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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

ORACLE USA, INC., *et al*.,

Plaintiffs,

v.

SAP AG, *et al*,

Defendants.

No. 07-CV-01658 PJH (EDL)

NOTICE OF MOTION AND MOTION NO. 4: TO EXCLUDE TESTIMONY OF DEFENDANTS' EXPERT DONALD REIFER

Date: September 30, 2010
Time: 9 a.m.
Place: Courtroom 3
Judge: Hon. Phyllis J. Hamilton

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PLEASE TAKE NOTICE that on September 30, 2010, at 9:00 a.m., in the courtroom of the Honorable Phyllis J. Hamilton, of the above-entitled Court, Plaintiffs Oracle USA, Inc., Oracle International Corporation, Oracle EMEA Limited, and Siebel Systems, Inc. (collectively, "Oracle") shall and hereby do move for an order excluding opinions and testimony of Donald Reifer, ("Reifer") designated by Defendants SAP AG, SAP America, Inc., and TomorrowNow, Inc. ("SAP TN") (collectively "Defendants") as an expert witness in this matter, on the grounds that Reifer's proposed expert opinion testimony is inadmissible on the basis of the authorities and evidence set forth herein and in the accompanying declarations.

I. INTRODUCTION AND RELIEF REQUESTED

Oracle's expert, Paul C. Pinto, has estimated the amount that SAP would have spent to develop software of similar functionality to what it infringed here. Pinto's estimation of what SAP would have spent to avoid infringement, along with his opinions (based on his real world experience) about the considerations of avoided time delay and avoided risk, are part of the "build" analysis portion of the classic "buy vs. build" decision that companies consider every day to determine whether to license software or whether to develop a non-infringing solution themselves. As the evidence will show, any reasonable party in a license negotiation, hypothetical or not, would consider this trade-off.

To estimate what SAP would have spent, Pinto uses principles and methodologies from two different cost estimation fields – function point and Constructive Cost Modeling ("COCOMO") – but tempers both with his own real-world experience. In an effort to rebut Pinto's analyses applying the COCOMO model, Defendants offer the opinions and testimony of Donald Reifer. Like most of Defendants' experts, Reifer conducted no independent analysis and offers no affirmative, standalone opinions of his own. Instead, he limits himself to a critique of aspects of Pinto's application of the COCOMO methodology. Even in this unambitious effort, Reifer fails to comply with the requirements of Federal Rule of Evidence 702, as well as *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and its progeny. Accordingly, specific opinions by Reifer, summarized below, should be excluded.

Pinto's COCOMO analysis properly begins by figuring out how large the development

project is, by counting the total number of Source Lines of Code ("SLOC") in the software at issue. Given that the software programs at issue contain millions of lines of code, developers use automated tools called code counters to count the SLOC. Pinto developed code counters that he used to count the lines of code in software at issue in this case, disclosed the results of those counts, and produced the counters themselves so that Defendants could repeat and confirm his results.

Reifer opines that Pinto's code counters are defective and count too many lines of code, and as a result overestimate development costs. But he reaches that conclusion without (a) having ever used Pinto's code counters, or (b) having ever tried to count all the lines of code in the software products at issue. In short, Reifer could not figure out how to use Pinto's code counters. Instead of asking for help, at the last minute he asked a graduate student, Tom Tan, to create "replicas" of Pinto's code counters. Reifer then applied the replicas to non-representative sample of JD Edwards software and concluded that the ***"replicas"*** over-counted the lines of Java software code by about 9.5%, and the C software code by 14.5%. On that basis alone, Reifer then decided that Tan's "replicas" were defective as code counters, and further assumed that Pinto's code counters – which Reifer and Tan never actually used to count even a single line of code – suffered from the same defects. From these conjectures – they cannot be called premises – Reifer concludes that all of Pinto's Java SLOC counts are overstated by 9.5% and all of his C SLOC counts are overstated by 14.5%.

Reifer's errors are fundamental, elementary, and place his proffered testimony well outside the range of permissible expert opinion. Neither Reifer, nor any witness relying on Reifer, should be permitted to offer any testimony or evidence that Pinto's estimates of SLOC counts are incorrect.

II. LEGAL STANDARD

The party proffering an expert opinion has to demonstrate it meets the Rule 702 admissibility standards by a "preponderance of proof." *Daubert v. Merrell Dow Pharm. Inc*., 509 U.S. 579, 593 (1993); *Lust v. Merrell Dow Pharmaceuticals, Inc*., 89 F.3d 594, 598 (9th Cir. 1996). Fed. R. Evid. 702 provides:

> If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and method reliably to the facts of the case.

Fed. R. Evid. 702. Reifer's opinions fail to meet these three requirements.

Further, "[w]hen an expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict." *In re Citric Acid Litigation*, 191 F.3d 1090, 1102 (9th Cir. 1999), citing *Brooke Group Ltd. V. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993). In such a case, the Court must exclude the testimony of the expert that failed to meet the standard for admissibility under the Federal Rules of Evidence and Supreme Court precedent. *See also DSU Medical Corp. v. JMS Co., Ltd.*, 296 F.Supp.2d 1140, 1157-58 (N.D. Cal. 2003) (excluding damages expert testimony in part because expert failed to consider relevant facts), *aff'd on other grounds*, 471 F.3d 1293 (Fed. Cir. 2006); *QR Spex, Inc. v. Motorola*, 2004 WL 5642907, at *9 (C.D. Cal.) (excluding expert report and opinion where expert did not review relevant underlying evidence).

III. STATEMENT OF FACTS

A. Paul C. Pinto's Expert Opinion on the Amounts SAP Would Have Spent to Develop Similar Software

On November 16, 2009, Oracle expert Paul C. Pinto served his expert report in this matter, which contained his affirmative expert opinions and analysis, including estimates of the amounts that it would have cost Defendants to independently develop software similar to the Oracle software that they instead accessed, took, and used. *See* Alinder Decl., Ex. C (Pinto Report) at 1. Pinto has worked in the field of software development for 24 years. *Id.* at 3 & Attachment A. He has been a senior software executive at software companies that compete directly with Oracle and SAP. *Id.* He has also worked at software firms to develop software development cost estimates, bid on those projects, and then deliver on those bids by building the

actual software. *See id*., Ex. D (Pinto Depo.) at 112:24-113:16.

Over the course of his career, Pinto has personally been involved with conducting at least 100 software estimating efforts, applying a variety of estimating models and techniques, including at least 50 software development estimating projects using COCOMO analysis. *Id*. at 109:14-110:20; 226:3-25. COCOMO is a software cost estimation model that uses regression formulas, coupled with parameters that were derived from historical project characteristics. Alinder Decl., Ex. C (Pinto Report) at 34-35. The model was originally published in 1981 as a method for estimating the level of effort, project duration, and costs associated with developing software. *Id.* COCOMO estimates the software development effort as a function of a limited set of "scaling drivers" that describe the development process, and a set of "cost drivers" that include subjective assessments about the product, platform, personnel, and project attributes. *Id.* at 35. For this case, Pinto used a particular version of COCOMO, called COCOMO II 1997, that he has used frequently in his professional work and which he has found to be the most accurate version of the model for calculating software development costs in circumstances such as those present in this case. Alinder Decl., Ex. D (Pinto Depo.) at 112:8-114:6.

One input into the COCOMO model is the number of SLOC. Accordingly, as an initial step in the COCOMO analysis, Pinto counted the source lines of code for two of the software products at issue, JD Edwards Enterprise One, Version 8.12, and PeopleSoft, Version 8.X. Alinder Decl., Ex. C (Pinto Report) at 16-17. Given that the software programs at issue contain millions of lines of code, software developers use automated tools called code counters to count the SLOC. The process of counting source lines of code is simple in some respects, but still requires a certain amount of nuance and familiarity with the underlying software development language. *See id*. at 15-16. Each such language has rules for constructing its source code, in the same way that the English language has rules for constructing statements and sentences. *Id.* These software coding rules, or standards, enable software utilities to be built that can distinguish the different rules, and thus, count the lines of code. *Id.*

Pinto constructed software utilities ("code counters") that counted the logical Source Lines of Code in particular enterprise application products. Pinto specifically designed and

tailored each line counting utility to address the specific needs of each type of source code that he analyzed (*e.g.*, COBOL, C, SQL, SQR, etc.). *Id.* at 16. These code counting utilities were produced to Defendants so that they could replicate and confirm Pinto's analyses. *See* Alinder Decl., Ex. B (Reifer Depo.) at 125:14-127:1.

Pinto then applied his code counters to JD Edwards Enterprise One, Version 8.12, and PeopleSoft, Version 8.X, in order to count the SLOC as the foundation for estimating software size. These analyses yielded 7,774,791 SLOC for JD Edwards Enterprise One, and 7,650,493 SLOC for PeopleSoft. *See* Alinder Decl., Ex. C (Pinto Report) at 17. Pinto then applied COCOMO's scaling and cost factors to derive an estimated cost of development. *See id.* at 34-39.

B. Donald Reifer's Rebuttal Expert Report to Pinto

Defendants chose not to offer affirmative expert reports on these topics, but on March 26, 2010, served the expert report of Donald Reifer in rebuttal to Pinto. *See* Alinder Decl., Ex. A (Reifer Report) at 1. Reifer purports to be a COCOMO expert, and criticizes parts of Pinto's COCOMO analysis with which he disagrees. *See id*. at 3-6.

Of particular relevance here, Reifer criticizes Pinto's SLOC counts, arguing that they are overstated. *See id.* at 18-22. Reifer has no factual basis for this opinion. Reifer did not perform his own code counts on the Oracle software that Pinto analyzed, nor did he analyze the actual code counters that Pinto developed and disclosed. Instead, Reifer testified that he received Pinto's code counters in the form of .exe files and text files, but that he was unable to get those utilities to run. Alinder Decl., Ex. B (Reifer Depo.) at 127:9-128:15; 129:12:-130:12). Reifer never asked defense counsel for technical assistance with the counters, and neither Reifer nor defense counsel ever contacted Oracle or Pinto to seek assistance with the code counters, or to try to understand whether Reifer was making mistakes that prevented him from running those counters. *Id.* at 143:23-144:15.

Instead of analyzing and testing Pinto's code counters, some time after mid-February, 2010, Reifer asked a graduate student, named Tom Tan, to create "replicas" of Pinto's counters, relying on descriptions of the parameters that Pinto had also produced in discovery. *Id.* at 127:9-

128:15; 129:12:-130:12; 137:6-22; 138:11-139:4 & 143:12-144:1). Reifer did not develop the "replica" code counters himself and in fact has ***never*** developed a code counter from scratch. *Id*. at 130:18-24. Reifer also did not perform the software runs with the "replica" utility – Tan did that, too. *Id.* at 137:18-22.

Reifer then purported to "test" the accuracy of the "replica" code counter built by his graduate student assistant Tan.[1] He did so by selecting just five[2] routines from the JD Edwards Enterprise One application, two using Java code and three using C code. Alinder Decl., Ex. A (Reifer Report) at 19-20. For each, Reifer counted the lines of code with Tan's "replicas," counted the lines of code with a free code counter developed by the University of Southern California and modified by Tan for use in this case, and then compared the results. *Id.* at 18-22, 33, 62. According to Reifer, when he performed this perfunctory analysis, Tan's "replicas" yielded 95 Java source lines of code and the USC counter yielded 86 Java source lines of code, a difference of 9.5%. *Id.* at 19-22. Reifer then presumed that this disparity between Tan's ***replica*** and the USC code counter – ***nine lines of code*** in a non-random sample that represented one one-hundredth of one percent (0.01%) of the 868,623 lines of Java code in JD Edwards Enterprise One – established that ***Pinto's code counters*** systematically overstated Java lines of code by 9.5%. Alinder Decl., Ex. C (Pinto Report) at 17*; id.* Ex. A (Reifer Report) at 33, 57, 62. Again, Reifer reached this expert opinion without ever loading, much less running, much less

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[1] Reifer's first "test" was to apply the so-called "replica" code counters to a public domain, open source flight simulator program called FlightGear. Alinder Decl., Ex. A (Reifer Report) at 18-19. He then applied a free code counter developed by the University of Southern California to the same flight simulator program, and compared the results. *Id.* At his deposition, Reifer was unable to explain why he used FlightGear, which is not an enterprise software application, other than the fact that he was familiar with it. *See* Alinder Decl. Ex. B (Reifer Depo.) at 154:7-155:9. In addition, Reifer admitted that Pinto's counters were never intended to count lines of code in the C++ programming language, which is one of the languages used by FlightGear, but not JD Edwards. Alinder Decl., Ex. B (Reifer Depo.) at 154:7-156:13. When questioned about his analyses using FlightGear, Reifer admitted that those analyses and experiments were not relevant to his opinions in this case. *Id.* at 150:13-24 ("So the experiment was not germane to anything in my report.").

[2] Pinto had determined that the JD Edwards Enterprise One application consisted of 38.634 separate programs (10.163 of which were in Java, with the remainder in C code). Alinder Decl., Ex. C (Pinto Report) at 15.

using, Pinto's counters, and without even trying to count 99.99% of the lines of Java code in JD Edwards Enterprise One.

Reifer and Tan repeated this exercise with the C code in JD Edwards Enterprise One, this time applying the counters to a larger (though not random) sample of code and concluding that Tan's "replicas" over-counted the C code by 14.5%. Alinder Decl., Ex. A (Reifer Report) at 22, 33. Although Reifer and Tan still did not use Pinto's actual code counters, or even try to count more than 86% of the C code in JD Edwards Enterprise One, Reifer once again concludes that Pinto's counters systematically over-counted the number of lines of C code by 14.5%. *Id*.

Having conveniently attributed the defects in Tan's "replica" code counters to Pinto, Reifer then purports to correct the supposed error by reducing the size of the development project, and by extension its cost. *See id.* at 86-87.

C. Pinto's Analysis of Reifer's Errors

After receiving Reifer's report, Pinto compared the output of Reifer's graduate assistant's "replicas" with the output of the actual code counters that Pinto had used. That comparison demonstrates that the "replicas" were not replicas at all, but rather distorted and inaccurate substitutes for what Pinto did. *See* Alinder Decl., Ex. E (Pinto Rebuttal Notes) at 1-3. The "replicas" systematically produce SLOC counts that are considerably higher than Pinto's actual results. *See id.; see also* Alinder Decl., Ex. D (Pinto Depo.) at 306:24-311:10. Indeed, Pinto's real counters yield counts that are lower than the benchmark USC counters preferred by Reifer. *See* Alinder Decl., Ex. E (Pinto Rebuttal Notes) at 1-3. Only by replacing Pinto's code counting utility with his own inaccurate version was Reifer able to create the illusion of an error by Pinto.

IV. ARGUMENT

A. Reifer's Opinions and Testimony Regarding the Accuracy of Pinto's Source Lines of Code Counts Must Be Excluded

Defendants cannot carry their burden under the *Daubert* standard because Reifer's critique of Pinto's code counts fails almost every element of Rule 702.

First, Reifer is not "qualified as an expert by knowledge, skill, experience, training, or education," *see* Fed. R. Evid. 702, in the development of code counters. Prior to this case, he

had never built a code counter from scratch, and at the conclusion of this case, he still will never have done so. *See* Alinder Decl., Ex. B (Reifer Depo.) at 130:18-24: Reifer simply has no expert qualifications that would permit him to opine on the accuracy of Pinto's code counters by relying on a so-called replica that he also neither created nor has the expertise to create. *See, e.g., United States v. Chang*, 207 F.3d 1169, 1172-73 (9th Cir. 2000) (expert "qualified" in one topic excluded from testifying on topic where didn't have expertise); *United States v. Cook*, 261 Fed. Appx. 52, 54 (9th Cir. 2007) (same); *Salinas v. Amteck of Kentucky, Inc.*, 682 F.Supp.2d 1022, 1030 (N.D. Cal. 2010) (rejecting opinions on warnings by proffered expert who had no "professional training or expert qualifications to opine on the formulation or design of warning or safety labels" and had never "investigated a case with similar facts" and never "testified as a warnings expert"); *Redfoot v. B. F. Ascher & Company*, 2007 WL 1593239, at *10-11 (N.D. Cal.) (Hamilton, J.,) (rejecting testimony on medical subjects and conclusions of what caused victim's autism for which expert had neither training nor qualifications to opine).

Second, Reifer's opinions will not assist the jury as the trier of fact. "The 'will assist' requirement, under *Daubert*, 'goes primarily to relevance.'" *Primiano v. Cook*, 2010 WL 1660303, at *6 (9th Cir.) (quoting *Daubert*, 509 U.S. at 591). Reifer simply did not analyze what Pinto actually did. He analyzed what his own graduate student assistant, Tan, did. As a result, Reifer may have damning testimony to offer against Tan's SLOC counts, but he has nothing useful to say about Pinto's.

Third, Reifer's opinion has no basis in fact, *see* Fed. R. Evid 702, because – again – Reifer simply did not analyze what Pinto actually did. There is no more fundamental error than an expert analysis of the wrong thing. *See, e.g., Andrews v. E.I. Du Pont De Nemours and Co.*, 447 F.3d 510, 513 (7th Cir. 2006) (expert testimony excluded under *Daubert* because expert based his calculations on data from the wrong highway ramp). Reifer's attacks on Pinto have no factual basis, and must be excluded. *See Guidroz-Brault v. Mo. Pac. R.R. Co.*, 254 F.3d 825, 830-31 (9th Cir. 2001) (affirming exclusion of multiple experts because conclusions based on factually unsupported assumptions); *Nuveen Quality Income Mun. Fund Inc. v. Prudential Equity Group, LLC*, 262 Fed. Appx. 822, 824-25 (9th Cir. 2008) ("An expert opinion is properly

excluded where it relies on an assumption that is unsupported by the evidence in the record and is not sufficiently founded upon the facts"); *QR Spex, Inc. v. Motorola*, 2004 WL 5642907, at *9 (C.D. Cal.) (excluding expert report and opinion where expert didn't review relevant underlying evidence); *Robinson v. G.D. Searle & Co.*, 286 F.Supp.2d 1216, 1221 (N.D. Cal. 2003) (expert's testimony inadmissible when based on factual premise directly contradicted by evidence on the record).

Fourth, Reifer's approach and testimony are not "the product of reliable principles and methods." Fed. R. Evid. 702. Much to the contrary, Reifer's principles and methods were slip-shod and results-oriented. Had Reifer simply used the code counters that Pinto provided, he would have avoided these errors. Had he engaged an experienced expert to design "replica' counters that were accurate, he also would have avoided these errors. In short, Reifer's principles and methods were designed to introduce error, not identify it.

V. CONCLUSION

For the reasons stated above, Plaintiffs ask the Court to order that neither Reifer, nor any witness relying on Reifer, be permitted to offer any testimony or evidence that Pinto's counts of source lines of code for Oracle software applications are in any way incorrect.

DATED: August 19, 2010

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