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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Proceeding	91193335
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

EMBARCADERO TECHNOLOGIES, INC.,

Opposer,

v.

RSTUDIO, INC.

Applicant.

Opposition No. 91193335

Applications S.N.

77/691980

77/691984

77/697987

**APPLICANT'S NOTICE OF FILING OF TRIAL TESTIMONY**

Please take notice that pursuant to Trademark Rule 2.125(c), Applicant RStudio, Inc. is hereby filing electronically via the ESTTA system the deposition transcript of the trial testimony of Applicant's witness Joseph Allaire, taken on April 15, 2011 together with all associated exhibits.

Respectfully submitted,

RSTUDIO, INC.,

/Anthony E. Rufo/

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Dated: June 24, 2011

Attorneys for Applicant

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the above-identified Notice of Filing of Trial Testimony upon Opposer's attorneys of record:

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I N D E X

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MORNING SESSION

9:35 a.m.

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JOSEPH J. ALLAIRE,

having been first duly sworn on oath,

was examined and testified as follows:

MR. RUFO: Before we start with the actual questioning and testimony, I would like to state for the record that we would like to waive the requirement that the court reporter sign and send the transcript directly to the Board. We would prefer to have the witness sign and have us send the transcript directly to the Board, if Marty has no objection.

MR. GREENSTEIN: I agree. That's fine with us.

MR. RUFO: So let's get started then.

DIRECT EXAMINATION

BY MR. RUFO:

Q. Sir, could you please state your name for the record.

A. Joseph J. Allaire.

Q. Thank you.

1           And I'm going to enter Exhibit Number 1  
2           and I will place this before you now; it's already  
3           been marked by the court reporter. And that is  
4           simply the notice of taking trial testimony that was  
5           served on Embarcadero Technologies, Inc.

6           This is a trademark registration  
7           opposition before the Trademark Trial and Appeal  
8           Board. The matter is Embarcadero Technologies, Inc.  
9           v. RStudio, Inc. and, sir, this is the deposition  
10          notice that was served on the other side. And you  
11          will be testifying today on behalf of RStudio, Inc.  
12          Is that correct?

13          A.       That is correct.

14          Q.       Thank you.

15          I would also like to place before you  
16          Exhibit Number 2, also already marked by the court  
17          reporter.

18          MR. RUFO: This has been discussed with  
19          counsel for Embarcadero and this will be entered  
20          into the record as testimony that you, the witness,  
21          Mr. Joseph Allaire, would give if asked. This is  
22          done for convenience and counsel for Embarcadero --  
23          and I'll refer to Embarcadero Technologies, Inc. for  
24          the duration of the deposition simply as

1 "Embarcadero" for convenience's sake. Counsel for  
2 Embarcadero retains the full rights to object and  
3 cross-examine you on all the statements made within  
4 the document.

5 THE WITNESS: Okay.

6 MR. GREENSTEIN: Agreed.

7 MR. RUFO: Very good.

8 BY MR. RUFO:

9 Q. To get started, I think the first question  
10 I will pose to you is: What is RStudio?

11 A. RStudio is a tool for doing statistical  
12 computing using the R programming language.

13 MR. RUFO: I am going to place before you  
14 another exhibit; and this will be marked as Exhibit  
15 Number 3.

16 (Allaire Trial Exhibit 3 marked for  
17 identification.)

18 BY MR. RUFO:

19 Q. Sir, if you would please take a look at  
20 that. Do you recognize the exhibit I have placed  
21 before you?

22 A. Yes.

23 Q. And what is it?

24 A. This is a description of our goods and

1 services for our trademark application.

2 Q. And in the column with the heading  
3 Original G/S Descriptions, do you have an  
4 understanding as to what that means?

5 A. Original goods and services descriptions.

6 Q. And the goods and services descriptions  
7 described thereunder, what are those?

8 A. Those are the descriptions that were  
9 composed by our counsel after we explained to him  
10 the product that we're building, what it was, and  
11 these were composed by counsel.

12 Q. And to your knowledge were these goods and  
13 services descriptions filed with the Patent and  
14 Trademark Office in connection with your trademark  
15 application?

16 A. Yes, yes.

17 Q. And turning your attention to the next  
18 column, which is titled Proposed Amended G/S  
19 Description, do you have an understanding as to what  
20 that represents?

21 A. Yes. That is an additional goods and  
22 services description that has been proposed.

23 Q. And to your knowledge has that additional  
24 goods and services description or amended goods and

1 services description been filed with the Trademark  
2 Trial and Appeal Board in conjunction with this  
3 proceeding?

4 A. Yes.

5 Q. And finally I will direct your attention  
6 to the bottom. Do you see in the last row where it  
7 is indicated ER/Studio?

8 A. Yes.

9 Q. And do you have an understanding as to  
10 what is listed under the original goods and services  
11 description for ER/Studio?

12 A. That is the goods and services description  
13 filed by Embarcadero for their products.

14 Q. And to your knowledge is that the goods  
15 and services description that is on their trademark  
16 registration?

17 A. Yes.

18 Q. And to your knowledge, the additional  
19 documents attached to this top summary sheet, does  
20 the information in the summary sheet accurately  
21 reflect the documents that are contained thereunder?

22 MR. GREENSTEIN: Objection.

23 A. Yes.

24 Q. Thank you.

1           Turning to the goods and services  
2 description, in particular for RStudio in the  
3 International Class 009, I believe you can see that  
4 it says "Computer software for statistical  
5 computing." Is that correct?

6           A.     It says "Computer software for advanced  
7 statistical computing." Oh, no, I'm sorry. You're  
8 speaking about the first?

9           Q.     Correct.

10          A.     Okay, yes, it says "Computer software for  
11 statistical computing."

12          Q.     And then in the second column it does say  
13 in fact "Computer software for advanced statistical  
14 computing." Is that correct?

15          A.     Yes.

16          Q.     What is statistical computing?

17          A.     Statistical computing is software and the  
18 use of software for analyzing data; and that is  
19 usually composed of a number of things. It is aimed  
20 at understanding the relationship between variables  
21 and predicting the future, predicting the  
22 relationships between things. So, for example,  
23 there's a thing called analysis of variance,  
24 referred to frequently as ANOVA, that is intended to

1 see if there's a statistically meaningful  
2 relationship between a couple of variables. So, for  
3 example, you might be interested in the effect of  
4 gender or ethnicity on diabetes diagnoses.

5 Further, there are techniques known as  
6 regression and multiple regression that are aimed at  
7 trying to understand the magnitude of relationships  
8 between things. So, for example, the relationship  
9 between weight and glucose levels or the  
10 relationship between weight, alcohol usage and  
11 glucose levels.

12 And furthermore, there are techniques  
13 known as time series analysis that are aimed at  
14 understanding how a variable has varied over time  
15 and how that might allow you to forecast the  
16 variable in the future. So, for example, how the  
17 variation in glucose levels in the past might  
18 predict where glucose levels are going in the  
19 future.

20 Q. Mr. Allaire, are you a software  
21 professional?

22 A. Yes.

23 Q. And as a software professional, do you  
24 have an understanding as to whether there are

1 different categories of software?

2 A. Yes.

3 Q. And are there in fact different categories  
4 of software?

5 A. There are different categories of  
6 software, yes.

7 Q. What category of software would RStudio  
8 belong to?

9 A. Statistical computing.

10 Q. And is RStudio the only statistical  
11 computing software that is available?

12 A. No.

13 Q. Are there in fact other versions of  
14 statistical computing software available?

15 A. There are. There are other versions, yes.

16 MR. RUFO: I am going to place before you  
17 what will be marked by the court reporter as  
18 Exhibit 4.

19 (Allaire Trial Exhibit 4 marked for  
20 identification.)

21 BY MR. RUFO:

22 Q. Sir, do you recognize the document that  
23 I have placed before you?

24 A. Yes.

1 Q. And what is that document?

2 A. This is a comparison of a wide variety of  
3 statistical packages.

4 Q. So looking at the first page, what does  
5 this document lay out on the first page?

6 A. On the first page it describes the various  
7 things that are going to be compared, so general  
8 information about the products, what operating  
9 system they run on and then their specific  
10 capabilities surrounding statistical computing,  
11 ANOVA tests, regression tests, time series analysis,  
12 various charting and diagramming capabilities.

13 So it lays that out and then it begins to  
14 talk generally. There are several dozen products  
15 that they mention. These first couple of pages have  
16 general information, such as the name of the  
17 product, the developer of the product, the cost, the  
18 license, that sort of thing. And then it goes on on  
19 the third page to describe which operating systems  
20 the various products run on and then subsequently  
21 gets into comparing their capabilities within the  
22 sort of subcategories I outlined earlier.

23 Q. And let's just go through those as they  
24 are listed on the document. What is the first

1 capability that is listed on this particular  
2 document?

3 A. ANOVA tests are described; and then within  
4 that there's various types of ANOVA tests that are  
5 enumerated, one-way, two-way, MANOVA, GLM, post hoc  
6 tests, and Latin squares analysis.

7 Q. And then moving on to the next category,  
8 what is the next category that is listed?

9 A. Regression.

10 Q. And is this similar to what you were  
11 describing earlier as regression analysis?

12 A. Yes, it is.

13 Q. Are there in fact also different forms of  
14 regression analysis tests?

15 A. Yes. I won't enumerate each one of them  
16 here but they list around ten different types of  
17 regression.

18 Q. Let's then move along to the next. What  
19 is the next functionality that is listed?

20 A. Time series analysis; and there are  
21 several, six different types of time series analysis  
22 that are enumerated here.

23 Q. Is RStudio on this list?

24 A. RStudio is not directly on this list;

1       however, R is on this list.  And what RStudio is, is  
2       essentially a way to work with R.  So it is really  
3       included within the R category.

4           Q.       And at some point might RStudio be put on  
5       a list similar to this?

6           A.       I believe RStudio will be included within  
7       the R category.

8                   MR. GREENSTEIN:  Is that a yes or no  
9       answer?  I'm not sure you answered his question.

10          A.       I'm sorry.  I am not the author of this  
11       list.  I believe that RStudio will be included in  
12       the R category and therefore it will not be added to  
13       this list, but it certainly could be added.

14                   MR. GREENSTEIN:  Okay.

15       BY MR. RUFO:

16          Q.       To your knowledge, are there industry  
17       leaders in the category of statistical computing  
18       software?

19          A.       Yes.

20          Q.       And what are those industry leaders?

21          A.       The leading products are SAS, SPSS, Stata,  
22       and R.

23          Q.       And is SAS listed on this document?

24          A.       Yes.

1 Q. And is SPSS listed on this document?

2 A. Yes.

3 Q. And is Stata listed on this document?

4 A. Yes, it is.

5 Q. And I believe you've already testified to  
6 the fact that R is listed on this document?

7 A. Yes, yes.

8 Q. To your knowledge, how long has the  
9 statistical computing category been in existence?

10 A. At least thirty years and maybe longer.  
11 And I know that SAS was the first major product in  
12 the category. I know that it's at least 30 years  
13 old and it may be older than that.

14 Q. Do you have personal experience with  
15 statistical computing software?

16 A. Yes.

17 Q. And when did you first have experience  
18 with statistical computing software?

19 A. I used SAS for the first time 20 years  
20 ago; I used SPSS for the first time about 18 years  
21 ago; and then I obviously have quite a bit of  
22 experience with R more recently.

23 Q. Are you familiar with the ER/Studio family  
24 of products?

1 A. Yes.

2 Q. To your knowledge, and please consult the  
3 list, is ER/Studio listed on this exhibit?

4 A. No.

5 Q. And why not?

6 A. Because ER/Studio doesn't perform any of  
7 the functions described here.

8 Q. You mentioned that R was on this list. Is  
9 that correct?

10 A. Yes.

11 Q. What is R?

12 A. R is a programming language for doing  
13 statistical computing.

14 Q. And is RStudio the same thing as the R  
15 computing language?

16 A. The way RStudio relates to R is that a  
17 user needs to install R on their computer and then  
18 subsequently they can install RStudio and work with  
19 R. So RStudio is a set of tools that help improve  
20 your productivity working with R. If R wasn't  
21 installed on the system, RStudio would not run.

22 Q. So if I obtained RStudio and simply put it  
23 on my computer without doing anything else, what  
24 would happen?

1           A.       If you tried to run it, it would come up  
2 with a message box saying "Sorry, we can't run,  
3 there's no R available on this computer."

4           Q.       Other than the R computing language which  
5 you've described, are there any other computing  
6 languages?

7           A.       Yes.   SAS has its own language for  
8 statistical computing, Stata has its own language,  
9 SPSS has their own language.

10          Q.       And if you tried to install RStudio over  
11 the SAS language, would it operate?

12          A.       No.

13          Q.       And if you tried to install RStudio over  
14 the SPSS language, would it operate?

15          A.       No.

16          Q.       Would it operate if installed over the  
17 Stata language?

18          A.       No.

19          Q.       Let's turn your attention back to the  
20 exhibit that was laid before you as Exhibit 3, the  
21 goods and services description.   Looking further  
22 along in the proposed amended goods and services  
23 description for RStudio in the International Class  
24 9, actually, can you just please read that entire

1 description for me?

2 A. The amended?

3 Q. The amended, yes.

4 A. Okay. Just the first or all three?

5 Q. Just the first, please.

6 A. "Computer software for advanced  
7 statistical computing using the R computing language  
8 and data from two-dimensional datasets."

9 Q. So the R computing language that we just  
10 referred to, is that the same computing language  
11 that is referred to in this goods and services  
12 description?

13 A. Yes.

14 Q. And the goods and services description  
15 then goes on to state "and data from two-dimensional  
16 datasets." Is that correct?

17 A. Yes.

18 Q. Can you please explain what a two-  
19 dimensional dataset is?

20 A. A two-dimensional dataset you can think of  
21 much like you'd think of a spreadsheet. You have a  
22 set of variables and then a set of observations of  
23 those variables. So, for example, you might have  
24 first name, last name and weight as three variables

1 and the dataset would contain first name, last name  
2 and weight. You'd see headers indicating those and  
3 then you'd see the specific rows below that.

4 MR. RUFO: I am going to place another  
5 exhibit in front of you which will be marked by the  
6 court reporter as Trial Exhibit Number 5.

7 (Allaire Trial Exhibit 5 marked for  
8 identification.)

9 BY MR. RUFO:

10 Q. Do you recognize the exhibit that I have  
11 placed before you?

12 A. I do.

13 Q. And what is it?

14 A. This is a two-dimensional dataset of  
15 automobiles.

16 Q. And can you please explain to me what is  
17 contained in that two-dimensional dataset?

18 A. Yes. For each of the automobiles listed  
19 it lists a manufacturer, a model, the year it was  
20 manufactured, displacement, number of cylinders,  
21 type of transmission, type of automatic or manual  
22 transmission, some data about mileage, city miles  
23 per gallon, highway miles per gallon, and then its  
24 class. So it's a variety of variables and then a

1 variety of observations.

2 Q. And can you tell me where this dataset  
3 came from?

4 A. This is actually included with the R  
5 programming language.

6 Q. Is this the sort of dataset that can be  
7 used by the R programming language?

8 A. Yes, there is.

9 Q. And therefore is this the sort of dataset  
10 that could be used by someone using RStudio?

11 A. Yes, it is.

12 Q. Are you familiar with the -- Well,  
13 actually, let me ask you another question before I  
14 move on. You testified that this is the sort of  
15 dataset that could be used by RStudio. What about  
16 other forms of statistical computing software?

17 A. Yes, all, just about any statistical  
18 computing software would work with this dataset.

19 Q. And I will now move on and ask you, are  
20 you familiar with the term relational database?

21 A. Yes.

22 Q. Is a two-dimensional dataset such as the  
23 one described by you in Exhibit 5 -- Well, I'll ask  
24 you more simply. Is Exhibit 5 a relational

1 database?

2 A. No.

3 MR. RUFO: We'll mark this as Exhibit 6.

4 (Allaire Trial Exhibit 6 marked for  
5 identification.)

6 BY MR. RUFO:

7 Q. Sir, do you recognize the document that  
8 I have placed in front of you as Exhibit 6?

9 A. I do.

10 Q. And what is it?

11 A. It is an entity relationship diagram for a  
12 mail order database.

13 Q. And do you know where this diagram came  
14 from?

15 A. Yes. This was available on the Web. It  
16 was printed off the Web.

17 Q. So looking at this document, you described  
18 it --

19 MR. GREENSTEIN: Object to the vagueness  
20 of that answer.

21 A. ~~Lawyers~~ <sup>Instructors</sup> from the University of Alberta  
22 Canada on their website. And they, presumably for  
23 the purpose of educating their students, made this  
24 available as an example.

1 Q. Thank you.

2 So looking at the title of this particular  
3 exhibit, can you read the title for me, please.

4 A. ER Diagram for Relational Mail Order  
5 Database.

6 Q. And do you have an understanding as to  
7 what ER stands for?

8 A. Yes.

9 Q. And what does ER stand for?

10 A. Entity relationship.

11 Q. Thank you.

12 Can you explain to me what this diagram  
13 represents?

14 A. This diagram represents a number of  
15 database tables that are related in various ways.  
16 The diagram shows the tables, the data contained  
17 within the tables, as well as the relationships  
18 between those tables.

19 Q. And can you give me some examples?

20 A. Yes. So the caption is Mail Order  
21 Database and at the center of it is a set of orders  
22 that have been fulfilled. Now, those orders relate  
23 to the other things here in different ways. So an  
24 order is sent to a customer but a customer might

1 have multiple orders that have been fulfilled. An  
2 order is filled by an employee and that employee may  
3 have fulfilled multiple orders, and an order  
4 contains parts and may contain one part, two parts,  
5 ten parts, twenty parts.

6 So there's a set of data here that is  
7 related and the relational database is used to  
8 coherently track all this information, represent  
9 these interdependencies and eliminate duplication of  
10 data.

11 So, for example, if I was keeping track of  
12 orders and a customer gave me an order and I filled  
13 in their name, street, ZIP code and phone, the  
14 second time they ordered I wouldn't want to just add  
15 their name, street, ZIP, and phone to the orders  
16 table because the data would be duplicated. So what  
17 this allows us to do is have one source of  
18 information about the customer. So if the customer  
19 changes their phone number, the information is  
20 updated in one place.

21 Q. The RStudio software product that you  
22 previously described, does it have the native  
23 ability to communicate with relational databases  
24 such as the one outlined in Exhibit 6?

1 A. No.

2 Q. Does the R computing language itself have  
3 the native capability to communicate with a  
4 relational database?

5 A. No.

6 Q. Previously I believe you testified that  
7 you had a familiarity with the ER/Studio line of  
8 products. Is that correct?

9 A. Yes.

10 MR. RUFO: Exhibit 7, please.

11 (Allaire Trial Exhibit 7 marked for  
12 identification.)

13 BY MR. RUFO:

14 Q. How is it that you are familiar with the  
15 ER/Studio products?

16 A. I have reviewed their website and I have  
17 read the user guides for a variety of their  
18 products.

19 Q. I am going to place before you Exhibit  
20 Number 7. Take a moment to look at that. Do you  
21 recognize this?

22 A. Yes.

23 Q. And what is it?

24 A. This is a list of Embarcadero's products

1 that is from their website.

2 Q. Are ER/Studio products mentioned on this  
3 list?

4 A. Yes.

5 Q. To your understanding, what are the  
6 ER/Studio products?

7 A. The ER/Studio products fall within the  
8 category on this list of design and architecture  
9 tools. There are a variety of tools underneath that  
10 and one is called ER/Studio Data Architect, one is  
11 called ER/Studio Business Architect, one is called  
12 ER/Studio Software Architect, and one is called  
13 ER/Studio Portal, and then there are some add-on  
14 products, and then a bundling of those products  
15 known as ER/Studio XE.

16 Q. So you mentioned, for example, ER/Studio  
17 Data Architect. Do you have an understanding as to  
18 what ER/Studio Data Architect does?

19 A. Yes.

20 Q. And can you please explain that to me?

21 A. It provides data modeling tools for  
22 designing and understanding databases.

23 Q. To your knowledge, does ER/Studio actually  
24 build a database? And if you don't know, that's

1 fine.

2 A. I believe it can build a database.

3 Q. Is RStudio capable of designing a  
4 relational database?

5 A. No.

6 Q. Can statistical computing software in  
7 general -- Let me ask that another way. Does  
8 statistical computing software in general have the  
9 functionality capable of designing a relational  
10 database?

11 A. No.

12 Q. Are you aware of anyone who has tried to  
13 use RStudio to design a relational database?

14 A. No.

15 Q. Has any customer or potential customer of  
16 RStudio ever asked you if RStudio can design a  
17 relational database?

18 A. No.

19 Q. Are you aware of anyone ever having been  
20 able to design a relational database using  
21 statistical computing software?

22 A. No.

23 Q. I would like to turn your attention back  
24 to Exhibit Number 4. I believe you testified

1 previously that ER/Studio was not on this list. Is  
2 that correct?

3 A. That is correct.

4 Q. I believe you answered this previously but  
5 I will ask the question now. What category of  
6 software does ER/Studio fall within?

7 A. Design and architecture.

8 Q. Now, are there design and architecture  
9 products on this list in Exhibit Number 4, to your  
10 knowledge?

11 A. There are not.

12 Q. And why would that be?

13 A. Because design and architecture products  
14 do not perform any statistical computing functions,  
15 so it wouldn't make sense to list them.

16 Q. In order to use the RStudio product, would  
17 the user at any point require architecture or design  
18 software?

19 A. No.

20 Q. In order to use statistical computing  
21 software in general, would a user at any point  
22 require architecture or design software?

23 A. No.

24 Q. To your knowledge, does Embarcadero sell

1 products other than design and architecture tools?

2 A. Yes. They sell application development  
3 tools as well as database management and development  
4 tools, and they have also listed here what they call  
5 performance optimization tools.

6 Q. And these other tools that you described,  
7 to your knowledge are these other tools being sold  
8 under the ER/Studio mark?

9 A. They are not.

10 Q. I believe you mentioned application  
11 development software. Is that correct?

12 A. Yes.

13 Q. What is the difference between application  
14 development software and design and architecture  
15 software?

16 A. Design and architecture software allows  
17 you to build a specification for the software and  
18 then application development software enables you to  
19 actually construct the software. So it's analogous  
20 to, in home construction, there's an architect who  
21 specifies what the home should look like and what it  
22 should be composed of and then there's a builder who  
23 actually constructs the home. So there's a sequence  
24 of design/architecture and then development.

1           Q.       Wouldn't it be true that generally  
2 speaking architects and builders might work  
3 together?

4           A.       Yes.

5           Q.       So that being said, would it be possible  
6 for someone working with one of these types of  
7 software, either architecture and design software or  
8 application development software, to confuse one for  
9 the other?

10          A.       No, I don't believe so.

11          Q.       And why would that be?

12          A.       Because software design/architecture by  
13 itself is a very complex and demanding -- it's very  
14 complex and demanding work. Application development  
15 is also itself complex and demanding work. As a  
16 result, the tools used to support those things are  
17 themselves very complex. They have many functions  
18 and the customers who acquire them are looking for  
19 very specific capabilities in those products. And  
20 so if your job is to design and architect systems,  
21 you know what you're looking for and you know when  
22 you see it. You might be looking for thirty or  
23 forty different pieces of functionality. Similarly  
24 on the application development side.

1           So the customers are highly sophisticated,  
2           their requirements are demanding, and so they know  
3           what they're looking for and they know when they've  
4           got it or they don't have it.

5           Q.       Other than the ER/Studio products that we  
6           previously discussed, the other Embarcadero products  
7           that are listed on Exhibit 7 in front of you, do you  
8           have an understanding as to whether any of these  
9           products have a native capacity for performing  
10          statistical computing?

11          A.       They do not.

12          Q.       How are you aware of this?

13          A.       I have reviewed product literature and I  
14          also understand the category of statistical  
15          computing well and who plays in it and generally  
16          what a database management and development tool or  
17          an application development tool might be able to do  
18          on its own and generally what a statistical  
19          computing product can do on its own, and they don't  
20          overlap.

21          Q.       Are you familiar with the Ruby programming  
22          language?

23          A.       Yes.

24          Q.       Are you aware as to whether or not

1 Embarcadero sells any products that are capable of  
2 developing Ruby applications?

3 A. They do. They have the 3rdRail product  
4 and the TurboRuby product under the application  
5 development category.

6 Q. To your knowledge, does the Ruby  
7 programming language have a native capability to  
8 speak with the R programming language?

9 A. It does not.

10 Q. And how do you know this?

11 A. I am generally familiar with Ruby and  
12 generally familiar with R; and if you acquire Ruby  
13 from the Ruby Project or acquire R from the  
14 R Project, the goods that you acquire do not have  
15 those capabilities.

16 Q. So going in the reverse order, then, does  
17 R have any native capability to speak to the Ruby  
18 programming language?

19 A. It does not.

20 Q. Is there some way to overcome Ruby's  
21 native limitation and actually allow it to  
22 communicate with the R programming language?

23 A. Yes. Someone could build a bridge between  
24 Ruby and R.

1 Q. And could someone also build a bridge that  
2 would allow R to communicate with Ruby?

3 A. Yes, that's correct.

4 Q. Does RStudio have any native capability to  
5 speak with the Ruby programming language?

6 A. No.

7 Q. And does RStudio offer a bridge to  
8 communicate with the Ruby programming language?

9 A. No.

10 Q. To your knowledge, are bridges such as the  
11 ones that you described commonly used?

12 A. They are used in specialized instances.

13 Q. In your career in software, have you ever  
14 created a piece of application development software?

15 A. I have, yes.

16 Q. And can you describe for me an application  
17 development software that you created?

18 A. Yes. I created the ColdFusion product,  
19 which is a Web application development product.

20 Q. And were you affiliated with a particular  
21 company when you developed the ColdFusion?

22 A. Yes. The company was called Allaire Corp.

23 Q. And can you please describe what a  
24 customer of Allaire Corp. would do with ColdFusion?

1           A.       Yes.  They would use it to create an  
2           internal business application or they would use it  
3           to create an externally facing dynamic website like  
4           an e-commerce website or even just a website that  
5           publishes content.

6           Q.       So the application or the outward-facing  
7           Web application that you just described, does  
8           Allaire Corp. own the application that has been  
9           created by the customer?

10          A.       Not at all, no.

11          Q.       And that application created by the  
12          customer, to your knowledge would the customer have  
13          the right to call that product ColdFusion?

14          A.       No, they would not.

15          Q.       Would the customer have the right to call  
16          that product Allaire Corp. product?

17          A.       No, they would not.

18          Q.       Why not?

19          A.       Because the product provides a basic  
20          capability, but the customer is creating new --  
21          they're writing new code, they're creating something  
22          of their own invention that runs for their own  
23          purposes and is owned by them.

24          Q.       So the customer owns that product that has

1       been created?

2           A.       That's correct.

3           Q.       And Allaire Corp. does not?

4           A.       That's correct.

5           Q.       So if a customer of Embarcadero, for  
6       example, who was using 3rdRail -- Describe to me  
7       what a customer using 3rdRail might do.

8           A.       It would be very similar to the ColdFusion  
9       example I cited before. They would build an  
10       internal business Web application or they would  
11       build some externally facing e-commerce website or  
12       content publishing website.

13          Q.       And does Embarcadero own that product?

14          A.       Embarcadero does not own the work of the  
15       customer, no.

16          Q.       So then if someone were to instill in that  
17       product the capability to speak to the R programming  
18       language, is that a functionality that is owned by  
19       Embarcadero?

20          A.       No.

21          Q.       Are you familiar with a company called  
22       Revolution Analytics?

23          A.       I am.

24          Q.       And what can you tell me about Revolution

1 Analytics?

2 A. Revolution Analytics builds products that  
3 work with the R programming language. They have a  
4 number of products. They have a development tool  
5 similar to RStudio and then they also have a product  
6 called RevoScaleR, which is focused on the ability  
7 to talk to larger two-dimensional datasets. I had  
8 talked before about statistical computing software  
9 using two-dimensional datasets. Sometimes the size  
10 of that dataset is limited by the available memory  
11 of the computer, and so Revolution has a product  
12 that allows you to have two-dimensional datasets  
13 that are larger than the memory capacity of a  
14 computer.

15 Q. You mentioned two-dimensional datasets.  
16 To your knowledge, does the product that you just  
17 described which is owned by Revolution Analytics,  
18 does it interface with two-dimensional datasets?

19 A. It does, yes.

20 Q. And are you aware as to whether or not it  
21 can interface directly with relational databases?

22 A. It cannot.

23 Q. And how did you come to know this?

24 A. Reading the product documentation for the

1 product.

2 Q. And Revolution Analytics, the products you  
3 just described, would they fall within the category  
4 of statistical computing software?

5 A. Yes.

6 MR. RUFO: I know that we are still pretty  
7 early in, but at least in my direct questioning,  
8 this would fall into a good place to take a break  
9 and I actually could use a restroom break. So if we  
10 could go off the record for a minute.

11 MR. GREENSTEIN: Sure.

12 (In recess 10:13 a.m. to 10:34 a.m.)

13 MR. RUFO: We're back on the record.

14 BY MR. RUFO:

15 Q. Mr. Allaire, I want to direct your  
16 attention again to Exhibit Number 7, which I think  
17 you actually have right in front of you. We talked  
18 previously about ER/Studio Data Architect. Correct?

19 A. Yes.

20 Q. I want to talk for a few moments about  
21 ER/Studio Software Architect. Can you explain to me  
22 what ER/Studio Software Architect does?

23 A. This allows you to build diagrams, UML,  
24 Universal Modeling Language diagrams that describe

1     how software should work internally.

2           Q.     And is that the same thing as actually  
3     building the software?

4           A.     No, it's not.  It is a specification for  
5     how the software should be built.

6           Q.     So then do you continue using the  
7     ER/Studio Software Architect to then build the  
8     software that you've designed?

9           A.     There are two separate things that happen  
10    sequentially.  You specify the software and then  
11    someone builds the software.  Similarly, you design  
12    a database and then you build an application on top  
13    of the database.

14          Q.     So if you have designed software  
15    specifications, what then do you use to build the  
16    software itself?

17          A.     You could use any number of tools.  Some  
18    of the application development tools listed here  
19    could be candidates for building the software.  So  
20    C++ Builder, JBuilder, TurboRuby, products like  
21    that.

22          Q.     So why is it then that you can't use the  
23    ER/Studio product to actually build the software?

24          A.     The functionality is segmented.  The

1 ER/Studio products are used for design/architecture,  
2 so if you think back to the home construction  
3 metaphor, the architect uses a pencil to sketch how  
4 the software should work. That's the tool they use.

5 A builder uses hammer and nails and two-  
6 by-fours to build the actual house. Those are the  
7 tools they use. They have different tools. And it  
8 really is a very apt metaphor which is why the term  
9 architecture is used here and the term builder is  
10 used. It really is an apt metaphor.

11 Q. So then ER/Studio Software Architect is  
12 the architect in your analogy. Is that correct?

13 A. Yes.

14 Q. And any number of the products listed in  
15 the application development section of this exhibit,  
16 are those the builders in your analogy?

17 A. Those would be builders. And of course  
18 there's many application development tools provided  
19 by a variety of vendors. So these are ones provided  
20 by Embarcadero but there would be many others.

21 Q. So then is it fair to say that ER/Studio  
22 products are a particular kind of tool?

23 A. Yes.

24 Q. And as a result, is the functionality of

1 those tools limited?

2 A. The category of software design and  
3 architecture tool is aimed at people who do software  
4 design and architecture. It provides the functions  
5 that they require to do their job. So it is limited  
6 in that way, yes.

7 Q. And, again, any of the ER/Studio products  
8 that you see listed here, do any of them natively  
9 perform statistical computing?

10 A. No.

11 Q. And for that matter in the application  
12 development column, again, do any of those programs  
13 as far as you're aware natively perform statistical  
14 computing?

15 A. None of those have built-in capability to  
16 perform statistical computing.

17 Q. I would now like to turn your attention  
18 back to what was previously marked as Exhibit Number  
19 3. So looking at Exhibit Number 3 in the column  
20 marked Original G/S Description, I believe you  
21 testified previously that your counsel had crafted  
22 these goods and services descriptions. Is that  
23 correct?

24 A. Yes, yes.

1 Q. At the time, did you believe them to be  
2 true and accurate as applied to RStudio products?

3 A. Absolutely.

4 Q. But here we have in the next column  
5 Proposed Amended Goods and Services Descriptions;  
6 and let's just do a comparison of the RStudio in  
7 International Class 9.

8 A. Okay.

9 Q. In the original goods and services  
10 description, it states computer software for  
11 statistical computing. Is that correct?

12 MR. GREENSTEIN: Objection.

13 A. That's correct.

14 Q. Can you please tell me what it states for  
15 the original G/S description for RStudio in  
16 International Class Number 9?

17 A. Computer software for statistical  
18 computing.

19 MR. GREENSTEIN: Objection.

20 BY MR. RUFO:

21 Q. And can you please state for me what it  
22 says in the proposed amended goods and services  
23 description for RStudio in International Class 9?

24 A. "Computer software for advanced

1 statistical computing using the R computing language  
2 and data from two continuous datasets."

3 MR. GREENSTEIN: I raise a continuing  
4 objection to this whole line of questioning. The  
5 testimony is wrong.

6 MR. RUFO: Would you care to elaborate?

7 MS. HUSTON: How wrong?

8 MR. GREENSTEIN: You've got the original  
9 application there. Read it.

10 BY MR. RUFO:

11 Q. To your knowledge, is the language  
12 reflected on this summary chart the same as the  
13 language reflected on the application?

14 A. Yes.

15 Q. And I will direct you to the application,  
16 which can be found at --

17 MR. GREENSTEIN: It's right in the  
18 exhibit.

19 Q. -- on page 3 of this exhibit. You can see  
20 at the top it says Goods and/or Services. Is that  
21 correct? Listed right here, Mr. Allaire, it says  
22 Goods and/or Services. Is that correct?

23 A. Yes.

24 Q. And does it state directly below that

1 International Class 9?

2 A. Yes.

3 Q. And under International Class 9, will you  
4 please read for me the goods and services  
5 description?

6 A. "Computer software for statistical  
7 computing; computer software for software  
8 applications development."

9 Q. Thank you.

10 MR. GREENSTEIN: That's better.

11 BY MR. RUFO:

12 Q. And directing you towards --

13 MR. RUFO: I apologize. That's an  
14 oversight. We've changed the exhibit so it is true  
15 and correct.

16 MR. GREENSTEIN: Fine.

17 MS. HUSTON: Why don't we go off the  
18 record.

19 (Discussion off the record.)

20 MR. RUFO: So we're back on the record.

21 Counsel for Embarcadero stated an  
22 objection to the summary exhibit. It has come to  
23 light that inadvertently a portion of the goods and  
24 services description for the application in

1 International Class 9 was omitted from this exhibit  
2 and therefore we are amending the exhibit to include  
3 the full goods and services description. And the  
4 witness, Mr. Allaire, is currently writing that  
5 information onto the summary exhibit.

6 So I apologize for the distraction.

7 BY MR. RUFO:

8 Q. Mr. Allaire, I am going to ask you again  
9 to read the original goods and services description  
10 as listed now on Exhibit Number 3.

11 A. "Computer software for statistical  
12 computing; computer software for software  
13 applications development."

14 Q. Thank you.

15 And now looking at the proposed amended  
16 goods and services description, again I would ask  
17 you to read that.

18 A. "Computer software for advanced  
19 statistical computing using the R computing language  
20 and data from two-dimensional datasets."

21 Q. And, Mr. Allaire, have you had an  
22 opportunity to review the amended goods and services  
23 descriptions that are included in that packet of  
24 documents?

1           A.       I have.

2           Q.       And is the goods and services description  
3 listed on the summary at the top accurate as to what  
4 is listed in the applicant's motion to amend  
5 application?

6           A.       Yes, it is.

7           Q.       So looking at these two goods and services  
8 descriptions next to one another, first of all,  
9 looking at the original goods and services  
10 description. As it is listed before you now,  
11 I believe you mentioned this was drafted for you by  
12 counsel. Correct?

13          A.       It was, yes.

14          Q.       And when it was drafted for you by  
15 counsel, was it accurate as to your intended RStudio  
16 products in International Class 9?

17          A.       Yes.

18          Q.       Then can you please explain to me why  
19 there is a need for the amended goods and services  
20 description?

21          A.       The original description is accurate.  
22 It's understood in the industry when we talk about  
23 statistical computing that we're talking about the  
24 product category I described before, including ANOVA

1 tests, regression, time series analysis. We think  
2 it's very well understood that that means these more  
3 advanced statistical techniques. If the Board feels  
4 that the original description is too close to that  
5 of Embarcadero's marks, then we provided this  
6 alternative description that we believe is also  
7 accurate which can be used.

8 Q. And going further in the amended goods and  
9 services description, it says computing using the R  
10 computing language. Is that correct?

11 A. Yes.

12 Q. Is RStudio the only statistical computing  
13 software that uses the R computing language?

14 A. No.

15 Q. Are you familiar with other software  
16 products that use the R computing language?

17 A. Yes.

18 Q. Can you give me an example?

19 A. Tinn-R, StatET, Revolution Software's R  
20 productivity environment would be other tools that  
21 use the R computing language.

22 Q. And it goes further in the amended goods  
23 and services description to list data from two-  
24 dimensional datasets. Is that correct?

1 A. Yes.

2 Q. Is RStudio the only statistical computing  
3 software that uses data from two-dimensional  
4 datasets?

5 A. No. All of them use data from two-  
6 dimensional datasets.

7 Q. And so again now that we've gone through  
8 the entire goods and services description as amended  
9 or proposed for amendment, describe for me in  
10 consideration of the entire proposed amendment why  
11 you feel the amendment might be necessary.

12 A. Again, I think the first description  
13 accurately describes our products. If, however,  
14 more specificity is desired and deemed appropriate,  
15 these amended descriptions provide that.

16 Q. Let's move on to the next listing for  
17 RStudio in International Class 41. Can you please  
18 read for me the original goods and services  
19 description as is listed?

20 A. "Providing training in the use of computer  
21 software, providing training in the use of  
22 statistical methods and related computer software."

23 Q. Thank you. Explain to me what you mean by  
24 providing training in the use of computer software.

1           A.       Providing training on how to use R, how to  
2 use RStudio is what I'm talking about there.

3           Q.       So at the time that this goods and  
4 services description was written for you by counsel,  
5 was it true and accurate?

6           A.       Yes.

7           Q.       And looking at the amended goods and  
8 services description, if you could please read the  
9 amended goods and services description for me.

10          A.       "Providing training in the use of computer  
11 software for advanced statistical computing using  
12 the R computing language and data from two-  
13 dimensional datasets; providing training in the use  
14 of advanced statistical methods using the R  
15 computing language and data from two-dimensional  
16 datasets."

17          Q.       And why is there a need for or why do you  
18 feel there might be a need for this proposed  
19 amendment?

20          A.       Again, if more specificity is desired and  
21 deemed appropriate, we have that here, and that can  
22 be adopted.

23          Q.       So outside of the actual goods and  
24 services description, can you explain for me what

1 sorts of training services you might actually offer  
2 in conjunction with RStudio?

3 A. We might provide online courses for  
4 learning R or learning specific analytic techniques  
5 related to R. We might provide online courses for  
6 how to use RStudio. We might do an on-site, a one-  
7 or two-day on-site training at a company with the  
8 same content.

9 Q. Can you explain for me the sorts of  
10 training that you might provide in conjunction with  
11 RStudio in the use of statistical methods?

12 A. For example, if a group of people wants to  
13 understand how to use R to do like clinical trial  
14 analysis, we might have, hey, here's the three or  
15 four most useful packages for doing analysis of  
16 clinical trials. Here's how you install them,  
17 here's how you use them. So if there is some  
18 specialized type of analysis, we might give people  
19 an orientation to that.

20 Q. And let's now move on to the RStudio in  
21 International Class 42. Can you please read for me  
22 the original goods and services description for  
23 International Class 42?

24 A. "Application service provider, ASP,

1 featuring software for statistical computing and  
2 software applications development; computer software  
3 consultation, design and development of computer  
4 software; technical support services, namely,  
5 troubleshooting of problems with computer software  
6 programs."

7 Q. Thank you.

8 And at the time that counsel drafted this  
9 goods and services description, was it accurate as  
10 applied to the intended RStudio services?

11 A. Yes.

12 Q. And if you could please now read for me  
13 the proposed amended goods and services description  
14 in the next column.

15 A. "Application service provider, ASP,  
16 featuring software for advanced statistical  
17 computing using the R computing language and data  
18 from two-dimensional datasets; consultation  
19 regarding computer software for advanced statistical  
20 computing using the R computing language and data  
21 from two-dimensional datasets; design and  
22 development of computer software for advanced  
23 statistical computing using the R computing language  
24 and data from two-dimensional datasets; technical

1 support services, namely, troubleshooting of  
2 problems with computer software for advanced  
3 statistical computing using the R computing language  
4 and data from two-dimensional datasets."

5 Q. And I will ask you the same question in  
6 regard to International Class 42 that I asked you  
7 for the other two. Why do you feel that there might  
8 be a need to amend the goods and services  
9 description?

10 A. Again, the original description is  
11 accurate. If the Board feels that the original  
12 description in some way overlaps with or is not  
13 sufficiently differentiated from Embarcadero's goods  
14 and services descriptions, we provide this as an  
15 alternative that has additional specificity.

16 Q. And speaking specifically about the sorts  
17 of services that might be provided in conjunction  
18 with this class, the goods and services description  
19 as originally written says application service  
20 provider. Can you explain to me what that means?

21 A. That means if I access software over a  
22 network, so I would provide the use of RStudio over  
23 a network. You could access it using a Web browser.

24 Q. So then RStudio would be hosting the --

1           A.       We would host RStudio, the product, and  
2 let people access it using a Web browser, yes.

3           Q.       And what is the intended service for  
4 computer software consultation?

5           A.       If people are conducting analyses -- I'll  
6 use the clinical trial example again -- and, for  
7 example, they're trying to analyze clinical trial  
8 data and they say "We're not really sure which  
9 package to use," we might be able to provide some  
10 guidance on how to do that. Or they might have  
11 other questions about how to conduct their work, and  
12 we might as a result of our experience with  
13 customers over time have some insight into the best  
14 ways of approaching problems.

15          Q.       And further what sort of services are  
16 intended to go along with design and development of  
17 computer software?

18          A.       That would be if a customer says "Well, we  
19 want to do this clinical trial analysis. You've  
20 told us that we should use this package. Could you  
21 actually help us actually write the code that does  
22 the clinical trial analysis?"

23          Q.       So am I correct, then, that your testimony  
24 indicates you would be helping people design and

1 develop software actually within RStudio?

2 A. Yes, that's correct.

3 Q. As opposed to creating a different  
4 product?

5 A. That's correct. We would be helping them  
6 use RStudio to design and develop software, yes.

7 Q. And what services are intended to go along  
8 with technical support services?

9 A. That is more to do with "I'm having  
10 trouble using RStudio. RStudio doesn't appear to be  
11 working the way it's advertised." That's more  
12 troubleshooting. The first one is more "I have a  
13 novel problem or a problem that I want to solve with  
14 RStudio. Otherwise RStudio doesn't appear to be  
15 working correctly. Can you help me figure out what  
16 might be going on?"

17 Q. Other than the services we have already  
18 discussed, are there any other services that you  
19 plan to offer in conjunction with the RStudio  
20 product?

21 A. No.

22 Q. I would like to turn our attention back to  
23 Exhibit Number 7, which is the list of Embarcadero  
24 products, specifically the products that are

1 referred to or sold in conjunction with the  
2 ER/Studio mark. I believe earlier you testified  
3 that ER can be understood to stand for entity  
4 relationship. Is that correct?

5 A. That is correct.

6 Q. To your knowledge, does the term ER have  
7 any other definition in the field of computer  
8 software?

9 A. Not that I'm aware of.

10 MR. RUFO: I am going to place another  
11 exhibit before you. This will will be marked as  
12 Exhibit Number 8, I believe we're up to.

13 (Allaire Trial Exhibit 8 marked for  
14 identification.)

15 BY MR. RUFO:

16 Q. Mr. Allaire, placed before you is what has  
17 been marked as Exhibit Number 8. Do you recognize  
18 this exhibit?

19 A. I do.

20 Q. And can you please tell me what it is?

21 A. These are examples on the Internet of ER  
22 used as an abbreviation for entity relationship.

23 Q. And do you have knowledge as to how this  
24 exhibit was created?

1           A.       Yes. I personally sought out about a  
2 dozen of these, identified them, enumerated them,  
3 and then I worked with a colleague to identify the  
4 other instances and oversaw that work.

5           Q.       So do I understand from what you've said,  
6 you said you oversaw the work, did you supervise  
7 your colleague's work in compiling the rest of this  
8 exhibit?

9           A.       Yes, I did, yes.

10          Q.       To your knowledge, the information  
11 contained in the summary sheets at the top of this  
12 exhibit, is that accurately reflective of the  
13 information contained within the other documents  
14 contained in this exhibit?

15          A.       It is.

16          Q.       I would like to take you through a few  
17 examples within this document.

18                 MR. RUFO: Marty, as I'm sure you know, as  
19 a technical matter, this will be filed  
20 electronically with the Board, so I have removed the  
21 tabs. But I will be able to direct the witness to  
22 the specific tab numbers based on the page numbers.

23                 MR. GREENSTEIN: We've got the page  
24 numbers.

1 MR. RUFO: Yes.

2 BY MR. RUFO:

3 Q. So, Mr. Allaire, I am going to direct your  
4 attention first to what is located in tab number 3,  
5 which you will find starting at page 688.

6 A. Okay.

7 Q. And can you please explain to me what is  
8 located in tab 3 at page 688.

9 A. This is an article titled Data and  
10 Visualization Entity Relationship Model.

11 Q. Does that document provide a definition  
12 for the term ER?

13 A. It does. On page 689 it has a definition  
14 for entity relationship, parentheses, ER model, "a  
15 high-level data model that is useful in developing  
16 conceptual design for a database."

17 Q. Thank you. And now I am going to turn  
18 your attention to what is marked as number 18, which  
19 you will find at page 795.

20 A. Okay.

21 Q. And can you please describe to me what is  
22 located at page 795?

23 A. Yes. It is a product datasheet for a  
24 product called Aqua Data Studio ER Modeler.

1 Q. And does this document that you refer to,  
2 does it define ER?

3 A. Yes, it does. It indicates entity  
4 relationship in the header and then uses ER  
5 parenthetically, and then throughout the document  
6 refers to ER to mean entity relationship.

7 Q. I would like to turn your attention to  
8 what is listed on the summary page as number 28,  
9 which can be located at page 830.

10 A. Okay.

11 Q. Looking at page 830, can you please  
12 explain to me what document this is?

13 A. This is an article by Peter Chen from UCLA  
14 Graduate School of Management and it is about entity  
15 relationship diagrams.

16 Q. And is the term ER defined in this  
17 document?

18 A. Yes, in the abstract and in the first  
19 sentence the term is defined, and then ER is used  
20 throughout the document to reference entity  
21 relationship.

22 Q. And I would like to take a look at another  
23 example. Why don't we look at example number 35,  
24 which is located at page 889. Can you please

1 describe to me what is located at page 889?

2 A. This is a definition of entity  
3 relationship modeling from TechDictionary.com.

4 Q. And in that definition of entity  
5 relationship modeling, does it define the term ER?

6 A. Yes, it defines entity relationship  
7 modeling in the first sentence and then it indicates  
8 that this is also known as ER modeling.

9 Q. Now I would like to direct your attention  
10 to what is listed on the summary page as number 47,  
11 which can be located within the body of the exhibit  
12 at page 915.

13 A. Okay.

14 Q. Can you please describe to me what is  
15 listed here or what appears here at page 915?

16 A. This is an article from IBM entitled  
17 Entity Relationship Modeling with UML.

18 Q. And if we turn to the first actual page of  
19 the article, which is located at page 917, is the  
20 term ER defined somewhere in this article?

21 A. Yes; it is defined in the first sentence.  
22 Entity relationship is defined as ER, and then ER is  
23 used throughout the document to mean entity  
24 relationship.

1 MR. RUFO: Marty, you will be happy to  
2 know that we are not going to go through all fifty.

3 MR. GREENSTEIN: I am happy to know that.

4 THE WITNESS: Can I just take a quick bio  
5 break?

6 MR. RUFO: Oh, of course we can. We'll  
7 just go off the record.

8 (In recess 11:05 a.m. to 11:07 a.m.)

9 BY MR. RUFO:

10 Q. Mr. Allaire, we were talking about the  
11 ER/Studio mark and in specific we had some  
12 discussion about what ER stood for. Now I would  
13 like to talk a little bit about the term "studio."

14 MR. GREENSTEIN: The term what?

15 MR. RUFO: Studio.

16 BY MR. RUFO:

17 Q. And other than ER/Studio or for that  
18 matter RStudio, are you familiar with other software  
19 products that use the term "studio"?

20 A. Yes, there are many products in the  
21 application development and database category that  
22 use "studio."

23 MR. RUFO: I am going to enter another  
24 exhibit now. This will be Exhibit Number 9.

1 (Allaire Trial Exhibit 9 marked for  
2 identification.)

3 BY MR. RUFO:

4 Q. Mr. Allaire, do you recognize the exhibit  
5 that's been placed before you?

6 A. I do.

7 Q. And what is that exhibit?

8 A. This is a list of fifty technical  
9 programming and database products with "studio"  
10 formative names.

11 Q. And do you have knowledge as to how this  
12 exhibit was compiled?

13 A. Yes. I personally gathered the first  
14 dozen or so of these on the Internet and then I  
15 supervised a colleague of mine in gathering the  
16 rest.

17 Q. So based on your having gathered a number  
18 of them and then supervised your colleague in  
19 compiling the rest, to your knowledge is the summary  
20 information contained in the top summary pages  
21 accurately reflective of the information provided  
22 within the rest of the exhibit?

23 A. Yes, it is.

24 Q. Now I would like to ask you some specific

1 questions about the materials contained within that  
2 exhibit. I would like to direct you first to what  
3 is listed on the summary sheet as number 3, which  
4 you can locate by going to page 552.

5 A. Okay.

6 Q. Can you please describe for me the  
7 document that is located at page 552?

8 A. Yes. This is a description of Aptana  
9 Studio, which is a Web development tool.

10 Q. And the term studio is incorporated into  
11 the name. Correct?

12 A. The term studio is incorporated into the  
13 name, yes.

14 Q. And do you have an understanding generally  
15 of what this product might do?

16 A. Yes. This allows you to build websites,  
17 among other things, with the Ruby programming  
18 language.

19 Q. And to your knowledge does Embarcadero  
20 offer a product that might be similar to this one?

21 A. Yes. Embarcadero's 3rdRail product would  
22 be competitive with this product.

23 Q. I would like to turn your attention now to  
24 what would be listed on the summary sheet as number

1 18; and you can find it by turning to page 600. Can  
2 you please describe for me what is located at page  
3 600?

4 A. Okay. This is a product called IBM Data  
5 Studio, which provides database development  
6 administration tools.

7 Q. And is the term "studio" included in the  
8 name of the product?

9 A. It is, yes, it is.

10 Q. Can you describe perhaps a little more  
11 specifically what this tool might be used for?

12 A. This would be used to manage databases, so  
13 to add tables, remove tables, add columns, drop  
14 columns, build queries against databases and  
15 otherwise monitor and manage databases. So if you  
16 look back to the Embarcadero list of products, the  
17 database management and development category has a  
18 number of products that this tool would compete  
19 with.

20 Q. And referring to the Embarcadero list of  
21 products, I will just state for the record that the  
22 witness is referring to Exhibit Number 7.

23 So let's look at another example from this  
24 particular exhibit. I would direct your attention

1 to what would be listed on the summary page as  
2 number 29; and that can be located by turning to  
3 page 624.

4 A. Okay.

5 Q. Can you please describe for me the  
6 document located at page 624?

7 A. This is Optim Development Studio.

8 Q. And "studio" is incorporated in the name  
9 of the product. Is that correct?

10 A. Yes.

11 Q. And can you please explain to me generally  
12 what Optim Development Studio does?

13 A. This is data access, design, development  
14 and deployment. It's data management. It also fits  
15 in that category of database management and  
16 development that we talked about earlier.

17 Q. Let's look at another example.  
18 Specifically why don't we turn to the actual next on  
19 the list, which would be number 30, which can be  
20 found at page 626.

21 A. Okay.

22 Q. I believe it will be a few pages in.

23 A. 629 is where I see the first mention here.

24 Q. 629, yes. Describe the document that is

1 before you, please.

2 A. This is a product home page for Oracle  
3 Solaris Studio, which is a tool that is used for  
4 doing C, C++, FORTRAN development.

5 Q. And again "studio" is contained within the  
6 name of the product. Correct?

7 A. Yes, it is.

8 Q. And to your knowledge would this be  
9 competitive with any Embarcadero product?

10 A. Yes. This would compete with the  
11 Embarcadero C++ Builder product listed under  
12 application development.

13 Q. Now I would like to turn your attention to  
14 what would be referred to on the summary page as  
15 number 33, which is located at page 634.

16 A. Okay.

17 Q. And can you please describe for me the  
18 document located at page 634?

19 A. Yes. This is a product called PHP Studio  
20 2010. This is used to build website applications  
21 using PHP.

22 Q. So is this application development  
23 software?

24 A. This is application development software,

1     yes.

2           Q.     And to your knowledge is there a product  
3     offered by Embarcadero that is competitive with PHP  
4     Studio 2010?

5           A.     Yes.   This product would compete directly  
6     with Embarcadero's RadPHP product.

7           Q.     Let's now take a look at what would be  
8     listed on the summary page as number 39; and that  
9     can be located within the exhibit at page 645.  Have  
10    you located the page?

11          A.     I have, yes.

12          Q.     Can you please describe for me the  
13    document located at page 645?

14          A.     Yes.   This is a product datasheet for  
15    SAS/IML Studio, which is a software tool for doing  
16    statistical computing, statistical programming.

17          Q.     So is it accurate to classify this as  
18    statistical computing software?

19          A.     This is statistical computing software,  
20    yes.

21          Q.     And is this particular software directly  
22    competitive with RStudio?

23          A.     This is directly competitive with RStudio,  
24    yes.

1 MR. GREENSTEIN: Which is the page you're  
2 on?

3 MR. RUFO: That is page 645.

4 BY MR. RUFO:

5 Q. I would now like to direct your attention  
6 to what would be referred to in the summary pages as  
7 number 40, which you can find in the exhibit  
8 starting at page 646, actually the next page.

9 A. Okay, yes.

10 Q. Can you please describe for me what is  
11 located at page 646?

12 A. This is a product called Server Studio,  
13 which is as described here a comprehensive  
14 multiplatform tool suite for IBM Informix databases.

15 Q. And I will just ask you again, the term  
16 "studio," is that included in the name of the  
17 product?

18 A. Yes.

19 Q. I would now like to turn your attention to  
20 what will be located at number 44 on the summary  
21 sheet, which can be found at page 652. Okay?

22 A. Okay.

23 Q. And can you please describe for me the  
24 document located at page 652?

1           A.       Yes.  This is a datasheet, product  
2       datasheet for a product called SQL Studio for  
3       Oracle.

4           Q.       And again I will just ask you, is the term  
5       "studio" included in the name of the product?

6           A.       It is, yes.

7           Q.       And can you describe what SQL Studio for  
8       Oracle might do?

9           A.       Yes.  It is used as described here for  
10       Oracle Database administration and development.  So  
11       it's administration, managing database schema and  
12       objects, Oracle Database design, migration,  
13       extraction, query building.

14          Q.       Let's direct our attention then to what  
15       would be listed on the summary pages as number 47,  
16       which you can find at page 660.  Okay?

17          A.       Yes.

18          Q.       Can you please describe for me the  
19       document located at page 660?

20          A.       Yes.  This has product information about a  
21       product called UML Studio.

22          Q.       And again does the term "studio" appear in  
23       the name of this product?

24          A.       It does, yes.

1 Q. And can you describe for me what this  
2 product does?

3 A. This helps people build UML -- do software  
4 design using UML. So this would be a direct  
5 competitor to ER/Studio Software Architect, which  
6 also does software design based on UML.

7 Q. Thank you.

8 I would now like to turn your attention to  
9 the next page, actually, which would be located on  
10 the summary as number 48. So looking at page 661,  
11 can you please describe for me the document located  
12 at that page?

13 A. This is a product description of Visual  
14 Studio.

15 Q. And who is the manufacturer of Visual  
16 Studio?

17 A. This is a tool from Microsoft which allows  
18 you to do, among other things, C++ development and  
19 .Net development.

20 Q. And I will ask you again, does the term  
21 "studio" appear within the name of the product?

22 A. It does, yes.

23 Q. And do you have an understanding as to the  
24 status of Microsoft's Visual Studio within the

1 industry?

2 A. Yes. This is the leading C++ development  
3 tool in the industry and it would compete directly  
4 with the Embarcadero C++ Builder product.

5 Q. So moving our attention then to what would  
6 be listed as number 50 on the summary pages and  
7 which can be found at page 664, can you please  
8 describe for me the document?

9 A. Yes. This is product information about a  
10 product called the Zend Studio.

11 Q. And again I will ask, does the term  
12 "studio" appear within the name of the product?

13 A. It does.

14 Q. And can you explain to me what Zend Studio  
15 does?

16 A. Zend Studio is an application development  
17 software for using the PHP programming language, so  
18 this would be a direct competitor to Embarcadero's  
19 RadPHP product.

20 Q. Having gone through this list of software  
21 products using the term "studio," would you consider  
22 as it applies to software the term "studio" to be a  
23 common term?

24 A. Yes.

1 Q. I would now like to spend a little time  
2 talking specifically about the RStudio mark. In the  
3 RStudio mark, does the letter or term R represent  
4 something?

5 A. Yes. It represents the R programming  
6 language.

7 Q. And does the term "studio" have any  
8 specific representation for you in conjunction with  
9 the RStudio mark?

10 A. Studio is a metaphor. You can think of it  
11 like an artist's studio or recording studio. And  
12 the implication is that all the tools you need to do  
13 your job are assembled in one place, and that's what  
14 RStudio is. It is a collection of tools that you  
15 need to work with R.

16 Q. You mentioned that it is a metaphor for an  
17 artist's studio. Is that correct?

18 A. Yes.

19 Q. So a set of tools that the artist might  
20 require would be located in the artist's studio. Is  
21 that right?

22 A. That's right, they would be physically in  
23 the artist's studio, yes.

24 Q. So what sort of tools are within the

1 RStudio product that would be synonymous with the  
2 tools that might be in an artist's studio?

3 A. You have a console for editing commands.  
4 You have a code editor for editing source code. You  
5 have a workspace browser for viewing the results of  
6 computations. You have a history capability that  
7 provides a history of all the commands you've  
8 entered. You have a plotting capability for doing  
9 statistical graphics. You have a packages  
10 capability for viewing the various modules you have  
11 loaded at any given time.

12 So there's a bunch of different tools you  
13 need and RStudio brings them all together in one  
14 place.

15 Q. And these tools are all available in the  
16 standard deployment of RStudio. Is that correct?

17 A. Yes.

18 Q. Are you familiar with the term e-mail?

19 A. I am.

20 Q. In the term e-mail, do you have an  
21 understanding as to whether or not the letter E has  
22 a particular meaning?

23 A. Yes. It means electronic mail.

24 Q. And are you familiar with the term

1 e-trade?

2 A. I am, yes.

3 Q. And again I would ask, within the term  
4 e-trade, does the letter E have a specific meaning?

5 A. I think it means electronic trading.

6 Q. And again I will ask, are you familiar  
7 with the term e-commerce?

8 A. Yes.

9 Q. And what does the E stand for in  
10 e-commerce?

11 A. Electronic commerce.

12 Q. And are you familiar with the term  
13 ER/Studio?

14 A. I am, yes.

15 Q. And to your knowledge what does the letter  
16 E stand for in ER/Studio?

17 A. Entity.

18 Q. Have you ever known anyone to refer to  
19 RStudio as ER/Studio?

20 A. No.

21 Q. Has anyone ever contacted RStudio asking  
22 about ER/Studio?

23 A. No.

24 Q. And would you ever refer to RStudio as

1 ER/Studio?

2 A. I would not.

3 Q. And why wouldn't you?

4 A. RStudio is a piece of software. In the  
5 case of some of those other examples you gave where  
6 E is used as a preface, mail is most commonly  
7 understood as physical mail. E-mail makes a  
8 distinction; it's electronic mail.

9 In our case we are software. Everyone  
10 understands it to be not -- You know, it's  
11 electronic; it's software. There would be no point  
12 whatsoever to prefacing it with an E to indicate  
13 that it's electronic, because all software is  
14 electronic.

15 Q. Speaking in specific to the RStudio  
16 statistical computing software, how might a customer  
17 acquire the RStudio statistical computing software?

18 A. They would download it from our website.

19 Q. I would like to enter another exhibit.  
20 Actually, before I place the exhibit in front of  
21 you, how would they download it from your website?

22 A. They would come to our website, they would  
23 see some screen shots and other descriptions of what  
24 the product does, and then they would click a

1 download tab and then they would navigate to the  
2 page where they're going to download it. The page  
3 would actually say you need to have the R  
4 programming language installed on your computer  
5 before you use RStudio. It kind of tells them that  
6 in advance so they know it. Then they just click a  
7 link and it would be downloaded.

8 MR. RUFO: Now I would like to enter  
9 Exhibit Number 10.

10 (Allaire Trial Exhibit 10 marked for  
11 identification.)

12 BY MR. RUFO:

13 Q. Mr. Allaire, I am going to place this  
14 exhibit in front of you, if you could take a moment  
15 to look at it. Do you recognize -- And please note  
16 that there's two pages to this exhibit. Do you  
17 recognize the exhibit that I have placed before you?

18 A. Yes.

19 Q. What is this exhibit?

20 A. This is our home page. It's a printout of  
21 our home page, at least one previous iteration of  
22 our home page, and then a printout of the download  
23 page.

24 Q. In fact, looking at the first page,

1 I believe next to "download RStudio" the term "beta"  
2 appears. Is that correct?

3 A. It does, yes.

4 Q. Can you explain to me what that means?

5 A. Beta means it's a preliminary version of  
6 the software; it's not the final version. It's a  
7 test version.

8 Q. Has a final version since been deployed?

9 A. No. We are still in beta testing.

10 Q. You are still in beta testing. And is  
11 your website currently live and available on the  
12 Internet?

13 A. It is.

14 Q. So when you referred to a customer coming  
15 to your website to download RStudio, is this the  
16 interface that they would --

17 A. This is approximately what they would see,  
18 yes.

19 Q. Is there any other way other than to click  
20 the link on the website, is there any other way for  
21 an RStudio customer to access the RStudio product?

22 A. Not that I am aware of. I should also say  
23 that we have a hosted -- We had talked earlier about  
24 the ASP delivery of software. We have a hosted

1 version of RStudio that can be accessed at  
2 beta.rstudio.org where people can use the software  
3 using a Web browser. That is also in private beta  
4 test. This website here and the ability to download  
5 RStudio is a public beta test.

6 Q. So you mentioned the URL that they can go  
7 to. Can you state for me again what that URL is?

8 A. I'll give you the two URLs. One is  
9 www.RStudio.org and that's the main company website,  
10 product website where you can download the software  
11 from. And then there's beta.rstudio.org, which is  
12 where we host our private beta of RStudio.

13 Q. Is there any other URL to your knowledge  
14 that someone can use to access the RStudio product?

15 A. We have one other beta server, that's  
16 topaz.rstudio.org.

17 Q. Any others?

18 A. No.

19 Q. Are there any other URLs to link to the  
20 RStudio product that don't contain the term RStudio  
21 within them, to your knowledge?

22 A. Not that I'm aware of.

23 Q. Is there any particular way that you would  
24 describe the acquisition of the RStudio product?

1           A.       The customers who acquire it, they are R  
2 programmers. They are people who use the R  
3 programming language to do statistical computing.  
4 Typically they would hear from maybe a colleague or  
5 a friend that, hey, there's a tool out there that  
6 makes it easier to work with R, and so then they  
7 would come to the website, maybe look at some of the  
8 screen shots, satisfy themselves that it's worth  
9 their time to download it, and then download it.

10          Q.       But they would come directly to your  
11 website. Correct?

12          A.       Yes.

13          Q.       And is it fair then to characterize the  
14 acquisition of RStudio as a direct sale?

15          A.       It is.

16          Q.       How much does a customer pay for RStudio?

17          A.       They don't. It's free.

18          Q.       So bearing in mind that this is a free  
19 product, can you please describe for me the process  
20 which a customer might go through before deciding to  
21 obtain RStudio?

22          A.       Again, these customers use R to solve  
23 various statistical computing problems. They are  
24 solving complex problems using a complex tool. An

1 IDE like RStudio assists them in working with R.  
2 But really, when you choose an IDE or an editor to  
3 work with, that's what you're going to be doing your  
4 work in all day long. I mean, you'll be ten, eight,  
5 twelve hours a day, however much you work, you're  
6 going to be using that tool.

7 Q. I'm sorry to interrupt, but I just want to  
8 ask before we get further along, can you please just  
9 define for the record what IDE stands for?

10 A. Sorry. That is integrated development  
11 environment.

12 Q. Thank you. You can continue.

13 A. And so customers are quite discerning  
14 about what tools they use. It's a very significant  
15 choice because it defines kind of what tools you  
16 have available, and the assets of those tools and  
17 limitations of those tools define how effective you  
18 can be in your work. So typically customers make a  
19 pretty careful evaluation about what tools they use.

20 Q. How would you describe the level of  
21 sophistication of a customer for statistical  
22 computing software in general?

23 A. I would say they're highly sophisticated.

24 Q. And would that then be true as well for

1 potential customers of RStudio specifically?

2 A. Absolutely.

3 Q. You mentioned earlier that this product  
4 can be obtained for free. Correct?

5 A. Yes.

6 Q. So because it is free, won't it tend to be  
7 somewhat of an impulse acquisition?

8 A. No.

9 Q. Why wouldn't that be the case?

10 A. Again, because the choice of your tool  
11 defines how you work. It's a very significant  
12 choice. And the real cost of it is not the price  
13 that you pay but your time. It's how you spend your  
14 time and how effective your time is in getting your  
15 job done. So it is a very significant choice and it  
16 has a cost that is not an economic cost but rather a  
17 time cost.

18 Q. What about the services that RStudio  
19 intends to offer? Will there be an actual cost  
20 associated with those services?

21 A. Yes, yes. If people want to purchase  
22 training or technical support or hosted versions of  
23 RStudio, then we will charge for those services.

24 Q. And how would a potential service customer

1 obtain those services?

2 A. They would contact us directly, typically  
3 through an e-mail, and say they're interested in  
4 obtaining those services; and then we would have a  
5 conversation with them about what they were looking  
6 for and whether we could provide it.

7 Q. And then who ultimately would provide  
8 those services?

9 A. RStudio would provide those services.

10 Q. Do you currently have plans to have these  
11 sorts of services provided by anyone other than  
12 RStudio?

13 A. No.

14 Q. Are you familiar with the manner in which  
15 a customer might purchase architecture and design  
16 software such as the products offered by Embarcadero  
17 under the ER/Studio mark?

18 A. Yes.

19 Q. Can you please explain to me to your  
20 knowledge what that process would normally entail?

21 A. It's similar to what I was talking about  
22 with RStudio. These are customers who are  
23 performing a very complex task and they are  
24 supported by complex and capable tools to do that

1 task, and the tool really defines how effective they  
2 can be in their work. And they're typically doing  
3 very important work, so they are quite discerning  
4 about what tools they use, what the capabilities of  
5 those tools are, how those capabilities compare to  
6 competitive tools and so on.

7 Q. So in a situation like the one you  
8 describe, is the potential customer in addition to  
9 their interest in the actual tool itself also  
10 concerned about the source that is providing that  
11 tool?

12 A. Yes.

13 Q. And why would that be the case?

14 A. Because, again, when you choose a tool,  
15 you want to make sure the tool is going to be around  
16 for the long term. You want to make sure it's going  
17 to be actively updated and maintained. And so it is  
18 important to understand who created the tool and  
19 what their investment in the tool is and what their  
20 likelihood of continuing to invest in the tool is.

21 Q. So can you give me an example of how, say,  
22 a corporation or a company might go about purchasing  
23 architecture and design software?

24 A. There's a couple ways. One would be that

1 an individual within the company who is tasked with  
2 doing architecture/design, they take the initiative  
3 to seek out a tool, you know, download it, try it,  
4 and ultimately purchase the tool. So they've got a  
5 job to do. They go probably on the Internet,  
6 research what the available tools are, maybe  
7 download two or three of them, try them out, and  
8 then choose one to use. So that would be like an  
9 individual.

10 Q. Another question about the individual. So  
11 the individual is looking online and looking at the  
12 different tools and probably, as you stated,  
13 potentially testing a few of those tools?

14 A. Yes.

15 Q. Are they also aware of who they are  
16 getting the tool from?

17 A. Yes, they are. They would be aware of the  
18 company they are getting the tool from.

19 Q. And why would that be the case?

20 A. Again, because they are concerned with who  
21 the leaders are in the space, who's going to be  
22 around. If it's on Version 5, is there going to be  
23 a Version 6? You know, how soon will there be a  
24 Version 6? If I create documents with this tool,

1 will the software be around to read those documents  
2 in five years or ten years? And so that's an  
3 important consideration.

4 Q. So that was an example of how an  
5 individual within a company might look for design  
6 and architecture software.

7 A. Yes.

8 Q. Is there any other way that a company  
9 might acquire such --

10 A. Companies will also make a decision at a  
11 higher level, and it could be at a corporate level  
12 or at a department level or workgroup level, of a  
13 standard tool they're going to use. And in that  
14 case they probably have a committee. It could be  
15 anywhere from three people to ten people who will  
16 study the space and the tools and the vendors in  
17 more depth. And that would involve typically  
18 detailed hands-on review, feature comparison  
19 matrixes, likely and often having a vendor actually  
20 visit the customer directly and make presentations  
21 about their products and the company. And so the  
22 act of purchasing at a group level, whether it be  
23 workgroup, department or corporate, is a lot more  
24 rigorous and can take several months and quite a bit

1 of time and effort.

2 Q. So you mentioned the potential for vendors  
3 to visit the company. Correct?

4 A. Yes.

5 Q. In this process, if a company was  
6 evaluating more than one particular tool, would you  
7 anticipate that they would get visits from more than  
8 one vendor?

9 A. They absolutely could, yes.

10 Q. And the committee that you described who  
11 would be looking for this particular tool, would  
12 they also have an interest in understanding who is  
13 providing the tool?

14 A. Yes. Even more so, because they're going  
15 to be making a decision for an entire group or an  
16 entire company. So the consequences of that  
17 decision are that much more significant, and  
18 therefore the viability and vitality of the vendor  
19 that is the source is critical.

20 Q. Would you describe the acquisition of this  
21 sort of software as an impulse purchase?

22 A. No.

23 Q. How would you describe the purchase?

24 A. I would describe the purchase as a careful

1 purchase where you are evaluating in detail the  
2 capability of the software, comparing it to other  
3 competitors and making a very reasoned and  
4 deliberate choice.

5 Q. So is an individual who uses RStudio also  
6 likely to use ER/Studio?

7 A. No.

8 Q. Why not?

9 A. Because the individual using RStudio is  
10 doing statistical computing and statistical  
11 analysis. The individual who is using ER/Studio is  
12 doing design and architecture of software. Those  
13 are two entirely different skill sets, two entirely  
14 different problems, and the same person would not  
15 use both.

16 Q. For ER/Studio, it would simply be design  
17 and architecture of software?

18 A. I'm sorry?

19 Q. For ER/Studio you mentioned design and  
20 architecture of software.

21 A. Software and databases, yes.

22 Q. So what about an individual at a company?  
23 Is it possible that one company would use both  
24 ER/Studio and RStudio?

1           A.       A company, for example, General Motors  
2       likely uses just about every software product out  
3       there. So as companies get larger and larger, the  
4       incidence of two software products being at that  
5       company gets higher. So I'm sure there'll be some  
6       companies that will use both products, but an  
7       individual within those companies would not.

8           Q.       And why would that be the case?

9           A.       Just to repeat my previous answer, the  
10       person using RStudio is doing statistical computing  
11       and statistical analysis. That is a different skill  
12       set and problem domain than doing software and  
13       database architecture and design.

14          Q.       And so based on your testimony that they  
15       provide different functions for different employees,  
16       do you have an understanding as to whether or not  
17       statistical computing software might be purchased at  
18       the same time by the same individual as database  
19       architect and design software?

20          A.       It would not.

21          Q.       What about by the same committee or  
22       workgroup?

23          A.       No. It would be a completely separate  
24       process; completely different people would be

1 involved in making the choice. They would not make  
2 those decisions concurrently.

3 Q. And you base this knowledge on what?

4 A. On my experience both selling software  
5 development tools and creating software development  
6 tools.

7 Q. Are you aware of any instances of actual  
8 consumer confusion between RStudio on the one hand  
9 and ER/Studio on the other?

10 A. No.

11 Q. To your knowledge, has anyone ever  
12 contacted RStudio asking for ER/Studio?

13 A. No.

14 Q. To your knowledge, has anyone ever  
15 contacted RStudio to inquire about obtaining  
16 architecture and design software?

17 A. No.

18 Q. Has anyone ever contacted RStudio to  
19 inquire as to whether they could use RStudio to  
20 design a relational database?

21 A. No.

22 Q. Has anyone ever contacted RStudio to  
23 inquire as to whether they could use RStudio  
24 generally as any sort of architecture or design

1 tool?

2 A. No.

3 Q. So taking into account what it is that you  
4 know about statistical computing software sold under  
5 the RStudio mark and also taking into account what  
6 it is you know about the design and architectural  
7 tool sold under the ER/Studio mark, do you think  
8 that there is a likelihood that consumers could be  
9 confused as to the source of the various products  
10 sold under these two marks?

11 MR. GREENSTEIN: Objection. He is not an  
12 expert in the law.

13 A. I do not.

14 Q. In your personal opinion do you believe  
15 that there is a likelihood that consumers would be  
16 confused between these products?

17 A. No.

18 Q. And why not?

19 A. Because they are used for entirely  
20 different purposes -- on the one hand, software and  
21 database architecture and design; on the other hand,  
22 statistical computing -- by highly skilled, highly  
23 trained, highly knowledgeable practitioners who do  
24 complex tasks and need complex tools to support

1 those tasks and make deliberate choices about what  
2 tools they use.

3 Q. Any other reasons?

4 A. No.

5 MR. RUFO: I would like to take a break at  
6 the moment. We may be done with the direct  
7 testimony, but I just want to have an opportunity to  
8 review.

9 MR. GREENSTEIN: That's fine. I was about  
10 to suggest that anyway.

11 (Luncheon recess at 11:43 a.m.)

12 -----

13 AFTERNOON SESSION

14 12:30 p.m.

15 -----

16 BY MR. RUFO:

17 Q. We're back on the record after lunch and I  
18 do just have a few more questions.

19 I want to circle back to a question about  
20 the ER/Studio family of products. In specific, all  
21 of the -- And let's take a look at Exhibit Number 7,  
22 which I believe you have in front of you. If we  
23 look at all the ER/Studio products available under  
24 the design and architecture tools section, can you

1 tell me, are any of these products listed capable of  
2 developing an application?

3 A. No. These are design and architecture  
4 tools that are used for design and specification,  
5 which is different from application development  
6 tools, which are used to build applications. So  
7 these are not used to build applications; they are  
8 used to design and architect them.

9 Q. And now one last couple of questions  
10 regarding RStudio. We spent some time today  
11 discussing all of the different things that RStudio  
12 can do. But can you just please give me an example  
13 of how a customer might actually use the RStudio  
14 software?

15 A. Yes. So I'll use the example of trying to  
16 understand what causes diabetes or what causes --  
17 what causes diabetes. So the customer might have a  
18 two-dimensional dataset that has columns gender,  
19 ethnicity, weight, daily alcohol consumption, daily  
20 tobacco consumption, glucose reading, average  
21 glucose reading, and were they diagnosed with  
22 diabetes. So they've got all this data and they  
23 want to understand the interrelationships between  
24 the variables. So what they might start doing is

1 they will load the dataset into RStudio into a data  
2 frame, which is a two-dimensional dataset --

3 Q. Let me just ask you, can you describe for  
4 us how that two-dimensional dataset would look both  
5 in terms of the columns and the rows?

6 A. It would look similar to the exhibit we  
7 saw earlier. So up top you would see, like a  
8 spreadsheet, you would see gender, ethnicity,  
9 average weight, average glucose reading, average  
10 daily alcohol consumption, were they diagnosed with  
11 diabetes. That would be at the top. And so then  
12 you would see each row would have all those  
13 variables for, say, 500 individuals, for example.

14 Q. Please continue.

15 A. So the analyst might start by trying to  
16 understand where might there be relationships  
17 between variables. They might do some statistical  
18 graphics to see if there are clusters of things that  
19 suggest patterns. So they might do like a simple  
20 plot that splits by gender or splits by ethnicity to  
21 see if there are higher incidences, or they might do  
22 a scatter plot to try to see if there are  
23 correlations between the different variables --  
24 okay? -- like weight or alcohol consumption.

1           And so after they get an idea of where  
2 relationships might be, then they'll use analytical  
3 tools to try to find out are the relationships  
4 statistically meaningful and then what is the  
5 magnitude of the relationships? So they might run  
6 ANOVA tests, analysis of variance tests to find out  
7 is there a statistically meaningful relationship  
8 between, for example, ethnicity and diabetes  
9 diagnosis or a particular bracket of daily alcohol  
10 consumption, a certain number of drinks per day, for  
11 example, and whether they are diagnosed with  
12 diabetes.

13           So the analysis of variance would be aimed  
14 at saying which variables are related significantly  
15 to other variables.

16           But further than that, they may want to  
17 understand the specific magnitude of relationships.  
18 So they might want to understand if someone of  
19 average weight gains 15 pounds, what would be the  
20 likely impact on their glucose level and therefore  
21 their chance of being diagnosed with diabetes. And  
22 so they would use regression and multiple regression  
23 tools to do that.

24           A simple regression is trying to

1 understand one variable vis-à-vis another variable,  
2 so it could be weight and glucose level. Multiple  
3 regression would actually try to understand multiple  
4 variables to say, you know, gender, all these ones  
5 we've talked about, tobacco consumption, alcohol  
6 consumption, weight, can we relate multiple  
7 variables to, for example, predict glucose levels or  
8 predict diabetes diagnosis? And that would be  
9 regression and multiple regression.

10 So they would run these analytic tests.  
11 They would get some analytic results out of those  
12 tests, and some variables might be meaningfully  
13 related; they might have some magnitudes of  
14 relationship. And they might again use statistical  
15 graphics to help communicate their results. So they  
16 would say "Well, we found a meaningful relationship  
17 between weight and glucose and here's the numbers  
18 behind that," and then you can see it on a plot, so  
19 that people could gain as well as a numerical  
20 comprehension of it, a sort of intuitive  
21 comprehension of it.

22 Q. The entire process you just described  
23 specifically for RStudio, is this a similar process  
24 that would take place with other forms of

1 statistical computing software?

2 A. Yes, it's the same process, yes.

3 Q. And I believe previously you testified as  
4 to what the industry leaders are in statistical  
5 computing?

6 A. Yes. That was SAS, SPSS, Stata and R.

7 Q. And are they all capable of doing the  
8 processes that you just described?

9 A. Yes, they are, yes.

10 MR. RUFO: Thank you. I don't have any  
11 further questions at this time.

12 (Discussion off the record.)

13 CROSS-EXAMINATION

14 BY MR. GREENSTEIN:

15 Q. Mr. Allaire, you testified that the  
16 statistical computing packages all do pretty much  
17 the same thing?

18 A. They have similar functions, yes.

19 Q. They have similar functions. In fact, you  
20 could do it without the computer. You could do it  
21 just as statistical analysis in the precomputer days  
22 too?

23 MR. RUFO: Objection.

24 A. Many of these techniques wouldn't be

1 practical without a computer, like it might take you  
2 months to do them manually. So many of these  
3 techniques just are not possible without computers,  
4 are not practical. It would take several months  
5 with several people.

6 Q. Referring to Exhibit 2, the background  
7 testimony, please. Who wrote this?

8 A. This was prepared by counsel.

9 Q. Do you agree with everything in here?  
10 Take a moment and read it over because this is being  
11 introduced as your testimony. So if there's  
12 something incorrect, then we want to clear that up.

13 A. Okay.

14 Q. I'm not going to ask you about your  
15 background and work history.

16 A. Okay. Well, I'll read it anyway just to  
17 make sure it's all right. (Pause) I do.

18 Q. Just to put in perspective the lack of  
19 depth of my knowledge in this field, one of the  
20 courses I took in college was analog computers,  
21 which you may not have heard of, but cams and gears  
22 and stuff. The R language is created and  
23 administered by something called the R Project?

24 A. Yes.

1 Q. And their website is r-project.org?

2 MR. RUFO: Objection.

3 A. Their website is www.r-project.org, yes.

4 Q. Is that sort of the controlling entity  
5 that manages the R language?

6 A. There is an R Foundation that owns the  
7 copyright to R and then there's a group called  
8 R Core, which is twenty individuals that have a  
9 right to submit code into the R code base.

10 Q. What is the relationship between those  
11 entities and the website?

12 A. I'm not sure what the relationship is.  
13 Someone produces the website. I don't know if  
14 that's another volunteer, someone who is in R Core,  
15 what the relationship is.

16 Q. The website speaks for the foundation?

17 A. I don't know that. I don't know who is  
18 the author of the website or who maintains it.

19 Q. It is true, though, that the R language is  
20 as you state here used for advanced, well, it is  
21 used for statistical computing and graphics.

22 Correct?

23 A. Yes, it is.

24 Q. Now, you say here it is used for advanced

1 statistical computing and graphics. I believe the  
2 website says it is for statistical computing and  
3 graphics. What's the difference between statistical  
4 computing and advanced statistical computing?

5 MR. RUFO: Objection.

6 A. I think in this statement I tried to  
7 elaborate on that a little bit here. I think in the  
8 software industry when people speak of statistical  
9 computing, they're talking about the capabilities  
10 which I outlined and defined here, which is  
11 regression and multiple regression, analysis of  
12 variance, time series forecasting, and other  
13 sophisticated analytical tools. In here I state  
14 that obviously counting with your fingers, you know,  
15 or taking the numbers three, four and five and  
16 saying the average of those is four is at one level  
17 a statistical calculation. It's not statistical  
18 computing.

19 So the "advanced" is simply to make clear  
20 what I think is widely understood: that when you're  
21 using computers to do statistics, you're doing so  
22 precisely because you need more sophisticated and  
23 advanced analysis.

24 Q. The R website, the R language or R Project

1 website says R language is an environment for  
2 statistical computing and graphics; they don't use  
3 the word "advanced."

4 MR. RUFO: Objection.

5 A. It is simply their choice of phrasing. I  
6 think if you're talking about a programming language  
7 for statistics, I think it is by implication  
8 advanced. I don't think they feel the need to state  
9 that in the context of their website because the  
10 customers come there saying "I would like to have a  
11 programming language for doing statistics ~~by~~ <sup>by</sup>  
12 definition, already a complex and ~~enhanced~~ <sup>advanced</sup> notion  
13 that I have a specialized programming language. So  
14 I don't think they felt the need to state that.

15 Q. So in your view statistical computing and  
16 advanced statistical computing are one and the same?

17 A. I believe that they are, yes. Yes, the  
18 advanced statistical computing is simply making  
19 explicit what is implicit in statistical computing.

20 Q. So are you saying in advanced statistical  
21 computing, you're not defining a different area of  
22 statistical computing?

23 MR. RUFO: Objection.

24 A. No, I am not.

1           Q.       You next say that RStudio is capable of  
2 performing advanced statistical computation such as  
3 for example, et cetera, et cetera. Isn't it true  
4 that RStudio does not perform advanced statistical  
5 computations but in fact the R language performs  
6 these computations?

7                   MR. RUFO:  Objection.

8           A.       When the customer opens up RStudio and  
9 performs a computation and observes the results --  
10 okay? -- I'm describing that process as using  
11 RStudio. Under the hood there's the R language  
12 that's doing the work. The customer is using  
13 RStudio just like if they opened up R or any other  
14 environment.

15                   You may be getting at some kind of very  
16 subtle semantic distinction that I don't understand.

17           Q.       I'm just trying to understand the  
18 difference, because you said that RStudio doesn't  
19 work unless you have R loaded.

20           A.       That's correct.

21           Q.       And it is the R language that is actually  
22 doing the heavy lifting of doing the computation.  
23 Correct?

24           A.       Yes. RStudio makes it easier to use the

1 R language and more productive to use the  
2 R language. The customers within RStudio doing the  
3 computation, I guess by extension you could say the  
4 R language ends up calling on the chip from Intel,  
5 so really the chip from Intel is doing the  
6 computation. I mean, at some point you simplify  
7 things and say I'm using a software product and that  
8 software product is doing computations.

9 Q. Is it correct to describe RStudio as a  
10 front end to incorporate the R language in a series  
11 of other tools, utilities, packages that interface  
12 with R?

13 MR. RUFO: Objection.

14 A. I think R provides a bunch of facilities  
15 and RStudio is a tool that ties those facilities  
16 together in a single integrated environment.

17 Q. You say RStudio is capable of performing  
18 advanced statistical computation such as, et cetera.  
19 What else is it capable of doing?

20 A. It is capable of principally executing  
21 analytical functions that are available from the R  
22 programming language, rendering statistical graphics  
23 that again are made available through the R  
24 computing language. It also has some facilities for

1 editing, editing source code files, saving, loading,  
2 running source code files, that sort of thing.

3 Q. And is it also capable of loading, storing  
4 and executing various third-party packages that  
5 interface with the R language?

6 A. Yes, it can load third-party packages.

7 Q. And again in the next paragraph you say  
8 "statistical computing software such as RStudio."  
9 Are you saying that RStudio is statistical computing  
10 software or it is a front end or facility that calls  
11 a statistical computing software language?

12 MR. RUFO: Objection.

13 A. I think it's a front-end facility that  
14 calls R and by virtue of that is statistical  
15 computing software.

16 Q. Essentially RStudio is an integrated  
17 development environment and that's how you describe  
18 it. Correct?

19 A. We describe it, and I'll read from first  
20 line of our website, it says "integrated development  
21 environment for R." That's how we describe it.

22 MR. RUFO: And I will just state for the  
23 record that the witness was reading from Exhibit 10.

24 BY MR. GREENSTEIN:

1 Q. And that is also page RS1008?

2 A. Correct, yes.

3 MR. GREENSTEIN: For convenience I would  
4 like to mark what I gave you as Exhibit 11, I guess.  
5 That is a group exhibit of copies of the RStudio  
6 website as of February 28, 2011.

7 MR. RUFO: Do we have that?

8 MR. GREENSTEIN: That's the one I gave  
9 you.

10 (Allaire Trial Exhibit 11 marked for  
11 identification.)

12 MR. GREENSTEIN: Then would you also mark  
13 as Exhibit 12 what counsel has provided as documents  
14 RS1008 through RS1061, which was a supplemental  
15 production from earlier in the case.

16 (Allaire Trial Exhibit 12 marked for  
17 identification.)

18 BY MR. GREENSTEIN:

19 Q. So that the record is clear, I would ask  
20 the witness to identify and explain Exhibits 11 and  
21 12. Explain to us what those two exhibits are.

22 A. Okay. Exhibit 11 appears to be, and I'm  
23 not going to review every page to verify it, but  
24 appears to be a printout of our website that was

1 taken on February 28, which is the day that we first  
2 made RStudio available to the public and first had  
3 our website accessible to the public.

4 Exhibit 12 appears to be a copy of the  
5 website that we produced. And I might ask counsel  
6 about the specific date we produced it, if there's a  
7 recollection. We produced this to Embarcadero at  
8 some point prior to February 28.

9 Q. The first week of February sometime.

10 A. Okay, during the first week of February,  
11 and this was the current state of our website at  
12 that time. So we wanted to share that so they knew  
13 that we planned to make this available to the public  
14 in similar form as what's here. So there's likely  
15 some changes between what we produced in the first  
16 week of February and what we actually then went out  
17 to the public with. But this is a snapshot of the  
18 development of the website during the first week of  
19 February.

20 Q. The changes would have been fairly minor?

21 A. They should be minor. I would have to  
22 review them in detail, but....

23 Q. And the one you produced to Embarcadero  
24 has at the back a copy of the license and three or

1 four blog pages that are downloaded?

2 A. Okay, we also produced a copy of our  
3 license as well as printouts of some other pages  
4 that are linked to from our site, yes.

5 Q. On the top of page 3 of the Background  
6 Testimony you say "Some of the analyses and advanced  
7 statistical computing it may perform are" and then  
8 you list three things there.

9 A. Yes.

10 Q. "Some of the analyses it may perform" is  
11 very vague. Are there more analyses?

12 A. Yes, there's a wide variety of analytic  
13 techniques that are used. These are, I would say,  
14 the most commonly sought-after and used ones. And  
15 to be candid, I am not an expert since I don't have  
16 an advanced degree in a lot of things that I would  
17 need to have an advanced degree in to opine about  
18 all the techniques that are possible, but there are  
19 many other analytic techniques that people use when  
20 they are doing analysis of data.

21 Q. And you chose these because they are most  
22 frequent, the most common?

23 A. They are the most frequently used by  
24 customers.

1 Q. And you judge that based on your  
2 experience with this product or something else?

3 A. Just I've taken three or four statistics  
4 courses myself. These are the things covered in  
5 statistics, econometrics. I have talked to lots of  
6 people in the field, talked to teachers in the  
7 field. So this is my understanding, just based on  
8 my own personal educational experience and talking  
9 to other educators, talking to people who work in  
10 the industry and then looking at the feature sets of  
11 statistical computing products.

12 Q. And, again, are these the same analyses  
13 that non-advanced statistical computing may perform?

14 MR. RUFO: Objection.

15 A. I think we talked about this earlier. I  
16 am using "advanced" as a clarifying term -- okay? --  
17 so that it's clear that when we talk about  
18 statistical computing, we're talking about  
19 techniques that have usually some pretty substantial  
20 algebra or calculus behind them that essentially  
21 prove their validity, that typically require  
22 computers to perform because they're complex. So I  
23 am simply making the term "statistical computing"  
24 more clear when I say that.

1 Q. You then go on to say "In addition,  
2 statistical computing software such as RStudio  
3 permits the rendering of statistical graphs." What  
4 do you mean by that?

5 A. There are a wide variety of plots that  
6 people use in support of the analytic techniques.  
7 So basically when you're trying to conduct an  
8 analysis, it is helpful, you're running analytic  
9 techniques that have typically numerical inputs. A  
10 lot of times you want to visualize the data or  
11 trends in the data to suggest to you where you might  
12 want to look analytically and then, as I said  
13 before, also to communicate your results. So it's  
14 really graphics that support the statistical  
15 analyses and these techniques.

16 Q. Now, many other programs permit the  
17 rendering of graphs to display data. Correct?

18 A. There are a lot of programs that do that,  
19 yes.

20 Q. And they are not necessarily statistical  
21 computing software?

22 A. That's correct, they are not.

23 Q. In the next paragraph you say "Statistical  
24 computing software such as RStudio, much like

1 virtually every other software application, utilizes  
2 data." Essentially all software programs have to  
3 have data in order to be functional, don't they?

4 A. Just about every single one does, yes.

5 Q. Where do they get this data?

6 A. A huge variety of sources. People enter  
7 it directly; it's produced by a machine; it is  
8 written to a log file on a website. There's just --  
9 Data can come from anywhere and everywhere.

10 Q. You talk about two-dimensional datasets as  
11 something that statistical computing software  
12 utilizes. What is the difference between a dataset  
13 and a database?

14 A. The term database is used very generally,  
15 almost synonymous with data. So a dataset as I'm  
16 referring to it here is a two-dimensional, I would  
17 use dataset, data frame, two-dimensional dataset.  
18 I am basically talking about, as I explained before,  
19 you can think of like an Excel spreadsheet where  
20 you've got columns and rows and the columns are  
21 first name, last name, ZIP code, weight, gender, and  
22 the rows are individual observations of those  
23 variables.

24 Q. So is the data in a dataset also referred

1 to as a database?

2 MR. RUFO: Objection.

3 A. Not really. I don't -- I am not familiar  
4 with people using that synonymously in the field.  
5 They call it a dataset.

6 Q. So if I went to an Excel spreadsheet  
7 manual and looked up database, it wouldn't be there?

8 MR. RUFO: Objection.

9 A. It might. It might say the word database.  
10 I don't know how Excel refers to it. I think, to be  
11 very clear, again, "database" is a frequently used  
12 term. "Dataset" as used in statistical analysis,  
13 statistical computing software is entirely different  
14 from a relational database, which is what you might  
15 be trying to get at.

16 Q. No, I'm not trying to get at anything; I'm  
17 trying to understand. Before relational databases  
18 appeared on the scene, there were two-dimensional  
19 databases, flat file databases?

20 MR. RUFO: Objection.

21 A. I think there were hierarchical databases,  
22 there were flat file databases, that's correct.

23 Q. And what is the difference between those  
24 and datasets?

1 MR. RUFO: Objection.

2 A. When I'm talking about a dataset, I think  
3 maybe a good way of understanding it is that  
4 database is a product category that is about  
5 managing data, and so it has a number of things  
6 associated with it. As I'm referring to datasets  
7 and two-dimensional datasets, it is something I  
8 bring into my software to analyze. Okay? That's  
9 what it's for.

10 We're not designing it, we're not managing  
11 it, we're not performing any other kind of  
12 generalized operations on it. We are analyzing it.  
13 We're running regressions against it; we're running  
14 ANOVAs, time series, all that sort of thing. So  
15 that is what a dataset is for in statistical  
16 computing software.

17 Q. That dataset comes out of a database in  
18 some situations, doesn't it?

19 MR. RUFO: Objection.

20 A. It could have come from a database.

21 Q. Or it could have been entered directly or  
22 come from somewhere else?

23 MR. RUFO: Objection.

24 A. The datasets can come from a wide variety

1 of places, yes.

2 Q. Including databases?

3 A. It could have come from a database.

4 Q. If the dataset comes from a database, how  
5 does RStudio know where to find the data?

6 MR. RUFO: Objection.

7 MR. GREENSTEIN: What makes it  
8 objectionable?

9 MR. RUFO: Assumes facts not in evidence.  
10 There is nothing in the record that has established  
11 that RStudio goes and finds the data.

12 MR. GREENSTEIN: I just asked him that.

13 MR. RUFO: No, you stated that; you didn't  
14 ask him that.

15 You may answer the question.

16 THE WITNESS: Well, just repeat the  
17 question so I recall it clearly.

18 BY MR. GREENSTEIN:

19 Q. Does RStudio have an import function in  
20 order to import data from somewhere?

21 A. RStudio can import data from text files.

22 Q. Can those text files be located in a  
23 database?

24 A. No. They have to be on the file system.

1 Q. What's the file system?

2 A. They have to be a file on a computer.

3 Q. Where is the database stored?

4 MR. RUFO: Objection.

5 A. What database?

6 Q. Where is any database stored?

7 MR. RUFO: Objection.

8 BY MR. GREENSTEIN:

9 Q. Isn't a database a file on a computer?

10 A. Databases are stored in a lot of different  
11 ways. Okay? So I'm not going to go into all the  
12 different storage techniques for databases. What  
13 I will tell you is RStudio reads data from a text  
14 file that is not a database.

15 Q. The question is, isn't a database a file  
16 stored on a computer?

17 MR. RUFO: Objection.

18 A. Databases can be stored as a file on a  
19 computer, but they are stored in a wide variety of  
20 mechanisms.

21 Q. Well, tell me some other way besides a  
22 file in a computer that a database is stored.

23 A. Oftentimes a database would be stored as  
24 thousands of files across a directory structure on a

1 computer.

2 Q. So a database can be one or more files  
3 stored on a computer?

4 MR. RUFO: Objection.

5 A. Typically when you're accessing a  
6 database, the actual storage mechanism is not  
7 transparent to you. It is stored however it's  
8 stored. It could be a variety of files, it could be  
9 across a network, it could be a single file. You  
10 don't really know how it's stored. So you typically  
11 use specialized software to read from it. RStudio  
12 does not have that specialized software; it reads  
13 text files.

14 Q. So a database is one or more files stored  
15 on one or more computers in one or more locations?

16 MR. RUFO: Objection.

17 BY MR. GREENSTEIN:

18 Q. Is that correct?

19 A. I wouldn't want to enter that as my  
20 definition of what a database is. That's your  
21 definition.

22 Q. Is that a correct definition?

23 A. It's not a definition that I've really  
24 heard. So I --

1 Q. Tell me what a database is.

2 A. A database is a medium for storing,  
3 managing, retrieving data.

4 Q. Is this a database, this box?

5 A. At one level it is a database, yes.

6 Q. So we can eliminate cardboard boxes as  
7 databases. I'm talking about electronic computer-  
8 readable databases. So repeat your definition in  
9 the context of electronic computer-readable  
10 databases.

11 MR. RUFO: Objection.

12 A. A software database is an electronic  
13 medium used to store, manage, access, and retrieve  
14 data.

15 Q. And it may be stored on one or more  
16 computers?

17 MR. RUFO: Objection.

18 A. That uses a variety of storage techniques  
19 for its representation.

20 Q. And by storage techniques, are you talking  
21 about magnetic, optical? What do you mean by a  
22 storage technique?

23 A. The actual organization of the bits and  
24 bytes on the disc have a wide variety and it is

1 typically not known to the user of the database.

2 Q. I never asked whether the user knows it or  
3 not.

4 Statistical computing software you say  
5 uses two-dimensional datasets. Is that correct?

6 A. Yes.

7 Q. So statistical computing software can  
8 never use a relational database. Is that correct?

9 A. In order to run the analytic techniques  
10 I have described, you need it to be in a two-  
11 dimensional dataset. Statistical computing software  
12 runs analyses against its own notion of a two-  
13 dimensional dataset. In ours it's called a data  
14 frame, in SAS it's called a dataset. I don't know  
15 what it's called in other mediums. But it needs to  
16 be brought into a two-dimensional dataset -- okay?  
17 -- a two-dimensional representation and then you can  
18 run analysis against it.

19 Q. And there are in fact many, many database  
20 access reporting and management products that will  
21 go into any database and retrieve data in  
22 two-dimensional form?

23 A. You can extract data from a relational  
24 database in two-dimensional form, yes.

1 Q. And some of those packages will run under  
2 R or RStudio. Correct?

3 MR. RUFO: Objection.

4 A. I believe there's an add-on package that  
5 you can get for R that would run under RStudio that  
6 will essentially take data out of a relational  
7 database, it will move it out of the database and  
8 put it into a data frame, which is R's internal  
9 representation of data that can be analyzed.

10 Q. So just to be clear, R to your knowledge  
11 and RStudio work on two-dimensional datasets but  
12 those two-dimensional a datasets can be extracted  
13 through third-party packages from relational  
14 databases or maybe any other database?

15 A. Yes.

16 Q. And in fact the product you testified to,  
17 SAS/IML Studio on page RS 645 of Exhibit 9, is a  
18 product of the company SAS Institute.

19 A. RS 665?

20 Q. RS 645.

21 A. Yes, it is.

22 Q. And SAS has its own databases and database  
23 access products?

24 MR. RUFO: Objection.

1           A.       I know that SAS has products that enable  
2       you to access databases and then they have SAS  
3       datasets as well.

4           Q.       And the databases that they allow you to  
5       access are all the leading relational databases.  
6       Correct?

7           A.       They do enable you to access those  
8       databases, yes.

9           Q.       So the SAS/IML Studio product which is  
10       competitive with you would be able to reach into and  
11       obtain data from most or all of the major relational  
12       databases that provide statistical functions?

13          A.       I don't know that that's true. I know  
14       that SAS, very similar to R, requires that you get  
15       the data out of the database and stick it into a SAS  
16       dataset, which would be similar to an R data frame.  
17       It's really the same sort of thing. So where and  
18       when that data is pulled out of the database I don't  
19       know, and I don't know that this tool could do it  
20       directly.

21          Q.       But SAS has tools that will do that?

22          A.       Separate analytic tools that will do that,  
23       yes.

24               MR. GREENSTEIN: Can I take just a quick

1 two-minute break? Be right back.

2 MR. RUFO: Sure.

3 (In recess 1:09 p.m. to 1:12 p.m.)

4 BY MR. GREENSTEIN:

5 Q. Generally speaking, there is a pretty  
6 robust industry of companies that make add-on  
7 packages and conversion packages to move data to and  
8 from databases and applications. Is that correct?

9 A. That's correct.

10 Q. So if there was a reason to store  
11 something in a relational database and there is an  
12 application package that doesn't use relational  
13 databases directly, someone is likely to have a  
14 conversion package to move stuff back and forth?

15 MR. RUFO: Objection.

16 A. It would depend on the product, but  
17 oftentimes there are conversion products available.

18 Q. Why would someone keep data in a  
19 relational database?

20 A. I think I went into this a little bit  
21 before. A lot of times you're storing data about a  
22 large number of interrelated entities. So the  
23 example I used before was orders, customers,  
24 employees, parts. So one reason is you're actually

1 storing data about a lot of different things, and  
2 typically a database used like inside a corporation  
3 to help manage their business, they might have  
4 hundreds of tables for different things, and those  
5 tables are related, so one of the motivations is to  
6 capture those relationships.

7 Another reason to use a relational  
8 database is that you end up with data duplication.  
9 So if you looked at my example of a two-dimensional  
10 dataset, there's quite a bit of data duplication  
11 there. There was Chevrolet, the various models of  
12 car, class of car manufacturer was duplicated many  
13 times, and that is considered both inefficient and  
14 kind of dangerous in a relational database because  
15 you really want to have one source of the  
16 information. So relational databases also allow you  
17 to eliminate data duplication.

18 Q. And to use your example of the diabetes  
19 evaluation or analysis, if I wanted to add things  
20 like hospitals or countries or areas of the country  
21 or any number of variables that may also play into  
22 this, I could keep that in a relational database and  
23 still extract out the datasets RStudio needs to do  
24 the same charting that it did in your example?

1           A.       You could store data in a spreadsheet, you  
2 could store data in a text file, you could store  
3 data in a relational database. There's all  
4 different ways to do it and it really depends on the  
5 data, the work flow, the capabilities of the various  
6 users involved.

7           Q.       On page 4 of Exhibit 2, Background  
8 Testimony, you say "RStudio and other statistical  
9 computing software are tools used for statistical  
10 computing and are generally not capable of  
11 performing functions which are not related to  
12 statistical computing." Is that actually accurate?

13          A.       Yes.

14          Q.       So there's nothing R does that is not  
15 related to statistical computing?

16          A.       The things that R does are in support of  
17 statistical computing. So like it can read a text  
18 file from a disc or it can open a Web browser and  
19 display it. So there's different things in the work  
20 flow associated with statistical analysis that it  
21 also assists in performing. These things are  
22 designed to be supportive of that activity. Okay?  
23 So it does the core things and then it does things  
24 that are supportive of the core things.

1 Q. When you broaden the definition to say "in  
2 support of," couldn't you call almost anything you  
3 want to do in support of if you used the same data?

4 A. No. I mean, there's an example here. For  
5 example, statistical computing software is not a  
6 design tool capable of designing or maintaining a  
7 relational database. It doesn't do that. It  
8 wouldn't do that. There would be no reason for it  
9 to ever do that. So it's not anything -- I'm trying  
10 to run a regression and write some plots and write a  
11 report. What do I need to assist in that? And it  
12 does some mathematical typesetting; it does things  
13 that are related to that.

14 Q. Word-processing to write a report?

15 A. It doesn't really do word-processing. It  
16 does a mathematical -- It does what's called LaTeX,  
17 which is mathematical. It's a typesetting language  
18 that includes the ability to render mathematical  
19 expressions really clearly. So it has some features  
20 surrounding that. Those are related to -- It  
21 doesn't have like a general-purpose word processor.  
22 Rather, it has something that's more related to --

23 Q. And would it link to or call a general-  
24 purpose word processor if you wanted to write a

1 paper?

2 A. It wouldn't, actually. It usually does  
3 the typesetting directly into a PDF file.

4 Q. So when a piece of software goes into a  
5 relational database to take out some data and put it  
6 into a text file for R or RStudio, how does it know  
7 where to go in and find the data? Is there a map or  
8 something like that?

9 A. Typically someone would write an SQL query  
10 that would define what data they want extracted and  
11 how they want it extracted.

12 Q. And the person writing the SQL query would  
13 have to know the format of the database to know  
14 where to find it?

15 A. They would need to know what tables are in  
16 the database and what columns are in the database,  
17 yes.

18 Q. So they have to understand something about  
19 the structure of the database?

20 A. Whoever extracts the data does need to  
21 know something about the structure of the database.

22 Q. In the progression of using data, someone  
23 collects data somewhere. Correct?

24 A. Yes.

1 Q. And then someone has to have a database  
2 into which to put that data?

3 MR. RUFO: Objection.

4 A. Data can go in lots of different places.  
5 It could go in a database, it could go into a text  
6 file.

7 Q. If it goes into some kind of computer-  
8 readable file, someone has to have the file format  
9 into which it goes? Someone has to set up a file  
10 format into which to put the data?

11 A. In the case of a relational database,  
12 someone sets up the tables and says this is how the  
13 data goes into it. In the case of a text file,  
14 typically you just append entries to the text file  
15 by convention. You would say, well, we're going to  
16 put in first name, last name, and weight, and so you  
17 just put those in.

18 Q. So that's a design feature. It's a simple  
19 one, but it is a layout and design to say first  
20 name, last name, next column, next column?

21 MR. RUFO: Objection.

22 A. I don't know of people who say I'm going  
23 to write three fields into a text file ever  
24 referring to that as design, but.... I guess you

1 could characterize it that way.

2 Q. The more data you get, the more complex  
3 these have to get. Correct?

4 MR. RUFO: Objection.

5 A. I would say when you're dealing with data  
6 that is in a relational database and you've got lots  
7 of different tables, then it gets complex. If  
8 you're dealing with data that is in one table, even  
9 if it has twenty variables, there's nothing complex  
10 about it.

11 Q. I read a number of articles that talked  
12 about how the two-dimensional databases run into  
13 problems as they get too big, so you've got to find  
14 ways to split them up and store them differently.  
15 Is that your experience?

16 A. There's a lot of trade-offs involved with  
17 databases. Typically two-dimensional databases are  
18 fast for reading. You know, there's just a lot of  
19 trade-offs. I wouldn't want to go through a whole  
20 discussion. But there are reasons to use relational  
21 databases; there are reasons to use flat file  
22 databases. They vary by application.

23 Q. Is there a size constriction on flat file  
24 databases?

1 A. No.

2 Q. How about on text file databases?

3 A. No.

4 Q. Looking at what I think has been marked  
5 Number 12, the version of the website that you  
6 produced, the example you have on page 1008 for  
7 diamond pricing, it's hard to read it, but where is  
8 that data actually stored?

9 A. There's an R dataset called Diamonds that  
10 ships with one of the R add-on packages.

11 Q. It is a sample database?

12 A. It's a sample dataset, yes.

13 Q. So that comes with an add-on package?

14 A. I think it comes with -- I don't know  
15 which one. It comes with an add-on package; I don't  
16 know specifically which one.

17 Q. It's not native to R?

18 A. You know? Let me clarify that. It might  
19 be native to R. I know the cars one we used earlier  
20 was native to R. This might be native to R; it  
21 might be an add-on package. I could find out. But,  
22 yes, it is a sample dataset.

23 Q. But it is not a database?

24 A. No.

1 Q. And that is because?

2 A. It's a dataset that you can load into  
3 memory and do analysis on. Okay?

4 Q. And what would it take to make it a  
5 database?

6 A. I think when people talk about databases,  
7 they talk about a general facility for managing,  
8 updating, querying, all those sorts of things.  
9 That's not what this is. This is specifically  
10 stored and accessed for the purpose of running  
11 analyses against it.

12 Q. But the facility for loading, managing,  
13 et cetera, that is a database management system.  
14 Correct?

15 MR. RUFO: Objection.

16 Q. Or database management software.

17 A. There are database products that you guys  
18 have. Embarcadero has a number of them.

19 Q. And many other people do too.

20 A. Yes.

21 Q. It is the database management products  
22 that do the management that you described? The  
23 database itself is different from the database  
24 management product.

1           A.       You know, to be honest, when people talk  
2 about databases in the field, I think it is  
3 conflated with tools that help you manage and access  
4 them. I don't -- I think that's what people mean  
5 when they say "I have a database."

6           Q.       So how does R know where to find the  
7 different variables here even though there are only  
8 a couple of variables?

9           A.       When it reads the data from, for example,  
10 a text file, the first row of the text file has the  
11 names of the fields. So, for example, first name,  
12 last name, ZIP code, weight. And, I mean, in  
13 diamonds it's cut, color, clarity. We'll use the  
14 diamond. So the first line of the text file says  
15 cut, color, clarity. Okay? Those are read and then  
16 there's actual values for cut, color, and clarity  
17 then below that. So when R reads the text file, it  
18 sees cut, color, and clarity in the first line and  
19 then it names those columns according to cut, color,  
20 and clarity to what it finds in the first line of  
21 that file.

22          Q.       So how do those titles get in that first  
23 line?

24          A.       Whoever wrote the file, whoever created

1 the file put them there.

2 Q. That was the designer?

3 MR. RUFO: Objection.

4 A. I think that is not a good  
5 characterization. It was probably someone who  
6 created a spreadsheet and wrote cut, color, and  
7 clarity in the top row of the spreadsheet and then  
8 started entering the data.

9 Q. You design a spreadsheet? It's not a  
10 complex design but it is a design. Correct?

11 MR. RUFO: Objection.

12 A. I think in the way that we're using it  
13 here when we talk about design and architecture  
14 tools, that's not a design. That's not anything you  
15 would ever seek to use design tools for. That is  
16 something that anybody, even someone who doesn't  
17 know software at all, could do: first name, last  
18 name, ZIP code.

19 Q. Sure. But it is a design; it's just not a  
20 complex design?

21 MR. RUFO: Objection.

22 A. You know, I don't think it is a design in  
23 the sense that we're talking about in this  
24 proceeding.

1 Q. Tell me about RStudio's facility for  
2 importing databases.

3 MR. RUFO: Objection.

4 A. RStudio does not have a facility for  
5 importing databases. We have a facility for  
6 importing text files.

7 Q. You have a facility for importing data?

8 A. Yes. We have a feature called import  
9 dataset and it asks you to specify a text file.

10 Q. You can also import other types of files  
11 too?

12 A. No. It only has the ability to import a  
13 text file.

14 Q. What is an Sweave file?

15 A. Sweave is a combination of the  
16 mathematical typesetting language I talked about  
17 before, LaTeX, it is that and R code put together.

18 Q. When you talk about an object, what is an  
19 object?

20 A. An object as used in R is synonymous with  
21 variable. It's a variable.

22 Q. And how many variables can you have in a  
23 two-dimensional file?

24 A. You can have -- Let's just be clear.

1 There are variables, which are the columns; there  
2 are observations, which are the rows. You can  
3 have -- There's no hard and fast limit to the number  
4 of variables or rows, or observations, that you  
5 could have.

6 Q. Look at page RS1019. In the first box,  
7 what is the word "base" in brackets referring to?

8 A. Base? There's a number of packages in R  
9 that contain different functions. So the base  
10 package contains the base functions.

11 Q. What are the base functions?

12 A. There's a thousand of them. They're just  
13 a bunch of functions that are used to perform  
14 different things related to statistical analysis.

15 Q. On the next page, 1020, you have read.csv  
16 files.

17 A. Yes.

18 Q. HomePriceData.csv?

19 A. Yes.

20 Q. What is a CSV file?

21 A. That is a comma separated value file,  
22 which is a text file where the values are separated  
23 by commas.

24 Q. These values are data?

1           A.       The values are typically in this case home  
2 price data.  It's probably -- It's home prices.  So,  
3 yes, it's prices of homes.

4           Q.       How does RStudio facilitate the easy  
5 sharing of data with colleagues?

6           A.       Where is that reference?  That would help  
7 me explain it.

8           Q.       1030.

9           A.       Yes.  So this is RStudio server, and one  
10 of the ways that you can use RStudio is you can run  
11 it on a single server like a Web server and have  
12 multiple users access it using their browsers.  So  
13 in that case if you had a dataset, let's take home  
14 price data as the example, you could stick that in a  
15 directory, you know, share datasets home price  
16 data.csv, and then rather than sort of distributing  
17 that dataset out to make a copy of it on each  
18 person's computer, they can all use their Web  
19 browser and read from the same dataset.

20          Q.       Under Accessing the Server it says  
21 "RStudio will prompt for a username and password,  
22 and will authenticate the user by checking the  
23 server's username and password database."

24          A.       Yes.

1           Q.       Why isn't that a database and not a  
2 dataset?

3           A.       What happens is we talk to the system, in  
4 this case the UNIX operating system, and we say  
5 here's the username and password. Is this user  
6 authorized? Okay? And in the system we don't know  
7 how it's stored. The system stores it all different  
8 ways. And it really depends on the configuration of  
9 the system. So it could be in like a directory  
10 server, an LDAP directory server; it could be in a  
11 text file on the system; it could be in a binary  
12 file on the system; it could be in a relational  
13 database. You know, there's a lot of different  
14 places it could be stored, the authentication  
15 information.

16          Q.       The database is sort of a general term for  
17 any method of storing these?

18          A.       Yes. In this case it is being used as a  
19 place where the username and password are looked up,  
20 essentially.

21          Q.       A repository for the username and  
22 password?

23          A.       Yes. We query the database, meaning --  
24 and we don't know where the database is -- we just

1 say to the system please let us know if this user is  
2 authorized.

3 Q. In your direct testimony you focused at  
4 some length about how complex and sophisticated this  
5 stuff is and how experienced the users are.

6 A. Yes.

7 Q. There are no new users or inexperienced  
8 people that would use this product?

9 A. The learning curve for R is acknowledged  
10 to be quite steep, so it takes quite a bit to learn  
11 how to use it proficiently. Obviously, there are  
12 people who are coming in, who are just starting with  
13 it. But in order to really get any significant work  
14 done, they need to build up their knowledge level  
15 and proficiency level.

16 Q. So you take them all the way through from  
17 novice to experienced?

18 MR. RUFO: Objection.

19 A. I don't take them through. I mean, I  
20 think there are courses that attempt to get people  
21 started using R. RStudio facilitates using R, so  
22 someone who is just starting with R could use  
23 RStudio.

24 Q. What is data visualization?

1 A. It's the visualization of data, I mean.

2 Q. Let me write that down. Is that a fancy  
3 word for graphing or plotting?

4 A. It may be another characterization of  
5 graphing and plotting.

6 Q. Pardon me?

7 A. It is another way of saying graphing and  
8 plotting.

9 Q. I mean, the only way you can visualize  
10 data is by graphing it or plotting it. Right?

11 A. Principally through graphing and plotting.  
12 I think sometimes people can build summaries of data  
13 that allow you to understand it better. But  
14 principally through graphing and plotting.

15 Q. Would the summary be a visual summary?

16 A. Yes.

17 Q. Can you give me an example of that?

18 A. I think I'll agree with your initial  
19 characterization that data visualization is another  
20 way of saying graphing and plotting.

21 Q. So there are users of RStudio or will be  
22 users of RStudio once it is released that are not  
23 sophisticated, experienced statistical computing  
24 users. Correct?

1 MR. RUFO: Objection.

2 A. I would say that in order to use R and  
3 RStudio, you need at a minimum some substantial  
4 training in statistical techniques. Furthermore,  
5 you need to be familiar with programming. I would  
6 say that even if you're just starting with R or  
7 RStudio, you are already sophisticated in terms of  
8 your intellectual capacity to do programming and to  
9 understand statistical analytic techniques.

10 Q. You provide on page 1041 a bunch of  
11 resources and references to resources to let you  
12 learn R and learn statistics generally. Right?

13 A. Yes, we have a list of places to go to  
14 start learning about different things related to R  
15 and RStudio.

16 Q. Including basic statistics?

17 A. I don't know if we do that. Let me see.  
18 (Pause) There's one reference to the Carnegie  
19 Mellon Open Learning Initiative: Introduction to  
20 Statistics course. That's the only one I see here  
21 about learning statistics.

22 Q. Now, when I look at your website, it  
23 speaks of RStudio as an integrated development  
24 environment. There's nothing in here that I have

1 found that talks about statistical computing; it is  
2 just an integrated development environment.

3 A. No. The very first sentence of the  
4 website says RStudio is a new integrated development  
5 environment for R. Okay? So the way the website  
6 reads, like the product, if you get RStudio and you  
7 don't have R on your computer, it doesn't function.  
8 If you come to this website and you don't know R, it  
9 won't make sense to you. It presupposes knowledge  
10 of and use of R. Okay? That's the whole way the  
11 product is presented and understood and operates.

12 Q. Will RStudio still provide computer  
13 software for software applications development?

14 A. I would say some of the things that people  
15 do with RStudio is they will automate a sequence of  
16 statistical analyses. That could be called a  
17 statistical application. That is I think what that  
18 refers to. So, for example, I have a monthly --  
19 Every time I get new earthquake tremor data, I rerun  
20 an analysis; and I want to automate that. So every  
21 month when I get the new earthquake tremor data,  
22 I just run a script and I get a bunch of charts and  
23 graphs and whatever or maybe I produce one of these  
24 Sweave documents. That's an application that they

1 might create with RStudio. It is a statistical  
2 computing application.

3 Q. So you sell or will sell or give away,  
4 whatever you're going to do, RStudio as software for  
5 software application and development?

6 A. We sell it as software for statistical  
7 computing. I think people who engage in statistical  
8 computing often might refer to what they're doing as  
9 "I'm building an application. I'm building an  
10 application which analyzes the new earthquake tremor  
11 data every month." Okay? In no way are we saying  
12 any old application you might want to build, you can  
13 use RStudio for. It is expressly for R, which is  
14 expressly for statistical computing.

15 Q. In your request to amend the application  
16 on file with the PTO, you took out the language  
17 "computer software for software applications  
18 development," but you didn't change the product so  
19 that it wouldn't do that. Correct?

20 A. The product does what I have described  
21 that it does today. Okay? It creates -- It allows  
22 you to do statistical computing. It allows you to  
23 automate a sequence of statistical computing tasks  
24 into an application. Okay? That's what it does.

1 That's what the description states it does. I don't  
2 know what you're asking.

3 Q. Well, you originally had language in the  
4 application that said you intend to use it on  
5 computer software for software applications  
6 development, and you took that language out.

7 A. I think what I said earlier was that what  
8 we were trying to do was write an amended  
9 description that had more specificity -- okay? -- in  
10 case the Board felt that that specificity was  
11 required. That's what we did.

12 Q. The product didn't change, just the  
13 description changed?

14 MR. RUFO: Objection.

15 A. You know, if you look at both of them and  
16 you read both of them and you think about what the  
17 product does, I'm not going to say the description  
18 is a different description. Okay? It's a more  
19 specific description. I didn't change anything  
20 about what we intend the product to do or what the  
21 product does. Okay? It is a more specific  
22 description.

23 Q. Well, to be clear, there are two parts to  
24 the original description: computer software for

1 statistical computing, semicolon, computer software  
2 for software applications and development. You made  
3 the first clause much more specific.

4 A. Mm-hmm.

5 Q. You took out the second clause.

6 A. I think we believe that the first clause  
7 as amended and made more specific adequately  
8 encompasses the second clause.

9 Q. So the general first clause did not  
10 encompass the second clause, which is --

11 A. I think it probably did encompass it.  
12 It's just we tried to make the description more  
13 specific for its purpose. Okay?

14 Q. So that the change did not imply or  
15 reflect a change in the product or the intended  
16 product?

17 A. No.

18 Q. Is there anything in RStudio or the  
19 R language that prohibits you from doing non-  
20 advanced statistical computing?

21 A. You can add, like you can add two plus  
22 two. You can type two plus two and it'll print  
23 four.

24 Q. That's not statistics, that's math.

1 MR. RUFO: Objection.

2 A. Well, it is certainly not statistics in  
3 the sense of statistical computing that I'm talking  
4 about today. But many things let you add two plus  
5 two, including a calculator, including a  
6 spreadsheet, including my hands, including I can  
7 take four paper clips and add them together. So  
8 similarly you can take the average of five numbers,  
9 do it in your head, you can do it in a spreadsheet,  
10 you can do it in a calculator. Those things are  
11 possible in R and RStudio.

12 Q. So adding the word "advanced" did not  
13 reflect a change in the product?

14 A. No.

15 Q. Have you further developed your plans to  
16 use RFusion anymore?

17 A. No. I think we are where we were the last  
18 time we spoke about it.

19 Q. And that is just an alternate name?

20 A. That's correct.

21 Q. And is that true with Radix also?

22 A. Radix is a name that we would like to use  
23 as a company name. We're still trying to find a  
24 good Internet domain to use with that. We've had a

1 little bit of trouble securing a good Internet  
2 domain.

3 Q. You had testified earlier, back in  
4 September, and I assume it is still true, that you  
5 really don't know what kind of applications your  
6 customers write. You're not involved in that,  
7 unless they come to you and ask you a question?

8 A. That's right. The customers can perform  
9 whatever analyses or write whatever code they would  
10 like to, yes.

11 Q. Do you have any way of knowing where  
12 they're getting their data from to act on the  
13 analysis?

14 A. We don't.

15 Q. They could use any third-party package,  
16 get data from anywhere they want?

17 A. We have no idea how they get their data.

18 Q. The diamond pricing example, is that  
19 advanced statistical analysis in this example on  
20 1008 and the following pages?

21 A. This example, it's a visualization that  
22 I think is going towards doing an ANOVA analysis  
23 because it's looking at the relationship between  
24 carat and price; and it's sort of similar to my

1 earlier example. You might do a plot like this to  
2 see if there might be a relationship. Is there a  
3 relationship that I can see visually? And then  
4 I run an ANOVA analysis subsequent to that to see is  
5 there a statistically meaningful relationship  
6 between those things.

7 Q. But, I mean, this just looks like a pretty  
8 simple, straightforward analysis.

9 MR. RUFO: Objection.

10 A. I think this plot is straightforward.  
11 I think when you get into the relationship between  
12 size, clarity, and price and how they systematically  
13 relate to each other, that is not again something  
14 you would do on your fingers or toes. I mean,  
15 I think it would again require an ANOVA analysis,  
16 which is what this activity here is a precursor to.

17 Q. You testified that RStudio has no native  
18 capability to communicate with relational databases?

19 A. That's correct.

20 Q. But again you testified that there are  
21 third-party packages that will give RStudio and  
22 other products the ability to communicate?

23 A. A customer can go secure a third-party  
24 package and integrate it with RStudio and then they

1 can read data out of a relational database.

2 Q. There is nothing in RStudio that prevents  
3 the customer from using a relational database or  
4 limits them to using only two-dimensional datasets?

5 MR. RUFO: Objection.

6 A. I would say this. The analytic techniques  
7 that are available in R cannot run directly against  
8 a relational database. They cannot. It wouldn't  
9 work, wouldn't make any sense. Customers need to  
10 get data out of the database and stick it into a  
11 two-dimensional dataset in RStudio and R called a  
12 data frame. So in that way I would say yes, they  
13 are prohibited in that you can't simply point the  
14 thing at a database and analyze it. You've got to  
15 get the data out of the database first; then you can  
16 analyze it.

17 Q. Are you familiar with the CRAN, C-R-A-N?

18 A. Yes.

19 Q. What is that?

20 A. That's an archive and directory of third-  
21 party packages.

22 Q. For R?

23 A. For R, yes.

24 Q. And there are quite a few packages that

1 talk about R with relational databases and add-ons  
2 and third-party packages. Have you looked at those?

3 A. Not in detail. But I am aware of their  
4 existence.

5 Q. So there is a fair amount of activity of  
6 R with relational databases?

7 MR. RUFO: Objection.

8 A. I don't know if I would make that  
9 characterization. I do not hear frequently of  
10 people hitting relational databases directly from R.

11 Q. You also said that there is no native  
12 capability to go to or from Ruby and R?

13 A. That's correct.

14 Q. But, again, there are bridges in third-  
15 party products that will let you do this?

16 A. There are. There's at least one, I think  
17 at least two bridges. I don't think they are used  
18 commonly.

19 Q. But there are bridges?

20 A. It exists. It is theoretically possible.

21 Q. Does RStudio have any bridges at all of  
22 its own?

23 A. No.

24 Q. But it will work with somebody's bridge?

1           A.       If someone installed a third-party bridge  
2       to another language, whatever that language may be,  
3       then it would work.

4           Q.       So there's nothing in RStudio that  
5       prevents the customer from using a bridge to do  
6       statistical computing using some other computing  
7       language?

8           MR. RUFO:   Objection.

9           A.       I would say yes, in that our editor only  
10      -- First of all, our console only allows you to  
11      submit commands to R. Our editor only allows you to  
12      edit R-source files, I think R-source files and  
13      Sweave documents. So, I mean, like if you tried to  
14      load a Ruby or PHP file and just hit enter, it would  
15      just reject it. It would just say "I don't know  
16      what you're talking about."

17          Q.       And that is not a feature you would ever  
18      add to RStudio?

19          A.       I don't think so.

20          Q.       Why not?

21          A.       Because if people are going to go and do  
22      Ruby development or PHP development, they're going  
23      to get a tool to do that. Now, that is its own very  
24      deep domain. There's probably a hundred different

1 features you need to have a good Ruby environment  
2 and we'd have our work cut out for us building --  
3 It's probably more than that; it's probably 500  
4 features. So it's just an entirely different thing.

5 Q. So RStudio as a company would never work  
6 with a language other than R?

7 A. No, we wouldn't.

8 Q. Going back to your builder metaphor, that  
9 was kind of interesting to me. You described the  
10 database designer as the architect, if you will, and  
11 the carpenter or builder as the application  
12 development software?

13 A. I think in general, yes.

14 Q. Generally as a metaphor, yes.

15 A. Right.

16 Q. The architect and the builder work very  
17 closely together in trying to put together a house.  
18 Correct?

19 A. They do communicate, yes, they do. They  
20 need to.

21 Q. Doesn't the application -- Strike that.  
22 The testimony of the Embarcadero witness  
23 was that if people have data they want to store,  
24 they go to a database designer or database design

1 product, one of the RStudio products, for example,  
2 and they design a database; and that is usually  
3 driven by an application that they are building or  
4 have built that has to access that data. Is that  
5 your understanding so far?

6 A. Yes.

7 Q. So that there is a close relationship  
8 between the application development software and the  
9 product you're trying to build and the data and the  
10 database it's stored in?

11 MR. RUFO: Objection.

12 A. I think they communicate with each other.  
13 They use very different tools and I don't think they  
14 are confused about what tools they need. To use the  
15 metaphor we talked about earlier, the builder  
16 doesn't think I need a pencil or a drafting tool;  
17 the architect doesn't think I need a hammer.  
18 They're not confused about the tools they need for  
19 their job, even though they do communicate with each  
20 other and their work relates to each other.

21 Q. Once you design the database, model the  
22 database, you then build the database. So there's  
23 database products that build a database?

24 A. There's various ways people build

1 databases, yes.

2 Q. And then once a database is built, one has  
3 to maintain the database, do various functions to  
4 maintain it?

5 A. That's correct.

6 Q. And then there are products that get data  
7 in and out of databases, they move it into  
8 applications?

9 A. Yes.

10 Q. And then there are products that optimize  
11 databases and perform other --

12 A. I think you're describing sort of the  
13 various product categories that you guys have  
14 defined on your website, design and architecture  
15 tools, database management and development, which is  
16 articulated here as a separate category; performance  
17 optimization, as you just mentioned, yet another  
18 category; then an application category, yet a fourth  
19 category.

20 Q. So why do you think all these products are  
21 together on one page?

22 A. Because these are all the products that  
23 are sold by Embarcadero. It says "all products" at  
24 the top.

1 Q. And you see no relationship between the  
2 products?

3 A. Oh, no. As I said before, the builder and  
4 the architect in the home construction metaphor are  
5 related. There's a sequence of actions whereby an  
6 architect designs; in this case a software designer  
7 designs and an application developer builds or a  
8 general contractor builds, and their work relates to  
9 each other. It's not the same work and they don't  
10 use the same tools.

11 Q. And that is kind of summarized in the line  
12 at the top of the columns here, "giving you the  
13 ultimate flexibility to design, build and run  
14 software applications and database systems in the  
15 environment you choose"?

16 A. That's a summary of sort of how all those  
17 categories relate to each other.

18 Q. Now, do other software companies have a  
19 spectrum of categories like this?

20 A. Yes.

21 Q. And this is actually fairly common to the  
22 largest software companies, to have a spectrum of --

23 A. Many larger software companies have a  
24 variety of products that relate to each other in

1 different ways, yes.

2 Q. And you mentioned as part of the  
3 purchasing decision, the purchasers, especially the  
4 corporate purchasers, like to know the company  
5 they're getting their product from?

6 A. They do.

7 Q. And if they like one product, are they  
8 more likely to buy other products from the same  
9 company?

10 A. I would imagine they would be.

11 Q. I mean, companies try to sell on that  
12 basis. Right?

13 A. Companies try to bundle together to the  
14 extent they can.

15 Q. Bundle and cross-sell between groups?

16 A. And customers may or may not go for that  
17 sales pitch.

18 Q. I think IBM, for example, they certainly  
19 try to sell you a start-to-finish line of software  
20 that will do everything from their database, their  
21 data, design and application development, studio  
22 suite.

23 A. I think it's definitely an ambition for  
24 the larger companies to sell you everything. I

1 think probably among the larger customers there's a  
2 little bit more discernment, and diversity ends up  
3 being inside the enterprise.

4 Q. Do any of the statistical computing  
5 companies have other product lines that are not  
6 statistical computing?

7 A. SAS products are by and large focused in  
8 and around statistics. I don't know the whole  
9 product line. I know they started out with a  
10 statistical computing tool, and they may have other  
11 things that relate to it.

12 Q. You had mentioned the database and the  
13 database access.

14 A. Yeah, I don't know whether I would -- They  
15 have SAS. I don't want to characterize their  
16 product line. So, they're a very large company,  
17 they've got a lot of products.

18 Q. SAS is S-A-S Institute, I think is the  
19 official name?

20 A. Yes, and they certainly started out right  
21 in the heart of statistical computing and they may  
22 have stuff on the borders outside of that. Again,  
23 I wouldn't characterize their product line.

24 Stata is, I believe, a hundred percent a

1 statistical computing tool. I believe. Again, I'm  
2 not superfamiliar. SPSS is a business group within  
3 IBM; they were acquired by IBM. And SPSS within  
4 that has statistical computing tools, and then I  
5 don't know what else might be owned by that business  
6 group or how that business group might be related to  
7 other business groups. IBM is in a lot of ways a  
8 federation of different products and business  
9 groups.

10 Q. You talked briefly about a UML line of  
11 products in one article.

12 A. Yes.

13 Q. What is UML?

14 A. Universal Modeling Language.

15 Q. And is that an entity-relationship-based  
16 product?

17 A. No.

18 Q. What's the difference?

19 A. Entity relationship design is for  
20 designing relational databases. UML is for  
21 designing how a software system should be layered  
22 and designed.

23 Q. And Embarcadero has a UML product. Right?

24 A. Yes.

1 Q. Sold under the ER/Studio name?

2 A. ER/Studio Architect.

3 Q. So ER does not mean entity relationship in  
4 connection with their UML product?

5 A. I wouldn't characterize what they mean by  
6 ER in their products.

7 Q. But you did before. You tried to say it  
8 always meant entity relationship.

9 MR. RUFO: Objection.

10 A. There's a bundling of products going on  
11 here. I think it started out as ER/Studio and they  
12 grouped other products into it.

13 Q. But the ER/Studio Software Architect is a  
14 UML-based product?

15 A. Yeah, I don't know. I would imagine it  
16 has some relationship to the other ER products such  
17 as ER Data Architect. It may or may not. It might  
18 have no connectivity whatsoever to it or it might.  
19 It's grouped in the same --

20 Q. Well, you had testified before you were  
21 familiar with the products, so I was asking you  
22 about the products.

23 A. These products, again, as I've said, have  
24 oftentimes hundreds of features. Okay? So I didn't

1 memorize every feature.

2 Q. I'm not questioning why you don't know it.  
3 I was surprised when you said you were familiar with  
4 all the products.

5 Did you tell the Patent and Trademark  
6 Office that R is the name of a language when you  
7 filed the application?

8 A. I would have to ask what all was --  
9 I probably would have to review the application to  
10 be sure about that.

11 Q. Does the R GNU -- Do you know what GNU  
12 means?

13 A. Yes.

14 Q. Does the GNU license for R give you the  
15 right to incorporate the R trademark or language  
16 name in your product?

17 A. No.

18 Q. Does it prohibit you from doing so?

19 A. No.

20 Q. Some of the documents refer to data  
21 analytics. What is data analytics?

22 A. Which documents?

23 Q. It's listed as RS537. I think it shows up  
24 other places too. Here it is in the book R in a

1 Nutshell, which I think was marked earlier as RS537.

2 You can read that if you'd like to.

3 A. Yep, okay.

4 MR. GREENSTEIN: I'm going to run to the  
5 bathroom while you're reading that.

6 (Mr. Greenstein left the room and returned  
7 shortly.)

8 BY MR. GREENSTEIN:

9 Q. Are you familiar with the phrase data  
10 analytics?

11 A. I think you're pointing me to Exhibit  
12 RS537. I think as used here it is synonymous with  
13 statistical computing.

14 MR. RUFO: I just would like to note for  
15 the record this is not an exhibit marked RS537, but  
16 rather that is the page number on the document.

17 THE WITNESS: Oh, okay, so....

18 MR. GREENSTEIN: I'll mark it as an  
19 exhibit.

20 MR. RUFO: Now?

21 MR. GREENSTEIN: Yes.

22 (Allaire Trial Exhibit 13 marked for  
23 identification.)

24 MR. GREENSTEIN: While we're at it, let's

1 mark this as the next exhibit.

2 (Allaire Trial Exhibit 14 marked for  
3 identification.)

4 MR. RUFO: Do you want me to run and make  
5 copies of those right now?

6 MR. GREENSTEIN: Yes, would you?

7 MR. RUFO: Not a problem. Why don't we  
8 just take a real quick break.

9 MR. GREENSTEIN: Sure.

10 (In recess 2:09 p.m. to 2:15 p.m.)

11 BY MR. GREENSTEIN:

12 Q. What is data analytics?

13 A. As used in this quote, I think it's  
14 synonymous with statistical computing.

15 Q. Exhibit 14, which you should have, is a  
16 page from the R Project website, r-project.org?

17 A. Yes.

18 Q. It intrigued me because they sort of  
19 dispute the fact that this is a statistics system  
20 and they call it an integrated suite of software  
21 facilities for data manipulation, calculation, and  
22 graphical display.

23 MR. RUFO: Objection.

24 A. Actually, you've also highlighted another

1 section here. The first sentence is "R is a  
2 language and environment for statistical computing  
3 and graphics." Okay? So I think that is what  
4 they're saying R is.

5 Q. Well, and then they say "R is an  
6 integrated suite of software facilities for data  
7 manipulation, calculation, and graphical display."

8 A. I think what they're saying here is  
9 statistical computing involves making calculations  
10 and manipulations against data. So I think what  
11 they're saying here is, I've got data in a data  
12 frame. I want to run a regression, I want to run an  
13 ANOVA, I want to run a time series analysis, I want  
14 to do plotting around that, I want to load data in  
15 from a text file or from an R data frame that's  
16 stored on disc. I want to do matrix operations; I  
17 want to perform analytic tasks, as we talked about  
18 before; I want to do plotting; and I want to have a  
19 programming language that supports all that.  
20 I don't think this says anything different than what  
21 we've been discussing all day.

22 Q. Can you grab Exhibit 4, one of the first  
23 ones we adopted here.

24 A. Okay.

1 Q. This comparison of statistical packages  
2 includes statistical packages that are free, cost  
3 \$29, cost \$2,495, and cost up to \$34,000. What do  
4 I get for 34,000?

5 A. I don't know. That product Autobox is  
6 listed as costing as little as 800 and as much as  
7 34,000. So I hope you get a lot more for the 34,000  
8 than you do for the 800.

9 Q. How do you compare packages that are up  
10 to, you know, \$2500 for Mathematica?

11 A. I think what it comes down to is what work  
12 am I doing and what specific tools do I need to  
13 complete that work and how easy are those tools to  
14 use, I think is most of the consideration.

15 Q. Most of these run on R or do not run on R?

16 A. The R, which is included in here, is  
17 obviously R itself and then there are a couple other  
18 tools here that are related to R such as R Commander  
19 which also make use of R.

20 Q. And there are a number that run on C or  
21 C++?

22 A. If you're asking what these products are  
23 written in, I don't know what they're written in.

24 Q. I'm just reading the table you provided.

1           A.       Yeah.  Let's see.  Oh, what they're  
2       written in?  So what that refers to is the language  
3       that was actually used to implement it.  So, for  
4       example, R was written in C, and so you see in the  
5       column "written in" for R, it says C.  So they're  
6       referring to actually what the underlying language  
7       is that was used to create the system itself rather  
8       than what the system itself uses.

9           Q.       So R is not a language per se; R is a  
10      system built on C?

11                   MR. RUFO:  Objection.

12          A.       No.  I'll submit to you that 95 percent of  
13      the commercial software packages in the world are  
14      written in C.  Okay?  That's the most commonly used  
15      language to write software packages.

16          Q.       And does that include C++?

17          A.       I'm including C++, yes.

18          Q.       So R is not a language?

19          A.       No, no, no.  Okay, name the language.  
20      PHP?  Written in C.  Ruby?  Written in C.  Java?  
21      Written in C.  Everything's written in C.  So  
22      there's nothing about being written in C that is  
23      surprising or novel or includes or excludes  
24      something from being a language.

1 Q. So where does the C end and the R begin?

2 A. When users use R they write R code, just  
3 like when users use PHP they write PHP code or when  
4 they use Ruby they write Ruby code. The typical  
5 user of R is writing R code. They don't see -- They  
6 actually wouldn't know what R was written in. They  
7 wouldn't have any way of knowing that; they just use  
8 R.

9 Q. So can RStudio reach behind the R into the  
10 C?

11 A. What do you mean by that?

12 Q. I knew you were going to ask me that. Can  
13 RStudio make a call in C language to some function  
14 in R that's not written in R?

15 A. Let me back up. R itself, when you're  
16 using R functions, somewhere under the covers, you  
17 don't know where, some C code or some FORTRAN code  
18 is going to execute. The user of R doesn't really  
19 know when that's happening. So the user types in  
20 ANOVA, you know. At some point there's going to be  
21 some C or some FORTRAN code that executes. The user  
22 doesn't know where, when, or even if that even  
23 happens. I'm just telling you as a matter of  
24 implementation.

1 Q. But you as the developer of RStudio have  
2 the facility, if you want to be clever and reach  
3 behind the R, to pick up a native C routine?

4 MR. RUFO: Objection.

5 A. Well, similar to some of these other  
6 things we've talked about, RStudio is also itself  
7 written in C and C++. So it's not really like  
8 reaching behind. We are writing in C and C+.  
9 That's the language, like almost all these tools.  
10 And I'm sure the Embarcadero tools are all written  
11 in C and C++, by and large, so....

12 Q. I'm just curious. When I go to the  
13 Wikipedia page that this chart is taken from, it  
14 comes up with a box at the top that says "This  
15 article has multiple issues," that it may not be  
16 accurate, may contain unverifiable claims,  
17 et cetera, "may need additional references or  
18 sources for verification." That didn't print out on  
19 here.

20 MR. RUFO: I printed that directly from  
21 the website; it was not manipulated.

22 MR. GREENSTEIN: Here. I'm just looking  
23 at it (showing laptop screen to Mr. Rufo).

24 MR. RUFO: Can you see that?

1 THE WITNESS: Yes.

2 MR. RUFO: Do you have a question  
3 regarding this?

4 MR. GREENSTEIN: Yes. I'm going to ask  
5 that you substitute the actual page or I'm going to  
6 object to the introduction. I mean, I don't think  
7 you edited it, but it is kind of strange that the  
8 qualification "may not be accurate" didn't get  
9 printed up.

10 MR. RUFO: Oftentimes when you print,  
11 certain things don't come out. But I will take a  
12 screen shot of that page and I'll include it in the  
13 exhibit.

14 MR. GREENSTEIN: Okay.

15 BY MR. GREENSTEIN:

16 Q. You mentioned -- you put it in an exhibit  
17 -- about how to download RStudio, one of two ways to  
18 do it, and that that proves that someone has to know  
19 that they're going to the RStudio site in order to  
20 get the software. Remember that?

21 A. I remember the exhibit about the download,  
22 yes.

23 Q. Exhibit 10, page RS1013.

24 A. Okay, yes.

1 Q. Once it's been downloaded and it's on the  
2 computer, a subsequent user who walks up to that  
3 computer wouldn't have to go back and download it  
4 again, would he or she?

5 A. They would not.

6 Q. So the expertise of the first person  
7 downloading it would not apply to the next person  
8 who walks up and uses it?

9 MR. RUFO: Objection.

10 A. If someone else walked up to the computer  
11 and RStudio was already on there, then they could  
12 use it without having to visit our site. I would  
13 say that there are several links within the product.  
14 So, for example, if you go to help or support, there  
15 are various links like that in the product that take  
16 you back to the site, so that subsequent user might  
17 in the ordinary course of using the product connect  
18 back to our site.

19 MR. GREENSTEIN: I have no more questions.

20 MR. RUFO: I think I'm only going to have  
21 one or two questions. But if we could just take a  
22 brief break so I can review my notes and then we'll  
23 come back on the record.

24 MR. GREENSTEIN: Sure.

1 (In recess 2:27 p.m. to 2:41 p.m.)

2 MR. RUFO: We are back on the record.  
3 I am handing a document to the court reporter to  
4 mark as Exhibit Number 15.

5 (Allaire Trial Exhibit 15 marked for  
6 identification.)

7 MR. RUFO: For the record, we have just  
8 entered in Exhibit Number 15. This relates to  
9 Exhibit Number 4 insomuch as counsel for Embarcadero  
10 has pointed out that on the live website, there is a  
11 disclaimer that for one reason or another did not  
12 appear on the printout.

13 If you can compare the URL at the bottom  
14 of the printout to the URL that appeared within the  
15 screen shot, it is in fact the same URL, so this  
16 does represent the same website. And we are  
17 entering this in as Exhibit 15 to clarify what was  
18 previously marked as Exhibit Number 4.

19 MR. GREENSTEIN: Yes. And I'm sure it's  
20 just one of these technical mixups, that's all.

21 MR. RUFO: Yes. So I have no further  
22 questions and no other matters that I feel require  
23 us to suspend rather than conclude, so I would --

24 MR. GREENSTEIN: Are you going to offer

your exhibits into evidence?

MR. RUFO: Yes, I should do that for the record. All of the exhibits that have been used in today's deposition I am offering into evidence in the proceeding.

MR. GREENSTEIN: Including the two or three that I had marked?

MR. RUFO: Yes, including all of the exhibits that were entered either by myself or counsel for Embarcadero.

MR. GREENSTEIN: And I will just raise objections to 4 in terms of incomplete for the rest of the website; 6 for foundation, 8 and 9 for foundation. That's it.

MR. RUFO: So we are concluded. Thank you.

(Deposition concluded at 2:44 p.m.)

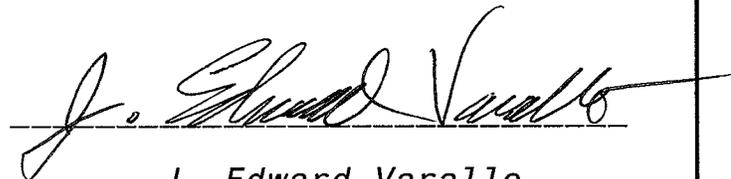
## COURT REPORTER'S CERTIFICATE

I, J. Edward Varallo, RMR, CRR, Registered Professional Reporter and Notary Public in the Commonwealth of Massachusetts (my commission expires 12/24/2015), hereby certify that the deposition of Joseph J. Allaire taken on April 15, 2011, commenced at 9:35 a.m. in the law offices of Foley Hoag LLP, Boston, Massachusetts, in the presence of counsel for both parties in the matter of Embarcadero Technologies, Inc., Opposer v. RStudio, Inc., Applicant; that the testimony was recorded by me stenographically and transcribed; that before being sworn by me, the deponent provided satisfactory evidence of identification as required by Executive Order 455 (03-13) of the Governor.

I certify that the deposition transcript produced by me is true and accurate to the best of my ability.

I certify further that I am not counsel, attorney, or relative of any party litigant, and have no interest, financial or otherwise, in the outcome of this suit, and am not otherwise disqualified under Rule 28 of the Federal Rules of Civil Procedure.

DATED: 4/26/2011

  
J. Edward Varallo

