3. Cost Approach

282.   In this circumstance, I have considered Oracle's cost to acquire subject intellectual property, as well as Oracle's investment in research and development of the intellectual property since the acquisition. In addition, I have considered an estimate of the costs SAP would have incurred to attempt to independently recreate the Siebel copyrighted materials in suit. As addressed above, the cost approach has limitations, and may understate the fair market value by not reflecting the full potential future benefits of the resulting intellectual property. However, it may serve to assess the reasonableness of the valuations derived from the other approaches.

283.   As discussed above, Oracle acquired Siebel for $6.1 billion in 2006.[579] Since 2006, Oracle has continued to incur development expenses related to Siebel products, including development efforts primarily related to support of existing products, and development efforts primarily related to new product development.
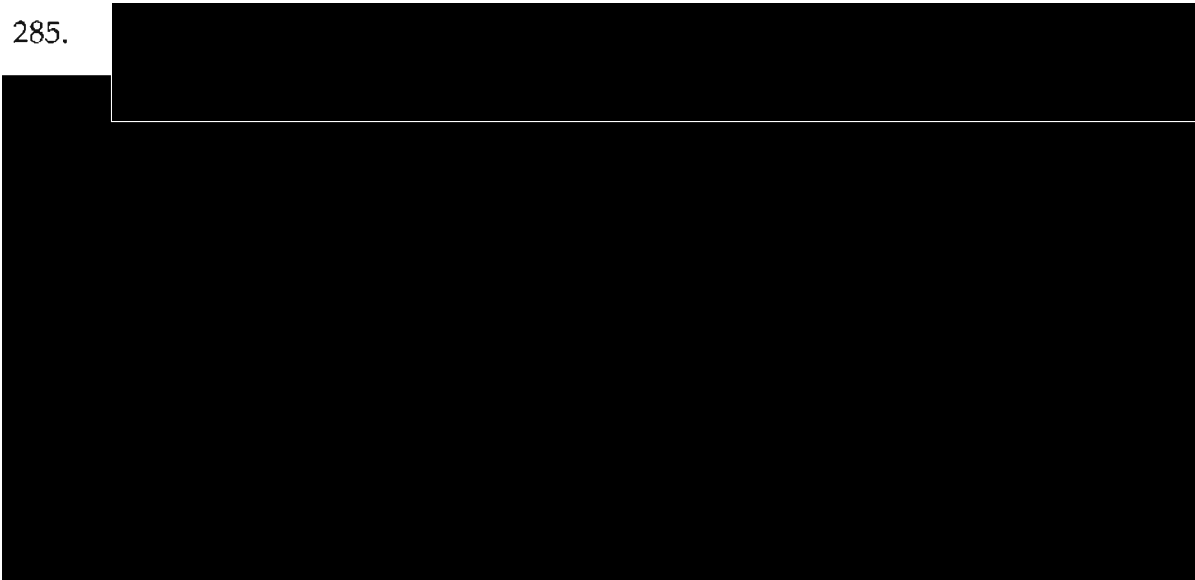
284.   ███

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[579] Oracle Corporation Form 10-K for the fiscal year ended May 31, 2006, pgs. 75-77.

[580] See SCHEDULE 10.

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285. ██

However, given that TomorrowNow copied Oracle's Siebel support materials, as well as underlying applications, such apportioning of research and development expense between new product and support-related efforts is unnecessary.

286. For the nine months ending September 30, 2005, Siebel recorded product development expense of $211.9 million.[585]

287. Assuming that SAP's improper actions allowed SAP to avoid development expenses from at least September 2006 through October 2008 (2.17 years), Oracle's development history would indicate a fair market value of no less than REDACTED This calculation excludes the costs to develop the software and support materials as they existed prior to September 2006.

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[582] Discussion with Houman Behazadi (Oracle Director of Business Planning and Operations), REDACTED

[585] Siebel Systems, Inc. Form 10-Q for the quarterly period ended September 30, 2005, p. 2.

288.   Oracle's expert, Paul Pinto, estimated the costs that Defendants would have incurred to independently develop certain of the Siebel copyrighted materials in suit. I understand that one of Mr. Pinto's conclusions addresses avoided development costs of **REDACTED** I understand that if completed in a 1 to 2 year period, this effort would take approximately **REDACTED**

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IX.   **Quantification of SAP's Value of Use of Oracle's Copyrighted Property – Lost Profits**

A.   **Overview**

351.   Oracle's[655] lost profits resulting from SAP's alleged infringement and use of Oracle's intellectual property include lost profits on lost support revenue related to Oracle's PeopleSoft, J.D. Edwards and Siebel products that would have been sold to customers that left to go to TomorrowNow.[656]

352.   I understand that a quantification of actual damages as represented by Oracle's losses resulting from SAP's wrongful acts (i.e., Oracle's lost profits) is a remedy of damages available for certain of Oracle's causes of action in this

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[655] In this section of the Report, "Oracle" refers to both the Plaintiff entities collectively, and their predecessors in interest.

[656] Pursuant to the September 17, 2009 Order of Magistrate Judge Laporte granting Defendants' Motion for Preclusion of Certain Damages Evidence, I understand that Oracle is precluded from seeking damages to which it believes it is entitled, including lost profits on lost up-sell or cross-sell opportunities related to the customers that cancelled their Oracle support contracts to go to TomorrowNow; lost profits related to discounts that Oracle provided to customers in order to compete with TomorrowNow; and lost profits associated with Oracle's adoption of its Lifetime Support and Applications Unlimited programs. Accordingly, I have not quantified those damages in this report. I understand that should Defendants take the position at trial that Oracle's claimed damages are excessive, the jury may be informed that Oracle is not seeking all of the damages to which it believes it is entitled [Magistrate Laporte's Order Granting Defendants' Motion for Preclusion of Certain Damages Evidence Pursuant to Federal Rules of Civil Procedure 37(c)(1) and 16(f), September 17, 2009; Judge Hamilton's November 2, 2009 Order].

suit.[657] The relevant Oracle plaintiff entities vary by cause of action.   As explained below, I have calculated and offer opinions on Oracle's lost profits both in total, and by plaintiff entity.

353.   As it relates to Oracle's copyright infringement claim, a measurement of Oracle's lost profits may be one alternative measure of Oracle's "actual damages."   However, based on the facts of this case, a more appropriate measure of damages is SAP's "Value of Use" of the copyrighted materials in this suit, as determined in a hypothetical negotiation between Oracle and SAP at that time and under the circumstances of the actual infringement. At the time of my initial report, a motion was pending before Judge Hamilton in which Defendants had challenged Oracle's right to seek damages based on the Fair Market Value of Use. Therefore, I included the following lost profits analysis as an affirmative opinion. As referenced above in my discussion of the alternative Fair Market Value of Use analysis, Judge Hamilton has now recognized Oracle's right to seek such damages on its copyright infringement claim. In light of that ruling, I understand that it is Oracle's position that Oracle reserves the right to withdraw lost profits as an affirmative opinion of its copyright damages, thereby making Defendants' rebuttal of such an analysis with an alternative measure of lost profits unnecessary, inappropriate and time-consuming at trial.

354.   I understand that Oracle International Corporation (OIC), the claimant in Oracle's copyright infringement cause of action, is the owner or exclusive

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[657] I understand that lost profits is an available damages remedy under Oracle's claims of copyright infringement (as an alternative measure of Oracle's actual damages to SAP's "Value of Use" discussed in section V above), breach of contract, interference, and Computer Fraud and Abuse Act, and Computer Data Access and Fraud Act claims. Oracle's quantified lost profits damages that result from these various claims are overlapping, as they relate to lost support sales, and appear to be for the same set of customers.

licensee of the copyrighted materials at issue, except that OIC is not an exclusive licensee of certain J.D. Edwards and Siebel intellectual property in the EMEA (Europe, the Middle East and Africa) region.[658] Specifically, I understand that ownership of PeopleSoft and J.D. Edwards intellectual property (with the exception of certain EnterpriseOne intellectual property owned by J.D. Edwards Europe Ltd.) was transferred to OIC on March 1, 2005.[659]

REDACTED

I understand

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[658] I understand that J.D. Edwards Europe, not OIC, is the exclusive licensee to J.D. Edwards EnterpriseOne copyrighted materials, versions 8.11 and earlier, sold in the EMEA region. In addition, I understand that Siebel Systems Irish Holdings Limited, not OIC, is the exclusive licensee to Siebel copyrighted materials developed prior to 2006 (related to Siebel software versions 7.8 and earlier) [Deposition of Ann Kishore (Oracle Director of Tax Department, Mergers and Acquisitions), April 14, 2009, pgs. 74-76; Deposition of Ann Kishore, September 25, 2009, pgs. 519-524; Discussion with Ann Kishore]. Therefore, as it relates to Oracle's copyright infringement claim, for which OIC is the named plaintiff, I understand that Oracle would not be entitled to recover lost profits for lost sales in the EMEA region of J.D. Edwards Enterprise One and Siebel versions 7.8 and earlier. However, I understand that Oracle can claim these lost support profits pursuant to Oracle's other claims. Based on information produced by Defendants, I understand that all of TomorrowNow's Siebel customers were receiving service on versions 7.8 and earlier [See TN-OR07717977, Siebel_Services.xls].

[659] PeopleSoft/JDE LLC OIC Asset Transfer Agreement dated March 1, 2005, ORCL00043702-707, at 702; JDE Companies OIC Asset Transfer Agreement dated March 1, 2005, ORCL00043708-713, at 708; Oracle IP Rights Transfer Clarification Agreement dated March 1, 2005, ORCL00525139-143, at 139-140; Deposition of Ann Kishore (Oracle Director of Tax Department, Mergers and Acquisitions), April 14, 2009, pgs. 73-76.

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Siebel Systems, Inc. provided OIC with an exclusive license to its intellectual property, including rights to enforce intellectual property rights, effective March 1, 2006.[661]

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As the holder of rights and interest in Oracle's PeopleSoft, J.D. Edwards and Siebel copyrighted materials in suit, I understand OIC has rights to enforce those copyrights against an alleged infringer such as SAP.

355.   For purposes of my analysis, I have calculated Oracle's lost profit damages under two scenarios. In the first scenario, I have calculated lost profits of the Oracle organization as a whole. Under the second scenario, I have calculated Oracle's lost profits specific to the Oracle plaintiff entities in this case (i.e., Oracle's lost profits if it is found that its recovery of lost profits damages is limited by the structure of its corporate entities as a result of its various inter-entity license, cost sharing and other agreements).[663]

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[661] Interim Siebel License Agreement (Siebel Intellectual Property), dated March 1, 2006, ORCL00524948-955, at 950; Acknowledgement to the Interim Siebel License Agreement and Interim Oracle License Agreement, dated July 10, 2009, ORCL00525144-145.

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ii.   OEMEA Lost Support Revenue

402.

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403.

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404.   REDACTED

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[753] SCHEDULE 35.1.SU.

[754] SCHEDULES 35.SU and 35.1.SU.

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X. Quantification of Damages Related to Infringer's Profits / Defendants' Unjust Enrichment

A. Overview

434.   Defendants' have benefited financially from being able to market and sell TomorrowNow support services using a business model that relied upon the alleged infringement and misuse of Oracle's intellectual property.[803] As a result of the alleged bad acts, Defendants have been unjustly enriched as a result of being able to sell support service for PeopleSoft, J.D. Edwards and Siebel products, as well as obtain and enhance customer relationships that

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[803] In this section, unless specified otherwise, I use the terms "unjust enrichment" and "infringer's profits" synonymously.

facilitated sales of additional SAP software applications and associated support and other services. An alternative measure of Defendants' unjust enrichment is the cost that SAP would have incurred to develop the alleged misappropriated Software and Support Materials internally and license Oracle database software, as opposed to acquiring the technology improperly.[804] Other experts for Oracle have quantified SAP's avoided development cost and I have summarized these amounts in an earlier section of this report.

435.   I understand that disgorgement of Defendants' profits obtained as a result of its alleged infringement and misuse of Oracle's Software and Support Materials is a remedy of damages available to Oracle for certain of its causes of action in this litigation. I understand that under its copyright infringement claim, Oracle is entitled to claim infringer's profits to the extent they are not duplicative of its actual damages claim. If Oracle is awarded actual damages on the basis of its lost support profits (as opposed to based on the fair market value of SAP's use of the infringed copyrighted materials in suit), I understand Oracle would be entitled to an award of infringer's profits as it relates to any Relevant TomorrowNow Customers who also purchased applications or other services from SAP, or were otherwise excluded from the calculation of lost support profits.[805] I have quantified Defendants' total revenues related to its alleged infringement and misuse of Oracle's Software and Support Materials.

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[804] SAP's unjust enrichment as measured by its avoided costs is an alternative to, rather than additive to the amount of SAP's unjust enrichment based on its ill-gotten support, license and other services revenue. I do not, however, use SAP's avoided costs as a measure of Defendants' infringers' profits for its copyright infringement, as I understand that Defendants' avoided cost is not an appropriate measure of copyright damages on the basis of disgorgement of infringer's profits.

[805] For this reason, TomorrowNow's support revenue received from customers that are excluded from the calculation of Oracle's lost support profits is separately presented on SCHEDULE 41.U.

I understand in these circumstances it is the Defendants' burden to identify and address any appropriate apportionment issues and/or cost deductions.

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D.   Opinion: Defendants' Unjust Enrichment – Avoided Costs

447.   Through its alleged systematic misappropriation of Oracle's PeopleSoft, J.D. Edwards, Siebel and Oracle database Software and Support Materials, it is my opinion, SAP was able to provide support services to PeopleSoft, J.D. Edwards and Siebel customers without incurring the significant research and development costs, risks and time associated with creating those software applications and support materials themselves. I understand that Oracle's expert, Paul Pinto, was retained to estimate the costs that Defendants would have had to incur to independently develop certain of the Oracle copyrighted materials in suit that it allegedly accessed, copied and misused. Mr. Pinto submitted a report of his findings and analysis November 16, 2009, and for the purpose of quantifying Defendants' unjust enrichment on the basis of its avoided development costs, I defer to Mr. Pinto's conclusions. I have referenced Mr. Pinto's opinions on development costs in the cost approach of the valuation section.

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448. I understand that based on his analysis, Mr. Pinto has concluded that it would have cost Defendants significant amounts to develop 8 specific PeopleSoft, J.D. Edwards and Siebel software applications.

449. In addition, I understand that Mr. Pinto has concluded that it would take Defendants ▮REDACTED▮ well-trained resources to complete development of the 8 PeopleSoft, J.D. Edwards and Siebel applications that he analyzed within a 2 year period.[836] As explained in Section IV.B.2 above, the timing of SAP's offering of TomorrowNow support services was critical to its overall strategy to disrupt Oracle's business and convert Oracle's PeopleSoft, J.D. Edwards and Siebel customer base over to SAP (i.e., it was critical for SAP to announce its offering of support on Oracle products immediately following Oracle's acquisitions of PeopleSoft and Siebel). If faced with a 2 year development timeframe, SAP may have determined that offering support services to Oracle products as an integral part of its Safe Passage program was not an attractive business decision, in which case Oracle's PeopleSoft, J.D. Edwards and Siebel customer base would not have been at such risk of leaving Oracle to go to TomorrowNow and SAP. I have referenced Mr. Pinto's results related to avoided development costs in Sections VI.A.3 and VIII.B.3 of this report.

E. Opinion: Defendants Unjust Enrichment – Avoided Costs of Licensing Oracle Database Copyrighted Materials

450. In Section VII. of this report, I calculated and summarize Defendants' gains related to not paying licensing and support fees to use Oracle's database in the servicing of its application support customers. The Defendants have

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avoided licensing and support fees of ███ REDACTED ███ related to the unlicensed use of Oracle's database software. More details of this analysis are included in Section VII (Tables 9, 10 and 10A) and **Schedule 44.SU**. This amount would represent unjust enrichment.

XI.   Other Damage Amounts

A.   Opinion: Oracle Costs Incurred to Investigate SAP's Improper Actions

451.   I understand that the damages remedies available to Oracle on its Computer Fraud and Abuse Act claim include a recovery of its lost profits (*See* Section IX, footnote 567) and the costs incurred to investigate the Defendants' alleged violations of the Act. I further understand that the investigation cost damages need not be incremental costs, but rather can be calculated based on the time spent investigating the actions rather than on normal day-to-day responsibilities.[837]

452.   I understand Oracle began investigating unusual downloading activity related to its Customer Connection website (the "download investigation") in November 2006, and the investigation remained open as of December 2008.[838] The download investigation consisted of review of the reverse proxy logs on the Sun machines in search of "the IP address of the external third party who [was] making these requests, including these strange phone numbers, email addresses, et cetera."[839] The investigation identified that the IP address was

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[837] See, for example, *SuccessFactors, Inc. v. Softscape, Inc.*, 544 F. Supp. 2d 975 (N.D. Cal 2008).

[838] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 19 and 56. The log files for Oracle's Customer Connection system show the IP address of the client or requester. [Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pg. 75].

[839] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 92-93.

registered to a company called Managed Network Solutions, an apparent internet service provider headquartered in Bryan, Texas.[840] The next step in the download investigation was to review the reverse proxy logs for that IP address and review the associated activity.[841] Based on the analysis of the reverse proxy logs, Oracle personnel confirmed "that something strange [was] going on."[842] The IP address was blocked on December 12, 2006, but similar patterns in the log files began about two days later. [843]

453.   I understand, Oracle conducted a second investigation (the "click investigation") beginning in January 2007, which was later combined with the download investigation once Oracle determined that the activity was related.[844] I understand, the click investigation began when an Oracle employee noticed two unusual items in a report created to summarize customer feedback: 1) a "high number of the 'no' click, saying the customer answered, did that solution help you, did that download help you, no" and 2) the timing of these "no" clicks was only a few milliseconds after the download occurred, and therefore "cannot have been done by a human being."[845] Dr. Uwe Koehler, Oracle Senior Director of Global Information Security and Risk, testified that "[o]nce we realized the IP address and the patterns, we realized

[840] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 93-94.

[841] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 98-99.

[842] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 100-101.

[843] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pg. 107.

[844] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 19, 59-60 and 127.

[845] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 23-24.

that this is actually the same pattern, or even the same investigation as the download investigation, and that's why we turned on – you can also say, we stopped the click investigation and continued with the download investigation."[846] The primary conclusion made in February 2007, as a result of the investigative process, was that TomorrowNow had "excessive downloads from the site" that were "unusually high, compared to the other customers."[847]

454.   I understand that in conducting the download and click investigations, Oracle incurred costs related to personnel time and labor, hardware and software, travel and telecommunications.[848] At his deposition Dr. Koehler, provided a list of 19 individuals involved in the investigations and the amount of time that each of them were involved. Dr. Koehler's list also identifies the number of hard drives and laptops that were used in efforts to preserve the Customer Connection log files.[849]

455.   I have quantified the total personnel expense incurred by Oracle to investigate SAP's alleged misconduct based on Dr. Koehler's estimations of the amount of time spent by the individuals on the investigations, and salary information for those individuals obtained from Oracle's Human Resources

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[846] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pg. 127.

[847] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 4, 2008, pgs. 128-129.

[848] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 5, 2008, pgs. 75-76; Notes of Uwe Koehler on the "Nature of Harm/Damage," (Koehler Exhibit 167).

[849] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 5, 2008, pgs. 81-86. In his summary of costs, Dr. Koehler specifically does not include the costs of preservation of laptops, hard drives or web pages except for the preservation of the data related to the log files (efforts referred to by Dr. Koehler as "eDiscovery"), or travel and telecommunications expense [Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 5, 2008, pgs. 77-81; Notes of Uwe Koehler on the "Nature of Harm/Damage," (Koehler Exhibit 167)].

department. Based on that information, it is my opinion that Oracle incurred approximately $300,000 of personnel expense related to the investigation of SAP's alleged activity.[850] I have not quantified the cost to Oracle from the use of the 12 hard drives and 5 laptops identified by Dr. Koehler.

B. Opinion: Damage to Oracle's Databases as a Result of SAP's Improper Actions

456. I understand that one of the causes of actions in this matter relates to Defendants' alleged violation of the Computer Data Access and Fraud Act.[851] I understand that the damages remedies available to Oracle for this claim include a recovery of its lost profits (See Section IX, footnote 567). I have not quantified other damages suffered by Oracle from these improper actions, but I have included a description of the types of harm caused below.

457. I understand that Oracle alleges that in at least one instance the massive amounts of downloads by TomorrowNow crashed Oracle's Siebel-related customer support website.[852] Jason Kees, Oracle Senior Manager of Global Information Security, testified that based on his review of emails, TomorrowNow caused a crash of the Siebel Support Web system.[853]

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[850] SCHEDULE 43.SU.

[851] Oracle USA, Inc. et al v SAP AG et al, Fourth Amended Complaint In Case No. 07-CV-01658 dated August 18, 2009, pgs. 59-60.

[852] Oracle USA, Inc. et al v SAP AG et al, Fourth Amended Complaint In Case No. 07-CV-01658 dated August 18, 2009, pgs. 35-36. Former TomorrowNow employee, John Ritchie, testified that he "knew for a fact that Titan was actually crashing their servers," and explained that during the times that it crashed Oracle's servers, other customers would not have been able to log in [Deposition of John Ritchie (former TomorrowNow employee responsible for development of the Titan tool), December 2, 2009, pgs. 21, 34, 51-52 and 56-57] Oracle technical expert Kevin Mandia (Mandiant) also concluded that it is "more likely than not" that SAP TN's Titan activity "caused Customer Connection to be unavailable for authentication for other customers logging in through the standard web portal when SAP TN was performing mass downloads using Titan." [February 12, 2010 Supplemental Expert Report of Kevin Mandia, pg. 43].

[853] Deposition of Jason Kees (Oracle Senior Manager of Global Information Security), October 15, 2009, pgs. 236-237.

458.   Oracle 30(b)(6) witnesses also testified to other types of harm suffered by Oracle as a result of TomorrowNow's alleged downloading activity. Mr. Kees, testified that multiple downloads could potentially skew the data related to the website and result in false reports.[854] These skewed metrics may affect customer search results and the scheduled deletion of certain documents.[855] Dr. Koehler believes that at least on certain days there was a slowdown of the system based on his analysis of the log files and the number of bytes downloaded by TomorrowNow.[856] In addition to the usage of bandwidth that likely caused a slowdown of the system, the number of requests to the system for the TomorrowNow downloads also consumed "certain computing resources in terms of CPU power, disk input/output, et cetera."[857]

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[854] Deposition of Jason Kees (Oracle Senior Manager of Global Information Security), October 15, 2009, pg. 224.

[855] Deposition of Jason Kees (Oracle Senior Manager of Global Information Security), October 15, 2009, pgs. 224-227.

[856] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 5, 2008, pgs. 55-56; Notes of Uwe Koehler on the "Nature of Harm/Damage," (Koehler Exhibit 167).

[857] Deposition of Uwe Koehler (Oracle Senior Director, Global Information Security Compliance and Risk), December 5, 2008, pg. 62; Notes of Uwe Koehler on the "Nature of Harm/Damage," (Koehler Exhibit 167). Former TomorrowNow employee, John Ritchie, testified in deposition that he observed a decrease in the performance of the Oracle website while Titan was running [Deposition of John Ritchie (former TomorrowNow employee responsible for development of the Titan tool), December 2, 2009, pg. 63].