN WITNESS WHEREOF, I have subscribed my name this 15th day of July, 2011.

Leslie Rockwood

LESLIE ROCKWOOD, CSR. NO. 3462

EXHIBIT B

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

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

-- HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY --

Videotaped Federal Rule 30(b)(6), Topic 9, deposition of PATRICK BRADY, taken at the law offices of King & Spalding LLP, 333 Twin Dolphin Drive, Redwood Shores, California, commencing at 2:24 p.m., Thursday, July 21, 2011, before Leslie Rockwood, RPR, CSR No. 3462.

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Flexner for plaintiff Oracle America.

MR. KAMBER: Matthas Kamber of Keker & Van Nest for Google, Inc.

THE VIDEOGRAPHER: Thank you.

Will the reporter please swear the witness. 14:26:21

THE REPORTER: Raise your right hand, please.

You do solemnly state that the evidence you shall give in this matter shall be the truth, the whole truth and nothing but the truth so help you God --

THE WITNESS: I do. 09:38:38

THE REPORTER: Thank you.

THE VIDEOGRAPHER: -- thank you.

Please proceed.

EXAMINATION

BY MR. NORTON: 14:26:39

Q. Good afternoon.

A. Good afternoon.

Q. As you heard, my name's Fred Norton. I represent Oracle. As I mentioned before we went on the record, obviously you were already deposed on another 14:26:48 subject matter earlier today, and so I'm going to try not to go over things that were already covered. But from time to time I'll have to ask you a question just to set up the context. But I'll try to be as respectful of your time as I can be and get out of here as quickly as we can 14:27:07

Q. And do you recall when this was?

A. I want to say that these conversations came up. Things with Vodafone move slow at times. So this -- I want to say it spanned the second half of 2009 and 2010. 17:53:48

Q. Okay. And if you turn to the prior page, still in Exhibit 230, there's a Section 9 called "Performance Compatibility."

A. Yep.

Q. Would you just read aloud the three sentences that appear there? 17:54:06

MR. KAMBER: Object to the form.

THE WITNESS: The three sentences that appear directly underneath 9 -- the section heading?

Q. BY MR. NORTON: Yes. Just read it out loud please. 17:54:22

MR. KAMBER: Same objection.

THE WITNESS: As the document reads: "One of the goals of the Android compatibility program -- of the Android compatibility program is to enable consistent application experience to consumers. Compatible implementations must ensure not only that applications simply run correctly on the device but that they do so with reasonable performance and overall good user experience. Device implementations must meet the key 17:54:30 17:54:50

performance metrics of the Android 2.2 compatible device defined in the table below."

Q. BY MR. NORTON: And then there's a table that has criteria set forth there; right?

A. Yeah. 17:55:04

Q. Now, is there any testing that Google does to ensure -- and does the CTS test to see whether devices satisfy the criteria set forth in Section 9?

A. I believe it does test some of these, yeah.

Q. All right. And the specific criteria that 17:55:25 are set out here are application launch time and then simultaneous applications?

A. Yes.

Q. And under application time, the standard is that the following applications should launch within the 17:55:37 specified time, the browser less than 1300 milliseconds MMS/SMS less than 700 milliseconds and alarm and clock less than 650 milliseconds; is that right?

A. Alarm clock is a single application here.

Q. Oh, thank you. 17:55:58

And so that's -- in the case of the browser, 1.3 seconds to connect, 1300 milliseconds?

A. If my math is correct, yes.

Q. And why does Google care how quickly these things launch? 17:56:15

A. Well, when -- one of the things that we found when we had the OEMs making Android devices -- porting the Android platform to their devices and running this is sometimes the -- the -- this talks about user experience. But it's also developer experience. 17:56:38

So Rovio, for example, is very upset when their app runs very slowly. And they get complaints. Or they'll get returns, if it's a paid app. Or their app will be rated poorly. And, you know, the app developer has basically, you know, nothing much they can do; right, 17:56:57 if the device is just too slow?

And so here we're trying to put some, you know, we think fairly conservative and not onerous requirements on OEMs to maintain some minimum level of performance for users and application developers so that 17:57:20 it's a reasonable experience.

Q. Okay. Other than the concern that developers will have a bad experience because they might get complaints or returns, are there other reasons why Google wants to -- has as a goal to enable consistent 17:57:41 application experience to consumers?

A. It's really -- from a compatibility standpoint, it's really about developers. So I'll state -- you know, consumers indirectly drive, you know, the developer experience, I guess I should say. The 17:58:02

consumer experience drives the developer experience, if that makes sense.

So when a device -- you know, an application developer creates an application that -- a great application, but the device executes that application poorly, the developer has a bad experience, because they may get rated poorly. They may suffer returns. They may, you know, have upset users. And so that's generally what we're trying to ensure doesn't happen here. 17:58:18

Q. All right. And at the risk of pushing too hard on the obvious, why does Google care about whether or not the developers have bad experiences with their applications running on a given device? 17:58:37

A. Because, I mean, generally, any ecosystem needs developers -- an app ecosystem needs developers. And developers who have a bad experience leave. 17:58:55

Q. The other performance criterion here is simultaneous applications.

A. Yep.

Q. And the standard there in the compatibility definitions is that when multiple applications have been launched, relaunching an already running application after it has been launched must take less than the original launch time. 17:59:10

A. This is an interesting metric. Yes. 17:59:24

Q. So in other words, when you relaunch it, it will start faster than it did the first time?

A. Yes. I think maybe relaunching it isn't -- I don't know -- an exact term here. One of the things that Android does -- or that Android developers do in Android is, you know, launch one application from another. 17:59:43

So I may have an application that I can launch out to send an email or do something, and then I hit "back." And Android has this notion of an affordance for the user to go back. And you'll go back to the application you were in. So it's kind of integration between applications. 18:00:03

In this case, what we're trying to say is if I open whatever application it may be, and it has an option to email someone, and I hit the email button and it launches the email application, when I go back, I don't want that -- you know, that old application to take longer than it initially took to launch. Does that make sense? 18:00:19

Q. So I'm in the browser, and I click on an email address. It opens the email program. I don't want to send an email right now, and I want to go back to the browser. So I go back to the browser. And I don't want to wait for the browser to take launch as long as it took the first time; right? 18:00:33 18:00:50

A. Right.

Q. Okay. So again, this is about -- it's a particular application of speed, but it's about speed?

A. Yes.

Q. And, in fact, both of these criteria for performance are about -- I'm sorry. Go ahead. Sorry. 18:00:58

A. Well, I'd say it's about speed, but it's really -- here, I mean, it's about the ability to run multiple applications at once.

Q. Okay. 18:01:11

A. So a big part of Android is multitasking. And, you know, when trying to define that, what we're trying to figure out is, well, okay, do you need to be able to run -- you know, in defining the requirements, able to run multiple applications at once? Well, the default user experience in Android is a single foreground application. And so the way we're trying to codify that here is, say, well, when you go back to a previously open application, it should launch faster than if it was from a cold start. It's perhaps a -- but yes, that's what it's about, performance. 18:01:32 18:01:49

Q. And strictly speaking, what Section 9 is doing with it is not compatibility, per se, but just how well the device performs when consumers have them.

MR. KAMBER: Objection to form. 18:02:14

THE WITNESS: No. I think it is compatibility. And this is something that we've debated for a long time. From an application developer perspective, you can have two devices that may be technically able -- you know, one device that runs an application well and one device that technically executes the byte code but does it extremely slowly. 18:02:30

And, you know -- and we need, you know, from an application developer's perspective, they maybe, you know, don't consider those two devices to be compatible, because they can't write their applications the same way -- they can't use the same application on both devices. 18:02:45

And so what we're doing here is putting, in all honesty, a very low bar on -- on, you know, the minimum performance requirements you must have. 18:02:59

So, I mean, from our sense, it really is about compatibility here.

And, you know, we constantly get complaints from the developer that, "Hey, when I -- when I want to play a sound on this given device, sometimes there's a 2-second lag before the song gets played," you know, "and on this other device, there's no lag." That's, you know, the same -- the same application is executing on both devices, but they're incompatible from a user experience 18:03:19 18:03:36

perspective. And that's a problem for developers.

Q. All right. So stepping back a little bit, this -- the OEM is free to customize Android in various ways, but one of the things that they have to do is make sure that when they customize Android, they do not impair the performance of the platform with respect to its ability to launch programs quickly and multi-task? 18:03:58

A. According to these specific provisions, yes, they need to meet those.

Q. And these particular applications that are called out here, the browser, MMS and the alarm clock, those are just proxies for the general ability of the platform to meet overall speed expectations. Is that fair? 18:04:15

A. Yes. And I believe those applications would have been adjusted over time. But yes, I mean, we're trying to establish some standard reference that we can use to have an objective, you know, assessment across different devices. 18:04:38

Q. So the idea is if it can launch the browser as fast as we need to launch the browser, it will probably run Angry Birds okay? 18:04:52

A. I wish that was a valid assertion. But, you know, I mean, at some point you have to be realistic; right? And we're not going to be able to test these two 18:05:08

STATE OF CALIFORNIA) ss:
COUNTY OF MARIN)

I, LESLIE ROCKWOOD, CSR No. 3462, do hereby certify:

That the foregoing deposition testimony was taken before me at the time and place therein set forth and at which time the witness was administered the oath;

That testimony of the witness and all objections made by counsel at the time of the examination were recorded stenographically by me, and were thereafter transcribed under my direction and supervision, and that the foregoing pages contain a full, true and accurate record of all proceedings and testimony to the best of my skill and ability.

I further certify that I am neither counsel for any party to said action, nor am I related to any party to said action, nor am I in any way interested in the outcome thereof.

IN WITNESS WHEREOF, I have subscribed my name this 26th day of July, 2011.

Leslie Rockwood

LESLIE ROCKWOOD, CSR. NO. 3462