EXHIBIT L

Page 1

        IN THE UNITED STATES DISTRICT COURT
 FOR THE NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION
_____

MIKE HARRIS and JEFF DUNSTAN, x
individually and on behalf of :
a class of similarly situated :
individuals,   :
                              :
            Plaintiffs,   : Case No. 1:11-5807
    vs.   : Hon. James F. Holderman
                              :
COMSCORE, INC., a Delaware   :
corporation,   :
                              :
            Defendant.   x
_____

                    Wednesday, September 12, 2012

                    Reston, Virginia

DEPOSITION OF:

                YVONNE BIGBEE,

a witness, called for oral examination by counsel for

plaintiffs in the above-captioned matter, pursuant to

Notice and agreement of the parties as to time and date,

held at the offices of ComScore, Inc., 11950 Democracy

Drive, Suite 600, Reston, Virginia 20191, beginning at

approximately 9:30 o'clock, a.m., before Patricia Klepp,

RMR, a court reporter and Notary Public in and for the

Commonwealth of Virginia, when were present on behalf of

the respective parties:

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1 APPEARANCE OF COUNSEL:
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20   --continued--
21
22

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1   I-N-D-E-X
2 Witness: Page:
3 YVONNE BIGBEE
4   Examination by Mr. Thomassen   5
5   Lunch recess   112
6   Examination by Mr. Thomassen (resumed)   113
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8 Exhibits: (Included in transcript)   Page:
9 Deposition Exhibit No. 1   77
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1 APPEARANCE OF COUNSEL: (cont)
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1   P R O C E E D I N G S
2 Thereupon,
3   YVONNE BIGBEE,
4 a witness, was called for examination by counsel for the
5 plaintiffs, and after having first been duly sworn by
6 the Notary Public, was examined and testified as
7 follows:
8   EXAMINATION BY COUNSEL FOR PLAINTIFFS
9   BY MR. THOMASSEN:
10   Q. Good morning.
11   A. Good morning.
12   Q. The record should reflect that this is the
13 oral deposition of Yvonne Bigbee, taken pursuant to
14 notice, in the Dunstan v. comScore matter, Case
15 No. 11-CV-5807 in the Northern District of Illinois.
16   Now, you've just been sworn in. Is this your
17 first deposition?
18   A. Yes, it is.
19   Q. Okay. Before we get started, I'll go over a
20 few ground rules that will help us today.
21   The first and most important is that you have
22 to give verbal answers to all my questions, and the

2 (Pages 2 to 5)

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1 HTTPS post data?
2   A. No. We exclude sites such as edu, for
3 example.
4   Q. Okay. Excluding site-specific information,
5 such as dot-edu, does comScore collect all HTTPS post
6 data for dot-com sites, for example?
7   A. No. It depends on the rule, so I don't want
8 to say all.
9   Q. Is there an instance where there's HTTPS data
10 from one web page that a panelist viewed where comScore
11 would capture some, but not all, of the post data from
12 that page?
13   A. Yes.
14   Q. Can you give me an example?
15   A. It depends on the MIME type of the post data.
16   Q. Okay.
17   A. So if it's not a MIME type text<slash><star>,
18 for example, we would not collect the post data.
19   Q. Is that an example -- do you have an
20 example -- and I might just be running close to my
21 limits of understanding, here, but the -- was that an
22 example of HTTPS -- let me start over.

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1   Can you give me an example of HTTPS/HTML post
2 data where some, but not all, of the data is collected?
3   A. (Pause.)
4   Okay. If you were online taking an online
5 survey, depending on how their survey is rendered, if
6 the URL of the survey is included in our collection
7 rule, if the response of the page is text<slash><star>,
8 and if a user does type in, yes, I'm a Democrat, yes, I
9 will be voting in this election, accept, enter, that
10 data will be sent up --
11   Q. Okay.
12   A. -- if it is because it was in the form of HTML
13 and the URL is -- matches our rule.
14   However, on the same web page, visible to the
15 user, there could be background calls that is coded on
16 the web page, invisible to the user, but just internal
17 to that survey web post, to kind of serve as an internal
18 ping, hey, I'm version XXX, here's the time stamp of the
19 machine, for example.
20   And that, if that was sent up via an
21 application/json call, we would not collect that.
22   Q. Is it not collected because the software can't

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1 collect it, or is it programmed to not collect it?
2   A. It's programmed not to collect it.
3   Q. I understand. How about things on --
4 regarding the same HTTPS/HTML post data, are things like
5 user names collected by comScore software?
6   A. It's fuzzified before collection.
7   Q. So -- and we will talk more about
8 fuzzification in just a few minutes, but user names are
9 collected in some form by the software?
10   MR. SWEDLOW: I'll object as asked and
11   answered. I ask you not to say the word fuzzified
12   in the answer.
13   MR. THOMASSEN: I understand what she's
14   saying.
15   MR. SWEDLOW: Well, then I'm going to object
16   as asked and answered.
17 BY MR. THOMASSEN:
18   Q. You can answer.
19   A. Can you repeat the question?
20   Q. Sure. I asked you whether user names were
21 collected, and you said, well, they're fuzzified.
22   Is that fuzzified information still sent up to

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1 comScore server?
2   A. Yes.
3   Q. Okay. How about things like passwords, same
4 process?
5   A. Same process.
6   Q. Credit card numbers?
7   A. Fuzzification is applied.
8   Q. And then the fuzzified information --
9   A. Fuzzified data is sent up.
10   Q. Right. And Social Security numbers?
11   A. Same process.
12   MR. THOMASSEN: Okay. This would be actually
13   a good place for me to take a break, mostly because
14   I have to use the restroom.
15   MR. SWEDLOW: I object.
16   (Whereupon, a recess was taken.)
17   MR. THOMASSEN: Back on.
18 BY MR. THOMASSEN:
19   Q. Before we move on, is it accurate to say that
20 all HTTP and HTTPS page data is collected unless
21 specified by a rule file to not collect it?
22   A. No. Everything is dictated in the rules file

15 (Pages 54 to 57)

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1 on what to collect.
2   Q. Okay.
3   A. So there's not a blanket collect everything
4 that's written in the code.
5   Q. So is it right that for any -- when collecting
6 page data from any given HTTP or HTTPS page, whether or
7 not a particular piece of data is collected is dependent
8 on a rule file?
9   A. Yes.
10   Q. And the rule file will tell comScore software
11 to either collect all of the data, some of the data or
12 none of the data?
13   A. Yes.
14   Q. All right. So I want to talk for a while
15 about fuzzification, which we brought up earlier.
16   Can you -- you mentioned earlier, but can you
17 generally describe for me now what fuzzification
18 involves?
19   A. Sure. There are two types of fuzzification.
20 One is page data fuzzification, and the second is post
21 data fuzzification.
22   The general idea behind fuzzification is, we

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1 look for patterns in the data that could be sensitive,
2 and we either hash the data or X out enough of the
3 string where it is no longer personally identifiable.
4   Q. So you talked about two things there, hashing
5 and then X-ing out. Those are different things?
6   A. Yes.
7   Q. Can you describe what hashing is?
8   A. It is -- hashing is -- there's a mathematical
9 formula, where we take the string itself and apply this
10 algorithm to it, and then the outcome is an 18-digit
11 long string of numbers that kind of represents an
12 original string, but it's completely different.
13   Q. I understand. Is there one hashing formula
14 that applies to all data that is hashed?
15   A. Yes.
16   Q. Okay. Now, what about X-ing out; what is
17 that?
18   A. Where we actually take the string; instead of
19 applying the hashing algorithm, we just replace the
20 digits with X.
21   Q. Is that the same thing as zeroing?
22   A. Yes, same concept.

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1   Q. So would you say that hashing is synonymous
2 with fuzzification?
3   A. No.
4   Q. So how is hashing different than
5 fuzzification?
6   A. Hashing is just one form of fuzzification.
7   Q. So if I were to say this string has been
8 hashed, would I also be saying that this string has been
9 fuzzified?
10   A. Yes.
11   Q. Okay. And X-ing out, that is also a form of
12 fuzzification?
13   A. Yes.
14   Q. So let's take a credit card number, for
15 example. They are 14 digits long, I think?
16   A. Sixteen.
17   Q. Sixteen digits long? Are credit card numbers
18 ever X-ed out?
19   A. Yes.
20   Q. How many of the credit card numbers would be
21 X-ed out?
22   A. We -- I believe we keep the first six or

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1 seven. I don't -- it's either six or seven, I'm not
2 exactly sure, and the rest of the 16 digits after the
3 sixth or seventh digits are X-ed out.
4   Q. Okay. And after a portion of the credit card
5 number is X-ed out, is that value then sent to comScore?
6   A. Yes.
7   Q. So that X-ed out value, I'll call it, is not
8 additionally hashed?
9   A. No.
10   Q. Okay. Is there one -- I'm going to call it a
11 zeroing formula, that applies to all credit card
12 numbers, for example?
13   MR. SWEDLOW: Are you talking about hashing?
14   MR. THOMASSEN: No, I'm talking about zeroing
15   or X-ing.
16   MR. SWEDLOW: Oh, X-ing, right.
17   A. If it's a 16-digit number, we assume that it's
18 a credit card number. The same logic would apply to
19 that 16-digit number.
20 BY MR. THOMASSEN:
21   Q. Is it correct to say that all 16-digit credit
22 card numbers collected by comScore are X-ed out as

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1 opposed to hashed?
2   A. I believe so, if it's a credit card number.
3   Q. Okay.
4   A. Some account numbers could be 16 digits.
5   Q. Okay. How about, if you know, things like
6 user names? Are they hashed or zeroed?
7   A. User names are hashed.
8   Q. And that, to your knowledge, applies for all
9 user names?
10   A. In the post data, yes.
11   Q. In the post data. How about Social Security
12 numbers?
13   A. Social Security numbers should be X-ed out.
14   Q. Do you know what -- how many digits of a
15 Social Security number would be X-ed out, if you know?
16   A. That one I'm not familiar.
17   Q. That's fine. How about e-mail addresses?
18   A. I believe that is hashed, but I'm not
19 100 percent sure.
20   Q. Okay. How about things like street addresses?
21   A. I do not believe that one is hashed.
22   Q. Or zeroed?

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1   A. Or zeroed.
2   Q. So it's not -- you do not believe street
3 addresses are fuzzified, in other words?
4   A. Correct.
5   Q. How about names -- how about first names?
6 Sorry.
7   A. If it's in the post data, it is hashed.
8   Q. And I'm assuming last names as well?
9   A. Yes.
10   Q. How about date of birth?
11   A. I'm not sure.
12   Q. Bank account numbers?
13   A. I know it's fuzzified. I don't know if we
14 hash or zero; I'm not 100 percent sure.
15   Q. That's fair. How about routing numbers, if
16 you know?
17   A. I don't.
18   Q. That's fine.
19   A. It depends on the pattern.
20   Q. Mm hmm.
21   (Whereupon, a discussion was held off the
22   record.)

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1 BY MR. THOMASSEN:
2   Q. How about encryption? Is that -- does
3 comScore ever encrypt post data?
4   A. During transmission, yes.
5   Q. Is encryption a separate process from
6 fuzzification?
7   A. Yes.
8   Q. So it is not correct to say that if
9 information is encrypted, it's also considered
10 fuzzified?
11   MR. SWEDLOW: Can you read that back?
12   (Whereupon, the court reporter read the
13   requested portion of the proceedings.)
14   A. Correct.
15 BY MR. THOMASSEN:
16   Q. So it's -- so the words encryption and
17 fuzzified are not used interchangeably; they mean
18 different things?
19   A. Yes.
20   Q. Okay. How does comScore determine whether or
21 not it's properly fuzzifying information?
22   A. We have the Mystery Shop program --

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1   Q. Okay.
2   A. -- that checks for fuzzification.
3   Q. Any other ways?
4   A. We have the QA test team, that every release
5 cycle, we go through a regression test script.
6   Q. Can you tell me what that means?
7   A. They -- it's a test plan that the test team
8 will execute against features of our software to make
9 sure that it's functioning properly, to make sure that
10 fuzzification is applied correctly, to make sure that
11 the upgrade mechanism is working properly.
12   So those would be on -- as part of the test
13 plan.
14   Q. Okay. Any other ways?
15   A. Those are the two that I can think of at the
16 moment.
17   Q. Okay. You mentioned a while ago that comScore
18 fuzzifies what it considers to be sensitive information;
19 is that right?
20   A. Correct.
21   Q. How does comScore determine what is or is not
22 sensitive information?

17 (Pages 62 to 65)

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1   A. We look for patterns in the data. So in the
2 example of a 16-digit consecutive numeric number, we
3 assume that that's a credit card number.
4   Q. Okay. Let me ask this a different way.
5   How is the determination made at the outset
6 that information should be fuzzified? So, for example,
7 comScore fuzzifies credit card numbers; at some point,
8 it was determined that credit card numbers are something
9 that should be fuzzified. How is that determination
10 made?
11   A. It is made on the user's machine, while our
12 software is running.
13   Q. Okay. Let me -- I'm trying to find out how
14 comScore determines that things like names, e-mails,
15 dates of birth, credit card numbers, Social Security
16 numbers are sensitive information that should be
17 fuzzified.
18   MR. SWEDLOW: And I'm going to provide you a
19   an instruction.
20   To the extent that comScore makes that
21   decision based upon the advice of counsel,
22   including that guy over there, who's your in-house

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1   counsel, I'm going to instruct you not to answer,
2   because that communication and the product of that
3   communication is protected from disclosure.
4   I want you to answer the question, but I want
5   you to understand my instruction.
6   Are you okay with what I'm saying?
7   MR. THOMASSEN: Yes.
8   A. I think I'm not going to answer it, based
9 on --
10   MR. SWEDLOW: What I just said?
11 A. -- attorney-client privilege.
12   MR. SWEDLOW: Yes.
13   So I'll just make the statement that the
14   determination of what is sensitive and what isn't
15   sensitive includes the attorney advice.
16   MR. THOMASSEN: Okay.
17 BY MR. THOMASSEN:
18   Q. How does -- so you mentioned that the Mystery
19 Shopper program is one way that comScore determines that
20 it's properly fuzzifying information that should be
21 fuzzified; right?
22   A. Correct.

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1   Q. What happens when the Mystery Shopper program
2 determines that information is not properly being
3 fuzzified?
4   A. They will report the incident to the QA team
5 to reproduce. Then the QA team will, when possible,
6 make a rules change to update our fuzzification logic to
7 enhance the new pattern.
8   Q. How is fuzzification logic updated?
9   A. By a rules file.
10   Q. And those are rules files that are referenced
11 by the OSSProxy software?
12   A. Yes.
13   Q. Okay. At what point is a JIRA ticket opened
14 about a problem like we're discussing now?
15   A. A JIRA ticket is logged when a code change is
16 required by the development team.
17   Q. So who would initially open a JIRA ticket, if
18 that's the right word?
19   A. For this particular incident?
20   Q. Yes.
21   A. Most of the time, it would be done by the QA
22 team, after reproducing the problem.

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1   Q. So the Mystery Shopper program team, for lack
2 of a better term, would not open the JIRA ticket --
3   A. Correct.
4   Q. -- in this instance.
5   A. Correct. I'm not aware of Mystery Shoppers
6 opening tickets in JIRA projects.
7   Q. Do you know about how long, on average, it
8 takes -- in an instance like this, where the Mystery
9 Shopper program identifies that information is not being
10 properly fuzzified, how long does it take for the rule
11 file to be changed?
12   A. The rules file can be updated at any time.
13 Are you asking me how long from discovery? Can you be
14 more specific? I don't understand what you're asking.
15   Q. That's exactly what I'm asking, how long --
16 from the moment the problem is discovered till the
17 moment the problem is solved by updating the rules file,
18 how much time passes, on average?
19   MR. SWEDLOW: I'll object, but if you have
20   an -- on average --
21   A. I don't know; it depends. It's a
22 case-by-case; I don't know.

18 (Pages 66 to 69)

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