

1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA

3
4 TERADATA CORPORATION, et al.,
5 Plaintiffs,
6 v.
7 SAP SE, et al.,
8 Defendants.

Case No. [18-cv-03670-WHO](#)

**REDACTED – ORDER RE MOTIONS
FOR SUMMARY JUDGMENT AND
MOTIONS TO EXCLUDE EXPERT
TESTIMONY**

Re: Dkt. Nos. 466, 467, 470, 472, 474, 476,
480, 495

9
10 Defendants SAP SE, SAP America, Inc., and SAP Labs, LLC (collectively “SAP”) move
11 for summary judgment on plaintiffs Teradata Corporation, Teradata US, Inc., and Teradata
12 Operations, Inc.’s (collectively “Teradata”) technical trade secret claims, business trade secret
13 claims, and tying claim. Teradata also moves for summary judgment and argues that
14 counterclaim-plaintiff SAP SE’s U.S. Patent No. 8,214,321 (“’321 Patent”) is invalid under 35
15 U.S.C. § 101. It argues that SAP is not entitled to damages for the alleged infringement of U.S.
16 Patent Nos. 7,617,179 (“’179 Patent”), and 9,626,421 (“’421 Patent”) before May 19, 2019.
17 Teradata also moves to exclude portions of four of SAP’s expert’s opinions: Tim Kraska, Stephen
18 Horn, Gregory Leonard and Ouri Wolfson, and Sharad Mehrotra. SAP moves to exclude portions
19 of one of Teradata’s expert’s opinions, John Asker.

20 For the reasons explained below, SAP’s motion for summary judgment on Teradata’s
21 technical trade secret claims and tying claim is GRANTED. Its motion related to Teradata’s
22 business trade secret claims under the DTSA is DENIED as moot. Its motion to exclude portions
23 of Asker’s report is GRANTED in part and DENIED in part. Teradata’s motion for summary
24 judgment on the invalidity of the ’321 Patent is GRANTED. Its motion for partial summary
25 judgment against an award of damages for infringement of the ’179 and ’421 Patents before May
26 21, 2019, is also GRANTED. Its motion to exclude portions of Kraska’s expert report is DENIED
27 as moot. Its motion to exclude portions of Horn’s report is GRANTED in part and DENIED in
28 part. Its motion to exclude portions of the Leonard and Wolfson reports is DENIED in part as

1 moot and DENIED in part on the merits. Its motion to exclude portions of Mehrotra’s report is
2 DENIED.¹

3 **BACKGROUND**

4 **I. FACTUAL HISTORY**

5 Teradata conducts research, development, engineering, and other technical operations
6 related to its Enterprise Data Analytics and Warehousing (“EDAW” or “EDW”) products. *See*
7 Dkt. No. 67 (“SAC”) ¶ 4. Teradata’s flagship product is the Teradata Database, a relational
8 database management system designed for EDW. SAC ¶ 16. Teradata was the first commercial
9 EDW vendor to utilize massively parallel processing (“MPP”) through Teradata Database to
10 execute high volumes of analytical queries on massive amounts of data for EDAW customers.
11 Dkt. No. 528-9 (“Walter Decl.”) ¶ 3.

12 SAP is best known for Enterprise Resource Planning (“ERP”) software, historically
13 designed to run on transactional databases such as those by Oracle, IBM, and Microsoft. Dkt. No.
14 462-5 (“Anicich Decl.”) ¶ 39. SAP’s ERP applications do not, and have never, run on top of
15 Teradata’s analytical database. Dkt. No. 467-5 (“Mehrotra Decl.”) ¶ 127.

16 ERP Applications allow companies to manage data required to conduct their day-to-day
17 operations across numerous aspects of the business enterprise and are typically designed around a
18 relational transactional database that can ensure users have access to a uniform and current set of
19 data. *Id.*; Dkt. No. 452-11 (“Stiroh Rep.”) ¶ 10; Anicich Decl. ¶¶ 24–28. Transactional databases
20 are also known as “online transactional processing” (“OLTP”) databases and are typically
21 “row-based,” which is advantageous for processing transactions, such as pay roll data, and running
22

23 ¹ The parties have also filed 21 motions to seal. Dkt. Nos. 462, 465, 468, 471, 473, 475, 479, 506,
24 515, 518, 522, 524, 528, 531, 536, 550, 551, 554, 560, 568, 599. I will issue a separate order
25 addressing these motions. Suffice it to say, the parties have sought to seal a great deal of
26 information that does not meet the compelling interest standard that applies to dispositive motions.
27 *See Ctr. for Auto Safety v. Chrysler Grp., LLC*, 809 F.3d 1092, 1096–99 (9th Cir. 2016), *cert.*
28 *denied sub nom. FCA U.S. LLC v. Ctr. for Auto Safety*, 137 S. Ct. 38 (2016). While I will address
all of the sealing requests in a separate order, what is not sealed in this Order does not meet the
applicable standard. Further, with respect to those portions of this Order that are sealed, the
parties should not assume that I have concluded that they have provided a sufficient basis to seal
the information. These redactions are preliminary and should not be taken as an indication about the
merits of sealing.

1 a large number of simple transactions concurrently. Mehrotra Decl. ¶ 53.

2 In contrast, analytical applications are designed to run on a second type of database, known
3 as an analytics or “OLAP” database. Dkt. No. 463-15 (“Sell Depo.”) at 18–19. These databases
4 typically store data in columns to optimize the running of a small number of queries with a large
5 number of complex records. Mehrotra Decl. ¶ 60; Dkt. No. 562-6 (“Kraska Decl.”) ¶ 22. There
6 are three different types of analytical databases: (1) data marts; (2) enterprise data warehouses
7 (“EDWs”); and (3) data lakes. Sell Depo. at 14. EDWs are large-structured analytics databases
8 that draw data from different sources, e.g., transactional databases, across an enterprise. *Id.* at 13.

9 In 2009, SAP and Teradata entered into a partnership referred to as the “Bridge Project” to
10 combine SAP’s ERP Applications and SAP BW tool interface with Teradata’s MPP architecture
11 that it uses in Teradata Database for EDW. Kraska Decl. ¶ 161. During the Bridge Project,
12 Teradata provided SAP with access to its confidential information. SAC ¶ 35. The parties
13 executed two agreements to formalize the Bridge Project, the Software Development Cooperation
14 Agreement (“SDCA”) and the Technology Partner Agreement (“TPA”). SAC ¶ 32. These
15 agreements restricted disclosures of each parties’ confidential information. *Id.* The parties also
16 entered into a mutual non-disclosure agreement (“Mutual NDA”) in December 2008 and June
17 2009 (“NDAs”). *Id.*

18 Through the Bridge Project, SAP and Teradata jointly developed “Teradata Foundation”
19 which enabled SAP’s ERP applications to use Teradata for the transactional database and
20 data-analytics for EDW activities. Dkt. No. 528-5 (“Graas Decl.”) ¶¶ 6–9. While the Bridge
21 Project was underway, SAP was developing another EDW product called SAP HANA (“HANA”).
22 Dkt. No. 530-39 (“Primsch Depo.”) at 362. By June 2011, HANA was commercially available.
23 After nearly three years in the Bridge Project, and two months after HANA was made available,
24 SAP unilaterally terminated the joint venture and stopped supporting, selling, and marketing
25 Teradata Foundation. Dkt. No. 529-25 at 068.

26 In February 2015, SAP launched its latest version of ERP Application, SAP S/4HANA and
27 combined its ERP Application and EDAW products into a single sales offering. S/4HANA is
28 integrated to operate on top of SAP’s HANA database, a translytical database with both

1 transactional and analytical functionalities. Anicich Decl. ¶ 40. Customers can purchase HANA
2 either with a full-use license, with no restrictions on how the data within HANA can be used, or a
3 lower-cost limited-use “runtime” license, with database use limited to supporting S/4HANA. Dkt.
4 No. 467-53 (“Zenus Depo.”) at 105–115. In other words, if customers want to export their own
5 data from HANA for use with third-party products, they must pay an additional license fee, i.e., an
6 exit fee. Dkt. No. 532-41 at 583.

7 **II. PROCEDURAL HISTORY**

8 On June 19, 2018, Teradata filed a complaint against SAP alleging, among other things,
9 misappropriation of its trade secrets and violation of antitrust laws.² Dkt. No. 1. On December
10 12, 2018, I granted in part and dismissed in part SAP’s motion to dismiss. Dkt. No. 65 (“MTD
11 Order”). On December 21, 2018, Teradata filed a second amended complaint alleging that SAP
12 disingenuously entered a joint venture with it to steal its trade secrets and develop a competing
13 product, HANA, misappropriating trade secrets, and violating antitrust laws in the process. *See*
14 Dkt. No. 67 (“SAC”). The following claims remain at issue: whether SAP misappropriated
15 Teradata’s trade secrets related to the Batched Merge method and whether SAP unlawfully tied its
16 ERP applications to its HANA product.³ SAP answered on January 11, 2019 and filed
17 counterclaims related to five of its patents on May 29, 2019. *See* Dkt. Nos. 72, 106. SAP’s
18 remaining patent infringement counterclaims concern the following patents: the ’421 Patent, the
19 ’321 Patent, and the ’179 Patent. On June 12, 2020, I held a claims construction hearing, and
20 issued an order on July 15, 2020. Dkt. No. 279 (“Claim Construction Order”). On August 25,
21 2021, Teradata and SAP filed all of the motions at issue.

22 **LEGAL STANDARD**

23 **I. SUMMARY JUDGMENT**

24 A party is entitled to summary judgment where it “shows that there is no genuine dispute
25

26 ² This case is related to *Teradata v. SAP*, No. 20-CV-06127-WHO.

27 ³ The parties dispute whether Teradata asserted a new tying theory during the summary judgment
28 briefing, i.e., that SAP unlawfully tied S/4HANA to HANA’s analytical capabilities through
licensing. *See infra* Part I.B.3.

1 as to any material fact and [it] is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a). A
2 dispute is genuine if it could reasonably be resolved in favor of the nonmoving party. *Anderson v.*
3 *Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A fact is material where it could affect the
4 outcome of the case. *Id.*

5 The moving party has the initial burden of informing the court of the basis for its motion
6 and identifying those portions of the record that demonstrate the absence of a genuine dispute of
7 material fact. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323–24 (1986). Once the movant has
8 made this showing, the burden shifts to the nonmoving party to identify specific evidence showing
9 that a material factual issue remains for trial. *Id.* The nonmoving party may not rest on mere
10 allegations or denials from its pleadings but must “cit[e] to particular parts of materials in the
11 record” demonstrating the presence of a material factual dispute. FED. R. CIV. P. 56(c)(1)(A); *see*
12 *also Liberty Lobby*, 477 U.S. at 248. The nonmoving party need not show that the issue will be
13 conclusively resolved in its favor. *Id.* at 248–49. All that is required is the identification of
14 sufficient evidence to create a genuine dispute of material fact, thereby “requir[ing] a jury or judge
15 to resolve the parties' differing versions of the truth at trial.” *Id.* (internal quotation marks
16 omitted). If the nonmoving party cannot produce such evidence, the movant “is entitled
17 to . . . judgment as a matter of law because the nonmoving party has failed to make a sufficient
18 showing on an essential element of her case.” *Celotex*, 477 U.S. at 323.

19 On summary judgment, the court draws all reasonable factual inferences in favor of the
20 nonmoving party. *Liberty Lobby*, 477 U.S. at 255. “Credibility determinations, the weighing of
21 the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those
22 of a judge.” *Id.* However, conclusory and speculative testimony does not raise a genuine factual
23 dispute and is insufficient to defeat summary judgment. *See Thornhill Publ'g Co., Inc. v. GTE*
24 *Corp.*, 594 F.2d 730, 738–39 (9th Cir. 1979).

25 **II. FEDERAL RULES**

26 Federal Rule of Evidence 702 allows a qualified expert to provide an opinion where:

- 27 (a) the expert's scientific, technical, or other specialized knowledge
28 will help the trier of fact to understand the evidence or to determine a
fact in issue;

- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods;
- and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

FED. R. EVID. 702.

Expert testimony is admissible under Rule 702 “if it is both relevant and reliable.” *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993). “[R]elevance means that the evidence will assist the trier of fact to understand or determine a fact in issue.” *Cooper v. Brown*, 510 F.3d 870, 942 (9th Cir. 2007). Under the reliability requirement, expert testimony must “relate to scientific, technical, or other specialized knowledge, which does not include unsubstantiated speculation and subjective beliefs.” *Id.* To ensure reliability, the court must “assess the [expert’s] reasoning or methodology, using as appropriate such criteria as testability, publication in peer reviewed literature, and general acceptance.” *Primiano v. Cook*, 598 F.3d 558, 565 (9th Cir. 2010). These factors are “helpful, not definitive,” and a court has discretion to decide how to test reliability “based on the particular circumstances of the particular case.” *Id.* (internal quotation marks and footnotes omitted).

The inquiry into the admissibility of expert testimony is “a flexible one” where “[s]haky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion.” *Id.* at 564. “When the methodology is sound, and the evidence relied upon sufficiently related to the case at hand, disputes about the degree of relevance or accuracy (above this minimum threshold) may go to the testimony’s weight, but not its admissibility.” *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 852 (Fed. Cir. 2010). The burden is on the proponent of the expert testimony to show, by a preponderance of the evidence, that the admissibility requirements are satisfied. FED. R. EVID. 702 advisory committee notes.

“Trial courts must exercise reasonable discretion in evaluating and in determining how to evaluate the relevance and reliability of expert opinion testimony.” *United States v. Sandoval-Mendoza*, 472 F.3d 645, 655 (9th Cir. 2006). A district court serves as “a gatekeeper, not a factfinder.” *Id.* at 654.

1 **DISCUSSION**

2 **I. SAP’S MOTION FOR SUMMARY JUDGMENT**

3 SAP moves for summary judgment on Teradata’s technical trade secret claims, business
4 trade secret claims, attempted monopolization claim, and tying claim. Dkt. No. 467 (“SMSJ”).
5 During the briefing, however, Teradata stipulated to the dismissal of its attempted monopolization
6 claim. Dkt. No. 545. It also voluntarily dropped its federal Defend Trade Secrets Act (“DTSA”)
7 claim regarding its business trade secrets. Dkt. No. 542 (“Opp. SMSJ”) at 25. It continues to
8 assert claims related to trade secrets 54–56 under the California Uniform Trade Secrets Act
9 (“CUTSA”). *Id.* SAP’s motion for summary judgment related to Teradata’s attempted
10 monopolization claim and business trade secret claims under the DTSA is therefore DENIED as
11 moot. Teradata opposes SAP’s motion related to its technical trade secret claims and its tying
12 claim.

13 **A. Trade Secret Claim**

14 SAP moves for summary judgment on Teradata’s technical trade secret claims. SMSJ at
15 2–12. Over the course of this case, Teradata’s trade secret allegations have significantly narrowed
16 and now focus on only one category of technical trade secrets: the Batched Merge method
17 (“Asserted Trade Secret”), [REDACTED]
18 [REDACTED] Dkt. No. 528-9 (“Walter
19 Decl.”) ¶¶ 3–12. SAP asserts that Teradata does not have standing to sue, it failed to mark the
20 Asserted Trade Secret as confidential, as required by its agreements with Teradata, and that SAP is
21 contractually authorized to use the product that incorporates Teradata’s Asserted Trade Secret.
22 SMSJ at 2–12.

23 **1. Standing**

24 SAP asserts that Teradata lacks standing to assert its technical trade secret claims because
25 Teradata assigned the claims to Marlin Equity, a third-party firm. SMSJ at 10. On April 22, 2016,
26 Teradata sold to Marlin a portion of its assets related to its “Marketing Execution and Marketing
27 Operations” business, or Teradata’s Marketing Applications Business (“TMA Business”) as
28 defined in the Asset Purchase Agreement (“APA”). Dkt. No. 543-3 (“APA”) at 15. In the APA,

1 Teradata assigned to Marlin contracts that were material to the TMA Business or “Material
2 Contracts” as defined in the APA. *Id.* at 42. Teradata expressly identified the SDCA as a
3 “Material Contract.” Dkt. No. 464-26 at (“APA Schedule”) at 163. In addition, Teradata’s
4 general counsel wrote to SAP that Teradata was assigning away “all of Teradata’s rights, title and
5 interests in, to, and under the” SDCA and that it “should deal solely” with Marlin. Dkt. No. 464-1
6 (“Lanier Decl., Ex. 58”). Teradata acknowledges that it provided the Asserted Trade Secret to
7 SAP “[d]uring the Bridge Project, subject to the terms of the parties’ agreements” such as the
8 SDCA. SAC ¶ 34. SAP asserts that because the SDCA is material to the TMA Business under the
9 APA, Teradata’s alleged trade secrets claims are also material to the TMA Business and therefore
10 that Teradata assigned all such claims to Marlin. SMSJ at 11.

11 Teradata contends that no assignment occurred because (1) any assignment required SAP’s
12 consent and SAP never consented and (2) the listing of the SDCA in the APA was a mistake and
13 not part of the assignment. Opp. SMSJ at 11. Section 14.9 of the SDCA states that “Neither party
14 may assign this Agreement . . . except with the express written consent of the other Party.” SDCA
15 ¶ 14.9. Similarly, Section 5.5(b) of the APA states, “Notwithstanding anything in this Agreement
16 to the contrary, this Agreement shall not constitute an assignment, sale, transfer, conveyance etc.,
17 with respect to any Transferred Asset, or any right thereunder if an assignment, sale,
18 transfer . . . without the Third-Party Consent of, or other action by, any third party, would
19 constitute a breach or other contravention of the terms of such Transferred Asset.” APA § 5.5(b);
20 Dkt. No. 596 (“Hearing Tr.”) at 6.

21 It is undisputed that SAP did not consent to the assignment of the SDCA under the APA.
22 Dkt. No. 532-6 (“Weber Depo.”) at 81–83. But SAP asserts that its consent is irrelevant to the
23 issue of assignment under the SDCA’s choice-of law, New York law. Reply SMSJ at 2–3. New
24 York courts have “consistently held that assignments made in contravention of a prohibition
25 clause [e.g., a contractual provision prohibiting assignments without the written consent of a
26 party] in a contract are void if the contract contains clear, definite, and appropriate language
27 declaring the invalidity of such assignments.” *Sullivan v. Int’l Fid. Ins. Co.*, 465 N.Y.S.2d 235,
28 237 (1983) (collecting cases); *see also Purchase Partners, LLC v. Carver Fed. Sav. Bank*, 914 F.

1 Supp. 2d 480, 505 (S.D.N.Y. 2012), *on reconsideration in part*, 2013 WL 1499417 (S.D.N.Y.
2 Apr. 10, 2013) (holding that a transfer was valid because even though the agreement prohibited
3 transfers or assignment without the written consent of the other party, it did not state that “any
4 such transfer or assignment would be invalid or void.”). The SDCA does not contain clear,
5 definite, and appropriate language declaring the invalidity of an assignment made without SAP’s
6 consent. The assignment of the SDCA to Marlin is therefore valid.

7 Even if SAP had consented and its claims were subject to the assignment, Teradata
8 contends that summary judgment should be denied because whether the SDCA was listed in the
9 APA by mistake is a disputed factual issue and that the APA should be reformed to rectify the
10 mistake. Opp. SMSJ at 11 n.15. It argues that because the SDCA is not related to the TMA
11 Business, its inclusion in the APA was a mistake.

12 The APA is governed by Delaware law. APA § 11.3(a). “Claims for contract reformation
13 require proof by clear and convincing evidence.” *Parke Bancorp Inc. v. 659 Chestnut LLC*, 217
14 A.3d 701, 710 (Del. 2019). In cases of unilateral mistake, reformation is permissible only when
15 “the other party knew of the mistake but remained silent.” *Scion Breckenridge Managing*
16 *Member, LLC v. ASB Allegiance Real Est. Fund*, 68 A.3d 665, 680 (Del. 2013). In cases of
17 mutual mistake, reformation is permissible only if the parties “came to a specific prior
18 understanding ... that differed materially from the written agreement.” *Parke Bancorp*, 217 A.3d
19 at 710.

20 Teradata does not show by clear and convincing evidence that Marlin knew of Teradata’s
21 mistake and remained silent or that Marlin and Teradata expressed an intent to agree to terms that
22 differed from the terms in the APA. Instead, it contends that Steven Weber, its Global Head of
23 Deal Management, testified that the SDCA or the Teradata Database “does not have anything to
24 do with the TMA products” and that the letter from Teradata’s general counsel was sent in error.
25 Opp. SMSJ at 11. But such self-serving testimony is not evidence that there was either a unilateral
26 or mutual mistake necessary for contract reformation. Reply SMSJ at 3. The APA is
27 unambiguous and so “the writing itself is the sole source for gaining an understanding of intent.”
28 *Penton Bus. Media Holdings, LLC v. Informa PLC*, 252 A.3d 445, 461 (Del. Ch. 2018). Because

1 Teradata fails to identify sufficient evidence to create a genuine dispute of material fact, whether
2 the SDCA was listed in the APA by mistake cannot preclude summary judgment.

3 In contrast, Teradata contends that neither the APA nor the SDCA assigns Teradata’s trade
4 secrets to Marlin and “without a clear assignment of the underlying intellectual property,” it
5 cannot have assigned its trade secret claims to Marlin. *Id.* at 12. SAP asserts that the question
6 about whether the APA assigned the Asserted Trade Secret itself is irrelevant; the relevant
7 question is whether Teradata assigned the right to sue for misappropriation of the Asserted Trade
8 Secret. Reply SMSJ at 3–4. It argues that Teradata did because it assigned to Marlin “[a]ll
9 Intellectual Property that is Related to the TMA Business,” e.g., “trade secrets and confidential
10 proprietary business information” and Teradata’s claim is based on trade secrets purportedly
11 provided subject to the SDCA’s terms, which is “primarily related” to the TMA business. APA §
12 2.1(e); APA at 8. It also assigned to Marlin “[a]ll rights to Any Actions of any nature available to
13 or being pursued by any member of [Teradata] to the extent related to the TMA Business” and
14 “[a]ll goodwill and the going concern value of the TMA Business or the Marks included in the
15 Transferred IP, and the right to sue for and recover for damages and profits for past and future
16 infringements and misappropriations by any third party of any part of any of the Transferred IP
17 owned by any member of [Teradata].” *Id.* §§ 2.1(h), (k). Teradata responds that its trade secret
18 claims are not primarily related to the SDCA because its claims are for misappropriation and not
19 breach of contract. Hearing Tr. at 7–8. It also contends that no actual intellectual property was
20 ever conveyed. *Id.*

21 At the very least, there is a genuine dispute of whether Teradata’s trade secret claims fall
22 outside the scope of the assignment. Teradata has standing to pursue its trade secret claims.

23 2. Marking the Asserted Trade Secret Communications as Confidential

24 SAP asserts that Teradata’s Batched Merge method trade secret claims also fail, however,
25 because Teradata never marked as confidential any of the communications that purportedly
26 disclosed the trade secrets as required by the NDAs. SMSJ at 13. The NDAs governed the
27 sharing of confidential information during the Bridge Project and stated that “Confidential
28 Information” shall mean the following:

1 “[A]ll information which Disclosing Party protects against
2 unrestricted disclosure to others, furnished by the Disclosing Party . .
3 . to the Receiving Party . . . in writing or in other tangible form and
4 clearly identified as confidential or proprietary at the time of
5 disclosure marked with an appropriate legend indicating that the
6 information is deemed confidential or proprietary by the Disclosing
7 Party . . . Where the Confidential Information has not been reduced
8 to written or other tangible form at the time of disclosure, and such
9 disclosure is made orally or visually, the Disclosing Party agrees to
10 identify it as confidential or proprietary at the time of disclosure and
11 to summarize the Confidential Information in writing and deliver such
12 summary within thirty (30) calendar days of such oral or visual
13 disclosure provided”

14 Dkt. No. 463-27 (“Mutual NDA 1”) ¶ 2; Dkt. No. 463-28 (“Mutual NDA 2”) ¶ 2.

15 There are two documents at issue, different versions of the same document created by John
16 Graas, a Teradata employee, that were marked confidential (“Marked Document”). *See* Dkt. Nos.
17 464-3 (version 1), 463-24 (version 6). Teradata contends that the first version of the Marked
18 Document from July 2008 identifies the Batched Merge method and explained how the method
19 could resolve SAP’s problems. *Opp.* SMSJ at 14. But its witness, Graas, concedes that the first
20 version of the Marked Document “does not contain the details of the overall batched merge
21 method that was conveyed – conveyed to SAP” and only “listed the batched merge method . . . as
22 a reference.” Dkt. No. 462-17 (“Graas Depo.”) at 106, 109. He explained that “the entire
23 explanation of the batched merge method . . . would not have been in writing” and that he would
24 “have conveyed it verbally within the meeting explaining to [SAP] what I meant with the [batched
25 merge method] and how it worked.” *Id.* at 84, 105.

26 The sixth version from August 2010, however, explained the manner in which the Batched
27 Merge method was implemented to address deficiencies that prevented SAP from processing large
28 batches of data. *Opp.* SMSJ at 13; Dkt. No. 463-24 § 4.2. SAP does not dispute that the sixth
version contains the details of the Batched Merge method but argues that there is no evidence that
Graas ever sent the sixth version to SAP. Graas Depo. at 268 (“Q: Do you have any records, any
evidence at all, of version 6 being shared with SAP in any way? A: I don’t recall.”). It relies on
Prostar Wireless Grp., LLC v. Domino’s Pizza, Inc., 360 F. Supp. 3d 994 (N.D. Cal. 2018), to
argue that because “there was *no* evidence that the defendant had access to the trade secrets” the
sixth version of the Marked Document cannot be the basis for a trade secret claim. Reply SMSJ at

1 6 (citing *Prostar Wireless*, 360 F. Supp. at 1002). Teradata objects and contends that *Prostar*
2 *Wireless* is distinguishable because SAP does not dispute that it received the five prior versions of
3 the document. Opp. SMSJ at 13 n.17. But Section 4.2 of the sixth version, which conveys how
4 the Batched Merge Method was implemented, is not in any other version. Reply SMSJ at 6 n.3;
5 see Dkt. Nos. 530-19 at 224–25, 464-3, 529-27, 529-28, 529-29. The first version of the Marked
6 Document therefore fails to put SAP on notice about the allegedly confidential Batched Merge
7 Method; there is no evidence that SAP received the sixth version.

8 The question then is whether Teradata’s trade secret claims fail because of its failure to
9 mark as confidential the communications that allegedly conveyed the Batched Merge Method.
10 Teradata contends that its claims do not fail because, as SAP admits, Graas testified that he
11 conveyed the Batched Merge Method orally to SAP employees in relation to the first version of
12 the Marked Document. Opp. SMSJ at 15–17. It argues that the MNDA does not require marking
13 subsequent oral discussion of confidential information already marked as confidential and even if
14 it did, the parties waived this requirement through their conduct. *Id.* at 17. SAP responds that its
15 argument is not that the NDAs require marking subsequent oral discussions of confidential
16 information already marked as confidential but that Graas never disclosed the claimed trade secret
17 in a writing marked as confidential in the first place. Reply SMSJ at 6.

18 It also asserts that the parties have not waived the marking requirement through their
19 conduct. *Id.* at 7. The NDAs contain no-waiver provisions and therefore “Teradata must prove
20 that SAP intentionally relinquished the marking provision and the no-waiver provision itself.” *Id.*;
21 Mutual NDA 1 ¶ 15; Mutual NDA 2 ¶ 15. Under New York law, waiver “‘should not be lightly
22 presumed’ and must be based on ‘a clear manifestation of intent’ to relinquish a contractual
23 protection.” *Kassab v. Kasab*, 195 A.D.3d 832, 838 (N.Y. App. Div. 2021).

24 There is no clear manifestation of intent to relinquish either provision here. Teradata
25 contends that there is waiver based on the conduct of its and SAP’s employees “that shows that the
26 parties intended that subsequent oral discussions of information already identified as confidential
27 would be treated confidentially.” Opp. SMSJ at 17–18. In support, it emphasizes testimony from
28 various SAP employees, including SAP’s CTO, where they state that they were required to protect

1 Teradata’s confidential information. *See, e.g.*, Dkt. No. 532-1 (“Sikka Depo.”) at 58–59 (“Q: So
2 if it turned out that somebody on your team took Teradata confidential information and used it in
3 the development of NewDB, would that . . . be consistent with your understanding of the
4 confidentiality obligations between SAP and Teradata? [Objection to form] A: No, it would not
5 be consistent with it.”); Dkt. No. 530-25 (“Holetke Depo.”) at 120 (“Q: So you cannot imagine
6 sharing Teradata’s confidential information with other groups at SAP? [Objection to form] A:
7 Yes.”); Dkt. No. 530-39 (“Primsch Depo.”) at 354–55 (“Q: Employees working on the Bridge
8 Project would not have shared [internal] information outside of SAP or Teradata? A: To -- to the
9 extent, yes.”). It also emphasizes an email from an SAP employee telling colleagues not to share
10 “internal information of TD [Teradata]” with IBM. Dkt. No. 529-30 at 437. These are not
11 evidence of a clear manifestation of SAP’s intent to relinquish either provision in the Mutual
12 NDAs. As SAP points out, it is not apparent from the testimonies what information was
13 “confidential” under the Mutual NDAs, only that information reduced to writing and marked
14 confidential is confidential. Reply SMSJ at 7–9.

15 SAP asserts that Teradata’s trade secret claims therefore necessarily fail because Teradata
16 failed to comply with its contractual obligation to designate information as confidential when it
17 disclosed the alleged Batched Merge Method trade secret to SAP. It requests that I reconsider my
18 analysis of *PQ Labs, Inc. v. Yang Qi*, No. 12–CV–0450–CW, 2014 WL 334453, at *4 (N.D. Cal.
19 Jan. 29, 2014) in the prior MTD Order, where I rejected SAP’s arguments that failure to satisfy the
20 contractual marking requirement requires the dismissal of Teradata’s claims because I concluded
21 that there may be other ways for Teradata to have disclosed its trade secrets to SAP. MTD Order
22 at 8–9. For example, the Mutual NDAs “were only two of four contracts involved in the Bridge
23 Project to ensure that Teradata’s proprietary information would not be misappropriated or reverse
24 engineered.” *Id.* at 9. But with the record on summary judgment, it is clear that *PQ Labs* case is
25 distinguishable from this case.

26 In *PQ Labs*, the court held that the marking requirement was irrelevant because PQ Labs
27 had “presented evidence that it used other means to notify its employees and agents that its
28 technological and customer information was confidential.” *PQ Labs*, 2014 WL 334453, at *4.

1 But unlike this case, there was no contractual marking requirement in *PQ Labs*; instead, the
2 marking requirement derived from non-precedential Tenth Circuit case law. *Id.*

3 In contrast, a case like *Convolve Inc. v. Compaq Computer Corp.*, 527 F. App'x 910 (Fed.
4 Cir. 2013) is more analogous. In *Convolve*, there was a contractual marking requirement “to
5 confirm in writing, within twenty (20) days of the disclosure, that the information was
6 confidential.” *Id.* at 923. The Federal Circuit affirmed the district court’s decision that there was
7 no misappropriation of trade secrets because the appellant had failed to protect the confidentiality
8 of its information. *Id.* at 921–22. It also held that there was no waiver or modification of the
9 marking requirement because “the testimony of a single Seagate employee that he believed that all
10 disclosures were confidential . . . is not indicative of the mutual intent of both parties.” *Id.* at 924.

11 Likewise, Teradata’s technical trade secret claims fail because it failed to protect the
12 confidentiality of its information. Even if *PQ Labs* was analogous to this case, there is no
13 evidence that Teradata notified SAP of the confidentiality of the Batched Merge method through
14 other means. Reply SMSJ at 8–9.

15 **3. Contractual Right to Use the Asserted Trade Secret in Any SAP**
16 **Product**

17 Even if Teradata had sufficiently protected the confidentiality of the Batched Merge
18 method, SAP asserts that it is contractually authorized to use any “Confidential Information”
19 under the NDAs in any product. SMSJ at 16. Teradata has sued SAP for “using the proprietary
20 information conveyed by John Graas pertaining to Teradata’s batched merge method.” Dkt. No.
21 464-14 (“Lanier Decl., Ex. 72”) at 8. The Batched Merge method “is alleged to have been
22 incorporated into the Bridge Project software (the MaxDB Bridge, also called the Teradata
23 Foundation)—and then allegedly into the interface between SAP applications and HANA (“Native
24 FAE”),” also known as the conceptual design. *Id.* at 17.

25 According to SAP, both the software and its conceptual design are SAP property. *Id.*
26 Section 10 of the SDCA outlines the “Proprietary Rights of the Parties.” SDCA § 10. It states
27 that SAP owns all rights to “the Conceptual Design [and] the SAP Interface in the form originally
28 supplied by SAP as well as any modified versions,” and the “software code that is necessary to

1 adapt its software to” Teradata’s database, including SAP’s Interface. *Id.* § 10.1. The
2 “Conceptual Design” is defined as “the description of the functional specifications of the SAP
3 Interface or any other architecture, guideline or specification developed by or with SAP
4 concerning or related to the integration of the [Teradata Database] with the [SAP BW product].”
5 *Id.* § 1.2. “SAP Interface” is defined as “an application interface developed by or with SAP that
6 resides on or in the SAP Software and which, when activated will give access to the Partner’s
7 Solution [i.e., Teradata’s database].” *Id.* § 1.11. And section 10.3 states that “any and all
8 Intellectual Property Rights to or arising out of any Newly Developed Materials shall belong to
9 SAP” and “Newly Developed Materials” is defined as “any software . . . developed by SAP and/or
10 [Teradata] in connection with or as a result of a party’s interaction with the other party within the
11 context of this Agreement.” *Id.* §§ 1.8, 10.3.

12 Teradata responds that SAP’s arguments depend on the Batched Merge method falling
13 under certain SDCA provisions, but resolving which provision applies depends on disputed factual
14 issues. *Opp.* SMSJ at 21. It argues that the Batched Merge trade secrets are not part of SAP’s
15 Interface or Conceptual Design but rather Partner Materials under the SDCA, and therefore when
16 SAP ended the Bridge Project, its license to use the Batched Merge method terminated. *Id.* The
17 SDCA defines “Partner Materials” as “any and all Intellectual Property Rights in any programs,
18 tools, systems, data or materials utilized or made available by Partner [Teradata] in the course of
19 the performance under this Agreement,” which “shall remain vested exclusively in [Teradata]” but
20 “[s]ubject to any rights expressly granted to SAP hereunder.” SDCA § 10.2. Section 9.2 of the
21 SDCA limits use of Teradata’s Partner Materials to five specific purposes, none of which include
22 the development of SAP’s HANA product; therefore, SAP was only allowed to use these materials
23 “during the Term” of the SDCA. *Opp.* SMSJ at 21–22. Section 9.2 provides SAP a limited
24 license to “the Partner Solution, related Documentation, and any other programs, tools, or other
25 materials provided by Partner to SAP under a Project Plan.” SDCA § 9.2.

26 SAP points out that Teradata does not and cannot explain how Graas’s suggestions are any
27 of the above. *Reply* SMSJ at 11. Graas’s suggestions are not the Partner Solution, which is
28 defined as only the Teradata Database itself, not the Database, not the documentation related to the

1 database such as manuals, not a program and not a tool. *See* SDCA § 1.9. As SAP asserts,
2 Graas’s suggestions do not fall under section 9.2, the purpose of which is to prevent SAP from
3 using Teradata’s Database itself. *Id.* Instead, section 9.4 encompasses Graas’s input, as explained
4 below.

5 Teradata argues that the Batched Merge method was neither developed in connection with
6 or as a result of the parties’ interactions within the context of the SDCA, nor developed by or with
7 SAP as the Conceptual Design. *Opp.* SMSJ at 22; *see* SDCA §10.03. Accordingly, Section 10.3
8 (“Newly Developed Materials”) could not apply because those intellectual property rights existed
9 prior to the Bridge Project. But whether Teradata owned the Batched Merge method and
10 incorporated it into its own software before the Bridge Project is irrelevant. SAP does not argue
11 that it owns the Batched Merge method but rather that “it owns the new software that includes the
12 optimizations based on SAP’s interactions with Graas.” *Id.* at 10.

13 Section 10.2, which provides an exception to the rights expressly granted to SAP under the
14 SDCA, does not change the fact that Section 10.1 expressly licenses to SAP the right to use
15 Graas’s input—i.e., his conversation with SAP employees—in any product. SMSJ at 18. Both the
16 SDCA and the Mutual NDAs permit SAP to use any Teradata feedback or input regarding SAP’s
17 products, even if such information was marked confidential. *Id.* (citing SDCA §§ 9.4, 12; Mutual
18 NDA 1 § 7, Mutual NDA 2 § 7).

19 For example, Section 9.4 of the SDCA provides,

20 “Partner [Teradata] grants to SAP a worldwide, nonexclusive,
21 royalty-free fully paid up, perpetual and irrevocable license to use,
22 reproduce, display, distribute, create derivative works, or sublicense
23 any Input submitted by Partner [Teradata] to SAP with respect to any
24 deliverables or other items that SAP provides or shall provide to the
25 Partner . . . To the extent that any such Input is incorporated into an
26 SAP product, any inherent disclosure of Confidential and/or trade
27 secret Information of Partner through the exercise of the license grants
28 set forth in this Section 9.4 shall not constitute a breach of this
Agreement including, but not limited to, any agreement between the
Parties with respect to such Confidential or trade secret information
referenced herein.”

SDCA § 9.4. The SDCA states that “Input” means “suggestions, comments, and feedback
(whether in oral or written form), including any included ideas and know-how, voluntarily

1 provided by one Party to the other Party with respect to the work performed under this
2 Agreement.” *Id.* § 1.6. Similarly section 7 of the Mutual NDAs state,

3 “During the course of this Agreement, Company [Teradata] may
4 provide or SAP may solicit Company’s input regarding SAP’s
5 Software, products, services, business or technology plans, including,
6 without limitation, comments or suggestions regarding the possible
7 creation, modification, correction, improvement or enhancement of
8 SAP Software, products and/or services . . . (collectively, ‘Company
9 Feedback’) . . . In order for SAP to utilize such Company Feedback
10 Company grants to SAP a non-exclusive, perpetual, irrevocable,
11 worldwide, royalty-free license . . . SAP shall be entitled to use
12 Company Feedback for any purpose without restriction or
13 remuneration of any kind with respect to Company.”

14 Mutual NDA 1 § 7, Mutual NDA 2 § 7.

15 According to SAP, Graas’s suggestions to SAP engineers about how to approach a
16 command/query coming from SAP applications to work more efficiently with the Teradata
17 database qualifies as “Input” under the SDCA and “Company Feedback” under the Mutual NDAs.
18 SMSJ at 18–19. Teradata does not dispute that Graas’s disclosures fall within “input,” but it
19 argues that the Batched Merge method was not mere “Input.” Opp. SMSJ at 23; Reply SMSJ
20 at 10. It argues that the trade secret is a proprietary method developed over many years, is
21 something that could not be fixed through a mere “thought” or “offhand comment,” and took SAP
22 more than a year to understand that it was necessary and months more to implement it. Opp.
23 SMSJ at 23. As SAP points out, however, the license is not limited to thoughts or offhand
24 comments but rather distinguishes Teradata software, which SAP could only use for the purposes
25 of the Bridge Project, and changes made to SAP software, which could be used in any SAP
26 product under section 9.3 of the SDCA. Reply SMSJS at 10–11. As a result, SAP has the right
27 under the agreements to use the alleged Batched Merge method in its products outside of the
28 Bridge Project. SMSJ at 19.

Finally, the parties dispute whether SAP’s interpretation of the SDCA contradicts the
implied covenant of good faith and dealing. “In every contract there is an implied
covenant that neither party shall do anything which will have the effect of destroying or injuring
the right of the other party to receive the fruits of the contract, which means that in every
contract.” *Kirke La Shelle Co. v. Paul Armstrong Co.*, 188 N.E. 163, 164 (1933). But it cannot be

1 used “to add contract terms that contradict the unambiguous provisions of the written contracts.”
2 *Atlas Equity, Inc. v. Chase Bank USA, N.A.*, 403 F. App’x 190, 192 (9th Cir. 2010). Teradata
3 contends that the SDCA’s purpose was to develop a joint solution that connects its hardware and
4 software with SAP Business solutions and jointly promote the solution. SDCA, Preamble.
5 According to Teradata, “SAP’s interpretation of SDCA’s license provisions—that it could use
6 what it took from Teradata to develop and sell a competing product simultaneously—would
7 destroy these benefits.” Opp. SMSJ at 24. SAP responds that Teradata’s argument contradicts its
8 intent when it entered into the SDCA. Reply SMSJ at 12. Teradata knew that SAP was not
9 working exclusively with Teradata on updates to its MaxDB database and knew that under the
10 SDCA, all developments of SAP products would be owned by SAP even if made by Teradata. *See*
11 SDCA § 2.3 (“This Agreement is not exclusive. SAP or Partner may enter into similar agreements
12 with other partners.”); SDCA § 10.1.

13 Accordingly, there is no genuine dispute of fact that Teradata not only failed to protect the
14 confidentiality of its alleged trade secrets but also that SAP has a contractual right to use the
15 alleged Batched Merge method in its own product. SAP’s motion for summary judgment on
16 Teradata’s technical trade secret claims related to the Batched Merge method are GRANTED.

17 **4. Related Motions to Exclude Expert Testimony**

18 Two of Teradata’s motions to exclude expert testimony relate to its trade secret claims.
19 The first is Teradata’s motion to exclude ten paragraphs in the report of SAP’s computer science
20 expert Tim Kraska. Dkt. Nos. 466, 495 at 1. Teradata asserts that Kraska improperly offers
21 opinions regarding his interpretation of the SDCA and the Mutual NDAs. *Id.* Because none of
22 Teradata’s technical trade secret claims survive, I DENY Teradata’s motion to exclude portions of
23 Kraska’s testimony as moot.

24 The second motion relates to Teradata’s business trade secrets and seeks to exclude certain
25 paragraphs in the report of SAP’s data management expert Stephen Horn. Dkt. No. 474 (“Horn
26 Mot.”) at 1. Horn is SAP’s rebuttal expert to Teradata’s damages expert, Paul Meyer.
27 Specifically, Teradata moves to exclude Horn’s opinions on whether the allegedly stolen Teradata
28 confidential information includes trade secrets, whether use of the confidential information

1 contributed to any sales of SAP HANA, whether Teradata took reasonable measures to protect its
2 confidential information, and what examples are of “reasonable” measures taken by data
3 management companies to protect confidential information. *Id.* (citing Dkt. No. 473-4 (“Horn
4 Reb. Rep.”) ¶¶ 19, 21, 51-57, 63-84, 97-105).

5 First, Teradata asserts that Horn relies in part on documents that he and SAP refuse to
6 produce, which Horn claims show that Teradata’s trade secrets were publicly available. Horn
7 Mot. at 4; *see* Dkt. No. 473-5 (“Horn Tr.”) at 74 (“Q: Did you do any investigation to see if that
8 information was publicly available in 2011? A: Yes. Actually I was able to use some of my own
9 folders of information . . . Q: But your materials in your folders are not cited in this report; right?
10 A: Correct, because I wanted to keep them confidential.”). Teradata seeks to exclude Horn’s
11 opinions based on these documents in paragraphs 63–84. SAP responds that Horn bases his
12 opinion on materials he referenced in his report as well as publicly available documents such as
13 articles, websites, industry reports, laws, and statutes. Dkt. No. 523 (“Horn Opp.”) at 2, 9.
14 Further, SAP points out that under the parties’ stipulation (Dkt. No. 235 ¶ 3), the parties are only
15 required to produce materials underlying the expert report rather than all materials an expert ever
16 considered and therefore Horn is not required to produce the documents at issue. *Id.* at 10. It
17 contends that Horn does not and will not offer any opinion based on documents that are not
18 available to Teradata. *Id.* at 2. With this understanding, Teradata’s motion to strike paragraphs
19 63–84 because they allegedly include Horn’s opinions based on unproduced documents is
20 DENIED. Teradata may question Horn about this issue during cross examination as it goes to the
21 weight of his testimony, but it is not a basis for excluding the testimony.

22 Second, Teradata argues that I should exclude Horn’s opinions that present a legal
23 conclusion based on a fundamental misunderstanding of the law. Horn Mot. at 1. Specifically,
24 Teradata asserts that Horn should not be allowed to testify to what is or is not a trade secret
25 because his understanding of the law is incorrect and to allow his testimony would mislead the
26 jury and confuse the issues at trial. *Id.*

27 Under the CUTSA, “[c]ombinations of public information from a variety of different
28 sources when combined in a novel way can be a trade secret.” *O2 Micro Int’l Ltd. v. Monolithic*

1 *Power Sys., Inc.*, 420 F. Supp. 2d 1070, 1089–90 (N.D. Cal. 2006), *aff'd*, 221 Fed. Appx. 996
2 (Fed. Cir. 2007). When asked whether “information that’s collected through public sources or is
3 otherwise public, when collected together, can still be [a] trade secret,” Horn testified that this
4 standard was “totally incorrect.” Dkt. No. 473-5 (“Horn. Depo.”) at 24. As a result, Teradata
5 argues that Horn should be precluded from testifying about what types of information would be
6 considered trade secrets and that the allegedly stolen confidential Teradata information cannot be a
7 trade secret because he purportedly found snippets of information from those documents in
8 various public or customer-facing documents. Horn Mot. at 8.

9 SAP responds that Horn does not provide any legal conclusions in his report and that he is
10 allowed to challenge the factual issue of whether or not Teradata’s alleged trade secrets could be
11 ascertained by others outside Teradata. Horn Opp. at 2. But as Teradata points out, Horn does
12 offer legal opinions that Teradata’s information are not trade secrets or proprietary to Teradata.
13 *See* Horn Reb. Rep. ¶¶ 73–74, 77, 82. Horn can address the factual issue of whether Teradata’s
14 purported trade secret information was ascertainable to others outside of Teradata, but he cannot
15 testify that Teradata allegedly stolen confidential information are not trade secrets. Teradata’s
16 motion to exclude Horn’s legal conclusions is GRANTED.

17 Third, Teradata asserts that Horn’s opinion that its confidential information did not lead to
18 sales of SAP HANA is insufficiently supported because he admits that he failed to conduct any
19 investigation of the sales. Horn Mot. at 1. SAP contends that Horn is not required to replicate
20 Meyer’s investigation and that Horn properly relied on SAP’s damages expert Leonard, who
21 examined each of the six sales for purposes of his damages analysis. Horn Opp. at 2, 16. Teradata
22 responds that Horn does not simply rely on Leonard’s opinions but endorses them by opining that
23 they “are consistent with the commonly prevailing principles in the industry, and with [his]
24 experience and expertise.” Horn Reb. Rep. ¶¶ 101–02. It asserts that in the cases on which SAP
25 relies, the “courts have been careful to either require independent investigation or to strictly limit
26 their testimony to critiquing methodology or assumptions of an opposing expert.” Horn Opp. at 7
27 (citing *TCL Comm’cns. Tech. Holdings Ltd. v. Telefonaktenbologer LM Ericsson*, 2016 WL
28 7042085, at *5 (C.D. Cal. Aug. 17, 016) (holding “it is proper for [rebuttal] experts to utilize their

1 own independent analyses and methodologies to” rebut expert opinions); *Cnty. Ass’n for*
2 *Restoration of the Env’t, Inc. v. Cow Palace, LLC*, 80 F. Supp. 3d 1180, 1215 (E.D. Wash. 2015)
3 (“recogniz[ing] the limited bases for [rebuttal expert’s] rebuttal opinions” given the lack of
4 independent investigation)). Teradata’s motion to exclude paragraphs 21, 99–105 of Horn’s report
5 is DENIED because Horn properly relies on Leonard’s analysis, but Horn may not otherwise
6 endorse or offer any affirmative opinions about Leonard’s analysis.

7 Finally, Teradata argues that Horn is not qualified to opine on industry standards regarding
8 the protection of confidential information. Horn Mot. at 1. According to Teradata, Horn has no
9 experience drafting or developing protocols for the protection of confidential information, and
10 therefore cannot base his opinions on what reasonable measures are taken by data management
11 companies. *Id.* at 11. SAP responds that Horn has decades of experience implementing, applying,
12 and working with confidentiality policies of data management companies and, based on that
13 experience, has conducted a more than sufficient review to rebut Meyer’s assumptions regarding
14 the alleged confidentiality of Teradata’s purported business trade secrets. Horn Opp. at 17–18.
15 Even if Horn did not have the experience, lack of particularized expertise goes to weight rather
16 than admissibility. Teradata’s motion to exclude paragraphs 51–57 and 97 is DENIED.

17 **B. Tying Claim**

18 SAP moves for summary judgment on Teradata’s tying claim. Before I address SAP’s
19 motion, I will address two motions to exclude expert testimony and Teradata’s objections to
20 SAP’s reply evidence.

21 **1. Motion to Exclude Asker Testimony**

22 SAP moves to strike the opinions of Teradata’s liability and damages expert, Dr. Asker.
23 Dkt. No. 470 (“Asker Mot.”) at 1. Asker opines that the relevant product market for the tying
24 market is “core ERP products for large enterprises.” Dkt. No. 468-20 (“Asker Rep.”) ¶ 46.
25 Market participants include SAP and Oracle, with Workday and Microsoft appearing as leaders of
26 a fringe of participants. *Id.* He defines the tied market as “EDW products with OLAP capabilities
27 for large enterprises” with market participants such as ██████████
28 *Id.* ¶ 78. He opines that SAP has economically significant market power in the tying market, that

1 SAP has caused harm to competition in the tied market, and that there are no procompetitive
2 benefits of the alleged tie. *Id.* ¶¶ 12, 105, 171. Finally, he asserts that Teradata has lost significant
3 profits and will experience significant future losses due to the alleged tying arrangement. *Id.*
4 ¶¶ 181, 192.

5
6 **a. Tying Product Market**

7 SAP argues that Asker’s methodology for defining the tying product market is unreliable
8 because instead of showing cross-elasticity, Asker’s primary methodology is “to interpret ordinary
9 course documents produced in the case” and “buttress this qualitative approach with a quantitative
10 ‘aggregate diversion analysis’” of the Customer Relationship Management (“CRM”) data from
11 SAP and Oracle. Asker Mot. at 5–6; *see* Asker Rep. ¶¶ 63, 64, 70.

12 In a tying arrangement the seller conditions one product, the tying product, on the buyer's
13 purchase of another product, the tied product, to extend its market power in a distinct product
14 market. *See Cascade Health Sols. v. PeaceHealth*, 515 F.3d 883, 912 (9th Cir. 2008). A tying
15 arrangement is “forbidden on the theory that, if the seller has market power over the tying product,
16 the seller can leverage this market power through tying arrangements to exclude other sellers of
17 the tied product.” *Id.*

18 **i. Cross-Elasticity of Demand**

19 First, SAP asserts that Asker’s methodology is flawed because he failed to calculate the
20 cross elasticities for demand among various ERP products. Asker Mot. at 5. As the Supreme
21 Court has instructed, “The outer boundaries of a product market are determined by the reasonable
22 interchangeability of use or the cross-elasticity of demand between the product itself and
23 substitutes for it.” *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962). The Ninth Circuit
24 has recognized that “[t]he principle most fundamental to product market definition is
25 ‘cross-elasticity of demand’ for certain products or services. Commodities which are ‘reasonably
26 interchangeable’ for the same or similar uses normally should be included in the same product
27 market for antitrust purposes.” *Kaplan v. Burroughs Corp.*, 611 F.2d 286, 291–92 (9th Cir. 1979).
28 Cross-elasticity of demand occurs where “an increase in the price of one product leads to an

1 increase in demand for another”; in that circumstance, “both products should be included in the
 2 relevant product market.” *Olin Corp. v. F.T.C.*, 986 F.2d 1295, 1298 (9th Cir. 1993). As I have
 3 previously acknowledged, “[n]umerous cases have recognized the importance of cross-elasticity to
 4 determining what products should be included in or excluded from the relevant antitrust market.”
 5 *United Food & Com. Workers Loc. 1776 & Participating Emps. Health & Welfare Fund v.*
 6 *Teikoku Pharma USA*, 296 F. Supp. 3d 1142, 1167 (N.D. Cal. 2017) (collecting cases).

7 Teradata contends that Asker was not required to measure cross-elasticity of demand,
 8 especially where, as here, it was not possible to calculate cross-elasticities. Dkt. No. 537 (“Asker
 9 Opp.”) at 7. It points to three district court cases where the court relied on an expert’s
 10 methodology that did not use cross-elasticities and instead used “practical indicia” as outlined by
 11 the Supreme Court in *Brown Shoe* to determine the boundaries of a product market. *See Epic*
 12 *Games, Inc. v. Apple Inc.*, No. 20-CV-05640-YGR, 2021 WL 4128925, at *85 (N.D. Cal. Sept. 10,
 13 2021); *In re Live Concert Antitrust Litig.*, 863 F. Supp. 2d 966, 984–86 (C.D. Cal. 2012); *Nobody*
 14 *in Particular Presents, Inc. v. Clear Channel Commc'ns, Inc.*, 311 F. Supp. 2d 1048, 1082 (D.
 15 Colo. 2004). Teradata’s reliance on these three cases, however, is misplaced.

16 In *Epic Games*, the court focused on practical indicia and not cross-elasticities when
 17 determining the submarket. *Epic Games*, 2021 WL 4128925, at *85. This is proper under *Brown*
 18 *Shoe* and Ninth Circuit precedent. “In limited settings . . . the relevant product market may be
 19 narrowed beyond the boundaries of physical interchangeability and cross-price elasticity to
 20 account for identifiable submarkets or product clusters.” *Thurman Indus., Inc. v. Pay 'N Pak*
 21 *Stores, Inc.*, 875 F.2d 1369, 1374 (9th Cir. 1989). “The boundaries of such a submarket may be
 22 determined by examining such practical indicia as industry or public recognition of the submarket
 23 as a separate economic entity, the product's peculiar characteristics and uses, unique production
 24 facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.”
 25 *Brown Shoe*, 370 U.S. at 325. Here, Asker is not defining a submarket but the tying product
 26 market. He also does not address the practical indicia under *Brown Shoe*.⁴

27 _____
 28 ⁴ During the hearing, Teradata’s counsel asserted for the first time that Asker’s methodology was

1 In *In re Live Concert*, the court held that “while calculating the cross-elasticity of demand
2 (and supply) is the preferred methodology, it is not an absolute requirement” and found that “it is
3 usually necessary to consider other factors that can serve as useful surrogates for cross-elasticity
4 data” because “it is ordinarily quite difficult to measure cross-elasticities of supply and demand
5 accurately.” *In re Live Concert*, 863 F. Supp. at 984. Likewise, in *Clear Channel*, the court found
6 “that a plaintiff may, through sufficient evidence of other indicia of market definition, define a
7 relevant market without economic study of cross-elasticity of demand, especially when economic
8 analysis of cross-elasticity of demand is infeasible based on pricing data.” *Clear Channel*, 311 F.
9 Supp. at 1082. Both courts then evaluated the sufficiency of the expert’s methodology that was
10 based on the *Brown Shoe* practical indicia factors. *See, e.g., Clear Channel*, 311 F. Supp. at 1083
11 (finding that the expert’s methodology is sufficient). The court in *In re Live Concert* recognized
12 that the Ninth Circuit “has never expressly held that . . . a plaintiff’s expert economist[] can define
13 the relevant product market exclusively by reference to these ‘practical indicia.’” *In re Live
14 Concert*, 863 F. Supp. at 986, 985. But for the purposes of the motion, it assumed that an expert
15 economist could and found that the expert’s purported market definition was “neither sufficiently
16 reliable nor sufficiently helpful to the trier of fact to warrant admission under Rule 702” because
17 the expert’s analysis (1) fails to comport with his “chosen methodology (i.e., the “SSNIP”
18 methodology); (2) is effectively predicated on the analysis of a single *Brown Shoe* factor; and (3)
19 fails to consider the cross-elasticity of supply.” *Id.* at 994.

20 Teradata contends that it was “not possible to calculate cross-elasticities” here because
21 third parties such as Oracle, IBM, and Microsoft were not “ordered to produce the type of granular
22 data required to calculate cross-elasticities of demand.” Asker Opp. at 7. It also argues that SAP’s

23
24
25 proper because market definition can be determined based on practical indicia. Hearing Tr. at 31.
26 Its counsel expressly identified one factor, industry or public recognition of the market, as a
27 separate economic entity. *Id.* But the case on which Teradata relies holds that, “[t]he existence of
28 three or four of these indicia has been held ‘sufficient to delineate a submarket,’” not one. *In re
Live Concert Antitrust Litig.*, 863 F. Supp. at 989. As explained in the subsequent sections, there
is no evidence of three or four of these practical indicia. *See Brown Shoe*, 370 U.S. at 325
(practical indicia are “industry or public recognition of the submarket as a separate economic
entity, the product’s peculiar characteristics and uses, unique production facilities, distinct
customers, distinct prices, sensitivity to price changes, and specialized vendors.”).

1 expert, Dr. Stiroh, admits that such data is unavailable. *Id.* at 8; *see* Dkt. No. 541-33 ¶ 62
2 (“Econometric methods include the estimation of the cross-price elasticity of demand. However, I
3 have not seen data in this case that can be used to reliably estimate actual lost sales and diversion
4 ratios in response to price changes of different ERP products.”). SAP responds that Teradata did
5 not request any data from third parties that would have permitted analysis of cross-elasticity of
6 demand. Dkt. No. 555 (“Asker Reply”) at 2.

7 Regardless, Teradata contends that Asker does, in fact, analyze cross-elasticity of demand.
8 Hearing Tr. at 29. According to Teradata, although Asker does not have an econometric
9 estimation of cross-elasticity, he looks at cross-elasticity, i.e., substitutability, from a quantitative
10 and qualitative standpoint. *Id.*

11 **ii. Qualitative Analysis**

12 SAP asserts that Asker’s qualitative approach is unreliable because it is based on “his own
13 subjective interpretation of ordinary course documents” and his inconsistent use of evidence.
14 Asker Mot. at 5, 7. In particular, it criticizes Asker’s definition of “core ERP” and “large
15 enterprises” (“LEs”) in his tying product market definition of “core ERP products for large
16 enterprises,” composed of SAP and Oracle. Asker Opp. at 9.

17 For “core ERP,” SAP asserts that Asker changes its definition to fit his needs. *Id.* at 7. For
18 example, Asker defines “core ERP” as products that “are identified with reference to the finance
19 modules of ERP software.” Asker Rep. ¶ 9. According to Exhibit 2 in Asker’s initial report,
20 however, only 30% of “core EP” is finance and the other 70% is human resources, procurement,
21 R&D sales, supply chain, and travel. *See id.* at 33, Ex. 2. But Asker mainly focuses on finance
22 when defining “core ERP.” He explains that “[w]hile there are various core ERP definitions, a
23 consistent feature of core ERP is that it includes finance.” *Id.* ¶ 48. And none of SAP’s three
24 economic experts dispute Asker’s relevant market definition. *See, e.g.*, Dkt. No. 532-3 (“Stiroh
25 Depo.”) at 108–09 (“Q: And you don’t dispute in your report that Dr. Asker’s opinion that the
26 relevant product market for S/4HANA is limited to core ERP products; is that right? A: I don’t
27 take that on. . . . The opinions that I have in my report are not dependent on a specific definition of
28 what is included or excluded in core ERP.”).

1 Moreover, Asker’s focus on finance in his definition of “core ERP” is supported by SAP’s
2 own witness testimony. SAP’s Vice President for competitive market insights for business
3 applications and industries testified that the solutions included within “core ERP” are “general
4 ledger and some of the other financial – you know, financial close, that type of activity you start to
5 – I’d also say that master data governance types of products are – may be considered part of digital
6 core.” Dkt. No. 530-16 (“Dover Depo.”) at 30. Likewise, SAP’s Senior Vice President of
7 S/4HANA testified that when SAP decided to build S/4HANA it “obviously started in the finance
8 area because that’s the center of every ERP system.” Dkt. No. 530-22 (“Grigoliet Depo.”) at 24.
9 Teradata’s industry expert, Paul Pinto also opined that “large enterprises build their systems
10 around their financial ERP, which is why it is often referred to as ‘core ERP.’” Dkt. No. 528-8
11 (“Pinto Decl.”) ¶ 31.

12 SAP also objects to Asker’s use of applications such as “treasury management” “when it is
13 expedient to do so” because it is outside his definition of core finance. Asker Mot. at 7 (citing
14 Asker Rep. ¶ 122 (mentioning that SAP [REDACTED]
15 [REDACTED])). The column titled “core ERP” in Exhibit
16 2 in Asker’s report does not mention “treasury management.” Asker Rep. at 33, Ex. 2. Teradata’s
17 own expert also testified that “treasury management” is not part of “core ERP.” See Dkt. No. 555-
18 3 (“Pinto Depo.”) at 83 (“Q: What about cash and treasury management, would you consider that
19 part of core ERP? A: I would not.”). That said, column 1 in Exhibit 2 in Asker’s report, titled
20 “Digital Core” includes “Treasury Management” under “Core Finance.” Asker Rep. at 33, Ex. 2.
21 Asker also testified that he considered treasury management part of “core ERP.” Dkt. No. 536-6
22 (“Asker Depo.”) at 20–22 (“[T]he left-hand side column it – this is labeled . . . ‘Digital Core.’ It
23 says ‘Core Finance plus Enterprise Risk & Compliance, Treasury Management, Real Estate
24 Management, Indirect Tax.’ I interpret that as incorporating the articulation of “Core Finance”
25 that’s located in the middle column.”). In addition, SAP’s own documents include “treasury
26 management” in its definition of “core ERP.” Dkt. No. 536-12 at 69–70. As a result, contrary to
27 SAP’s assertion, Asker’s definition of “core ERP” is proper.

28 Next, SAP argues that Asker’s definition of “large enterprises” is problematic. Asker Mot.

1 at 8. Asker defines “large enterprises” as “companies with over 1,000 or 1,500 employees and
2 over 125 users of the ERP product”; his own sources, such as SAP’s internal documents, show
3 that there is no commonly accepted categorization of SAP’s customers. *See, e.g.*, Asker Rep. ¶ 50
4 n.110–11 (SAP internal presentation defining large enterprise as “Revenue: €250 [million] + Size
5 250 employees”); *id.* ¶ 50 n.111 (SAP presentation defining large enterprises as companies with
6 “over 1000, 5000, or 10K”); *id.* ¶ 38 n.84 (large enterprises: over 500 employees, \$1 billion in
7 annual revenue, and an ERP user count of over 250); *id.* ¶ 20 n.24 (large enterprise: companies
8 with over \$1 billion in revenues in North America and over \$250 million or \$500 million in Latin
9 America).

10 Further, according to SAP, Asker testifies that there are approximately 100,000
11 companies in his proposed relevant market but he does not sufficiently explain why he then
12 focuses only on documents discussing the largest 500 or 2,000 companies in the world, e.g.,
13 companies in Forbes Global 2000, Global Fortune 500, DAX stock index, and MDAX index.
14 Asker Mot. at 8; *see* Dkt. No. 512-2 (“Asker Depo.”) at 32 (“Q: And global . . . is fewer than
15 100,000 companies would qualify as large enterprises? A: It may be a little more than that . . . Q:
16 So best estimate is, give or take, somewhere around a hundred thousand? A: [A]s I sit here today,
17 that would be my sense, but I want to be very clear that it may be a fair bit less, it may be
18 somewhat more.”). Teradata responds that SAP mischaracterizes Asker’s testimony and that he
19 repeatedly testified that SAP does not count its own customers. Dkt. No. 536-6 (“Asker Depo.”)
20 at 30 (“I note that even in their own documents, SAP doesn’t count customers; but, rather, they
21 talk about total market opportunities). It also highlights SAP’s own documents to its investors,
22 which show that SAP relies on the Forbes Global 2000 index and the DAX stock index to assess
23 and report its market position. *See* Dkt. No. 537-8 at 7 (“S/4 is further gaining market share, and
24 we see positive software license growth and high double-digit cloud revenue growth. 80% of the
25 DAX companies and 65% of the Forbes’ Global 2,000 companies already rely on SAP
26 S/4HANA.”).

27 SAP also relies on *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098 (N.D. Cal. 2004)
28 to argue that a product market limited to “large” ERP customers is improper. Asker Reply at 3. In

1 *Oracle*, the court evaluated evidence after a two-week trial and rejected the plaintiffs’ product
2 market that only included products sold by Oracle, PeopleSoft, and SAP, and did not include mid-
3 market products. *Oracle*, 331 F. Supp. at 1158. The court rejected the proposed product market
4 in part because there was “no ‘quantitative metric’ that could be used to determine the distinction
5 between a high function product and a mid-market product.” *Id.* For example, it found that
6 Microsoft would be a viable substitute after examining its entry into the high function product
7 market. *Id.* at 1160. Today, however, Microsoft [REDACTED]
8 [REDACTED] Dkt. No. 543-44 at 7. Teradata asserts that the case is
9 therefore distinguishable because the ERP market has changed since *Oracle*, e.g., mid-market
10 competitors that the *Oracle* court relied on have now been acquired by larger ERP vendors or
11 disappeared from the market. Asker Opp. at 11 (citing *Oracle*, 331 F. Supp. at 1159–61).

12 SAP contends that the case is persuasive for rejecting a proposed product market where, as
13 here, “there is no clear line separating those companies or the products they buy from others.”
14 Asker Reply at 3. Despite Asker’s admission that there is no common definition of “large
15 enterprises,” even among SAP’s own internal documents, he concludes, without further
16 explanation, that “‘large enterprises’ are generally companies with over 1,000 or 1,500 employees
17 and over 125 users of the ERP product.” Asker Rep. ¶ 50. He bases his conclusion on two SAP
18 documents that show that it markets different ERP products based on customer size, namely
19 S/4HANA to large enterprises that have over 1,000 employees. *See* Dkt. No. 537-6 at 572. But he
20 ignores the other SAP documents that indicate otherwise. As a result, Asker’s limitation of the
21 product market to “large enterprise” customers “stands on infirm ground” because Teradata
22 “makes no other effort to reconcile Dr. Asker’s distinct separate market with the broad continuum
23 of customers and varied and flexible approach to customer size taken by the industry.” Asker
24 Reply at 3.

25 **iii. Quantitative Analysis**

26 More importantly, Asker’s quantitative analysis, which he uses to corroborate his
27 qualitative analysis, is flawed because contrary to his claims, Asker does not apply a “hypothetical
28 monopolist” test (“HMT”) as contemplated in the Department of Justice and the Federal Trade

1 Commission’s (“FTC”) Horizontal Merger Guidelines (the “Guidelines”).⁵ Asker Mot. at 9. This
 2 test asks whether a hypothetical monopolist over a group of products could profitably impose a
 3 small but significant and non-transitory increase in price (“SSNIP”) of 5%; if a significant number
 4 of customers respond to a SSNIP by purchasing substitute products, then the SSNIP would not be
 5 profitable and the market definition must be expanded to include those substitute products. *See*
 6 *Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke’s Health Sys., Ltd.*, 778 F.3d 775, 784 (9th Cir.
 7 2015).

8 Asker states that he conducts a quantitative hypothetical monopolist test using aggregate
 9 diversion (“ADR”) analysis of “Customer Relationship Management” (“CRM”) data from SAP
 10 and Oracle, based on the number of times competitors are mentioned in sales representatives’ sales
 11 report.⁶ Asker Rep. ¶¶ 63, 64, 71. He opines that “CRM databases can be informative for market
 12 definition to the extent that they provide some information on how frequently a business
 13 encounters various potential competitors.” Asker Rep. ¶ 65. But he admits that CRM data “may
 14 not always be a reliable indicator of the actual competitor faced by a company because the data is
 15 often incomplete or the salesperson may have only a limited view into competition.” *Id.* He
 16 concedes that, “CRM databases may also lack detail that allow precise evaluations of specific
 17 markets” and that “this is the case in this matter, where every CRM data set [he has] examined has
 18 limitations.” *Id.* As a result, he explains that he views the CRM data “as merely providing a way
 19 to corroborate the patterns that are present in the deposition testimony and documentary evidence
 20

21 ⁵ In its opposition to SAP’s motion for summary judgment, Teradata asserts that SAP’s
 22 argument—“that a product market must include economic substitutes, i.e., products that would see
 23 increased demand in response to a price increase in another product”—contravenes established
 24 economic principles. Dkt. No. 542 at 30. It argues that the Guidelines “make clear that even if a
 25 significant number of customers (even two thirds) would switch to other suppliers’ products in
 26 response to a price increase, that does not require their inclusion in a properly defined relevant
 27 market.” *Id.* (citing Dkt. No. 543-64 (“Guidelines”) § 4.1). But the Guidelines do not say this.
 28 Instead, Section 4.1 of the Guidelines make clear that although a product market need not include
 every competitor, it must “contain enough substitute products” to satisfy the SSNIP test.
 Guidelines § 4.1; *see* Dkt. No. 552 at 20.

⁶ “Aggregate diversion analysis finds the threshold where a hypothetical monopolist imposing a
 [SSNIP] would lose enough sales (‘actual loss’) compared the “critical loss” such that the SSNIP
 would be unprofitable for the hypothetical monopolist. When the estimated actual loss due to a
 SSNIP is smaller than the critical loss, the candidate market is considered a relevant antitrust
 market.” Asker Rep. ¶ 71.

1 on the record” and expresses caution about using the data to form conclusions. *Id.* That said, he
2 concludes that the results of his analysis is “consistent with the deposition testimony and
3 documentary record that is my primary foundation for concluding that SAP and Oracle are each
4 other’s primary competitors for core ERP opportunities for large enterprises. Asker Rep. ¶ 71.

5 SAP’s expert, Stiroh, asserts that the ADR analysis is flawed because “[s]uch an analysis
6 requires data and inputs that can be used to reliably estimate actual lost sales and diversion ratios
7 in response to price changes of different ERP products” but such data was not available in this
8 case. Dkt. No. 554-9 (“Stiroh Rep.”) ¶ 58. Moreover, “[t]he CRM data that Asker uses to
9 calibrate his ADR model do not show actual diversion from one company to another, do not
10 reflect changes in purchasing patterns in response to price changes, and do not account for the
11 competitive effects of emerging competitors and technologies or potential changes to SAP’s
12 expected competitive significance over the decade.” *Id.* ¶ 59.

13 Teradata contends that ADR analysis is an accepted methodology and that disputes
14 concerning an expert’s decision about what data to use in their analysis “bear on the weight, not
15 the admissibility, of expert testimony.” *In re Qualcomm Antitrust Litig.*, 328 F.R.D. 280, 305
16 (N.D. Cal. 2018) (collecting cases). Although courts often conclude that “‘experts’ decisions
17 about what data to use’ in their analysis bear on the weight, not the admissibility, of expert
18 testimony,” *id.*, ADR analysis has rarely been accepted by courts.

19 Teradata only cites to two district court cases that allowed an expert to use this
20 methodology to determine a product market. Asker’s ADR analysis, however, is distinguishable
21 because the experts in those cases relied on data sets that measured a customer’s response to
22 changes in price, e.g., actual win/loss data or bidding data, when using ADR analysis. In *Federal*
23 *Trade Commission v. Sysco Corp.*, 113 F. Supp. 3d 1 (D.D.C. 2015), the FTC moved to enjoin a
24 potential merger between two food distribution companies. *Sysco*, 113 F. Supp. at 15. FTC’s
25 expert had “calculated the actual aggregate diversion based on three different data sets” and “built
26 a database for each company that tracked, for each bidding opportunity, the incumbent distributor,
27 the winning distributor, and the competing bidders.” *Id.* at 35. Like SAP in this case, the
28 defendants had objected to the expert’s methodology in part because the data on which he relied

1 did not describe whether the two companies “lost a customer for a price-based reason or some
2 reason having nothing to do with price.” *Id.* at 36. The court expressed its hesitancy to rely on the
3 expert’s findings but concluded that “when evaluated against the record as a whole” the expert’s
4 “conclusions are more consistent with the business realities of the food distribution market than”
5 the defendants’ expert. *Id.* at 37.

6 Similarly, in *Federal Trade Commission v. Wilh. Wilhelmsen Holding ASA*, 341 F. Supp.
7 3d 27 (D.D.C. 2018), the FTC moved to block a potential merger between two large providers of
8 marine water treatment chemicals. *Wilh. Wilhelmsen*, 341 F. Supp. at 39. FTC’s expert “used
9 three kinds of data—revenue information provided by marine suppliers, [] salesforce data, and [the
10 providers’] win-loss data.” *Id.* at 57. The court accepted the FTC expert’s market definition in
11 part because the defendants’ expert did not contest that the FTC’s expert’s methodology was
12 flawed, did not present any alternative calculations or HMT results, and “the gap between critical
13 loss and aggregate diversion in every trial was so large as to ensure the stability of the HMT’s
14 qualitative result against any but the gravest of statistical errors.” *Id.*

15 Teradata asserts that like both cases, Asker’s methodology “confirmed the market realities
16 evident in the record” and his findings ensured “the stability of the HMT’s qualitative result
17 against any but the gravest of statistical errors.” Asker Opp. at 12 (citing Dkt. No. 468-21 (“Asker
18 Reb. Rep.”) ¶ 89) (opining that “the CRM data would have to overstate aggregate diversion by a
19 factor of 2.5 to 3.2 for the conclusions for the aggregate diversion ratio analysis to change.”). But
20 Asker’s methodology is less reliable than those of the FTC experts because unlike the FTC
21 experts, Asker did not build a database of the type prices or rely on the price ultimately paid by the
22 customer. *See Asker Depo.* at 66–67 (“My recollection is that the final pricing is not available in
23 Oracle’s CRM data, and my recollection is that it’s not available in SAP’s CRM data.); *id.* at 67
24 (“Q: And in instances in which a competitor is listed, neither SAP’s nor Oracle’s CRM data
25 indicate the pricing offered by competitors; right? A: As I sit here today, that’s my recollection of
26 those data sets.”).⁷ His evaluation of CRM data did not and cannot consider pricing because the

27
28 ⁷ In fact, as opposed to the “hundreds of thousands” of entries in the CRM data used by the expert

1 CRM data does not measure customer responses to changes in price. *Id.* at 68–69. As a result,
2 Asker’s ADR analysis of SAP’s CRM data cannot measure the most fundamental principle in
3 defining a market: cross-elasticity of demand.⁸

4 Teradata also contends that Asker conducts a robust quantitative analysis of SAP’s pricing
5 data to analyze price discrimination, which corroborates his conclusion that large enterprises form
6 a separate market. Asker Opp. at 10. As the Guidelines state, “[t]he possibility of price
7 discrimination influences market definition [], the measurement of market shares [], and the
8 evaluation of competitive effects.” Guidelines at 6. Teradata argues that even SAP’s expert
9 admits that there is price discrimination between large and small enterprises. *Id.* For pricing
10 discrimination to exist there must be (1) differential pricing; and (2) limited arbitrage. Guidelines
11 at 6. According to Teradata, Stiroh’s pricing analyses [REDACTED]

12 [REDACTED], and she does not dispute
13 that there is limited arbitrage. Asker Rep. ¶ 79; Dkt. No. 532-3 (“Stiroh Depo.”) at 109. But SAP
14 points out that its differential pricing is unrelated to customer size. Asker Reply at 4. “Per-unit
15 and per-user pricing confirm that SAP charges equivalent prices for large, mid-sized, and small
16 companies.”⁹ *Id.* (citing Stiroh Rep. ¶¶ 48–57). Further, Teradata’s argument that Asker does not
17 need to demonstrate that SAP currently charges higher prices of large customers and only needs to

18 _____
19 in Sysco, Asker relied on fewer than 7,700 entries in SAP’s CRM data because almost 85% of the
20 data lacked any competitor information. Asker Rep. at 46, Exhibit 14; *see Sysco*, 113 F. Supp.
at 35.

21 ⁸ Teradata contends that SAP’s expert, Murphy confirmed the proprietary of Asker’s
22 methodology. Asker Opp. at 3 n.9; Hearing Tr. at 29. But Asker relied on CRM data, which
23 addresses the “relative frequency with which those firms compete for Core ERP sales
24 opportunities,” whereas Murphy confirmed the methodology of looking at “win/loss” data to
indicate substitutability. Asker Opp. at 3; see Dkt. No. 530-36 (“Murphy Depo.”) at 44-45. SAP
also points out that Murphy does not use the CRM data to define any antitrust markets. Hearing
Tr. at 56.

25 ⁹ SAP points out that in his initial report, Asker also analyzes “per-unit prices” for large
26 customers, based on the “‘size’ of installation (number of users),” and concludes that they vary.
27 *See* Asker Rep. ¶ 76; *id.*, Ex. 7. Stiroh responded that the per user prices paid by small and
28 mid-sized customers also vary, but tend to be higher than those paid by large customers, and
therefore there is no evidence of price discrimination against large customers. Stiroh Rep. ¶¶ 51–
57. In his reply report, Asker criticizes Dr. Stiroh for using “per-user” prices and claims that the
appropriate measure is “total spend.” Asker Reb. Rep. ¶ 77. According to SAP, “neither Dr.
Asker nor Teradata explain this flip-flop.” Asker Reply at 5.

1 demonstrate that future price discrimination is “feasible” and “reasonably likely” undermines its
2 argument. Asker Reply at 4. If SAP can charge higher prices to larger customers in the future
3 because SAP negotiated different prices with customers in the past, it could also charge higher
4 prices to small customers. *Id.* But this does not make them antitrust markets; in the absence of
5 evidence of actual current price discrimination against large customers there is no basis to assume
6 that future price discrimination is feasible or likely. Stiroh Rep. ¶ 57.

7 Asker’s methodology in defining the tying market is unreliable. Contrary to Teradata’s
8 assertion, he does not measure the cross-elasticity of demand or the substitutability of products
9 based on reliable quantitative and qualitative analyses. Because his methodology for defining the
10 relevant tying market is unreliable, his conclusions that SAP has market power in his proposed
11 market should also be excluded.

12 **b. Tied Product Market**

13 Asker’s proposed tied market is “EDW products with OLAP capabilities for large
14 enterprises.” Asker Rep. ¶ 10. For the same reasons as above, SAP objects to this definition; his
15 qualitative analysis fails to consider the appropriate universe of documents and his quantitative
16 analysis is not a result of any reliable methodology. Asker Mot. at 14.

17 First, SAP asserts that Asker fails to consider all of the relevant documents when
18 determining the tied market. *Id.* For example, Asker excludes an EDW vendor Snowflake from
19 the market because he found it did not compete for EDW use cases for large enterprises. Asker
20 Rep. ¶ 91. But Teradata’s documents show that Snowflake was one of Teradata’s primary
21 competitors, if not the largest competitor, in 2019. *See* Dkt. No. 468-22 at 8-9 [REDACTED]
22 [REDACTED]; Dkt. No. 468-23 at 4, 5-7 [REDACTED]
23 [REDACTED]. But to claim that Asker ignored evidence regarding Snowflake is incorrect. Teradata
24 responds that this one document is contrary to the testimony of SAP’s competitive intelligence
25 team and SAP documents which characterize Snowflake as a [REDACTED]
26 [REDACTED] Opp. Asker at 17 (citing Dkt. No. 536-10 at 548; Dkt. No. 530-46 at
27 147-48 [REDACTED]
28 [REDACTED]. Asker also analyzed the CRM data

1 himself and recognized that Snowflake was not a significant competitor. Asker Depo. at 97–100.

2 SAP also asserts that Asker’s conclusion that SAP’s HANA is in his tied market is
3 inconsistent with Teradata’s own admissions. *Id.* at 15. Its Senior Vice President of Global
4 Marketing, Chris Twogood, testified that Teradata does not compete frequently against HANA for
5 sales of EDW because HANA was not “designed to be an enterprise data warehouse,” and
6 Teradata does not consider SAP to be a primary competitor in the EDW space. Dkt. No. 468-17
7 (“Twogood Depo.”) at 20–22. Teradata points out that Twogood clarified, however, that once
8 SAP tied HANA to S/4HANA, SAP was able to “leverage[] all their ERP customers to grow
9 market share.” Dkt. No. 543-38 (“Twogood Depo.”) at 312, 315–16. But Twogood’s testimony
10 describes HANA being used as a transactional database under SAP ERP applications and
11 S/4HANA, not as an EDW. Twogood Depo. at 314–15 (“[T]hey weren’t successful with HANA
12 only or HANA alone in the marketplace. So they bundled it in with their ERP solution and to
13 really ride a leverage for (verbatim) install base and force people to the HANA platform.”).

14 Teradata also emphasizes that SAP omits the testimony of Teradata witnesses and ordinary
15 course documents identifying SAP as a key EDW competitor. *See, e.g.*, Dkt. No. 530-9 (“Boerger
16 Depo.”) at 303 (“IBM, Oracle, and SAP HANA compete for large enterprise data warehousing
17 types of customers”); Dkt. No. 543-26 (“Lea Depo.”) at 59 (“Q: Who are the primary competitors
18 to Teradata Vantage, based on your experience today, with large enough customers looking for an
19 EDW solution? A: It is more our traditional vendors, Oracle, IBM with Netezza and with Db2,
20 and HANA”); Dkt. No. 543-37 (“Susag Depo.”) at 20 (“Q: Who do you consider to be Teradata’s
21 main competitors in the enterprise data warehouse space? A: IBM, Oracle, SAP, Microsoft at the
22 lower end of the enterprise data warehouse space.”). As a result, Asker’s conclusions are not
23 inconsistent with Teradata’s own admissions.¹⁰

24
25 _____
26 ¹⁰ Further, Teradata asserts that SAP’s contention that HANA does not compete with Teradata
27 contradicts its prior statements. Hearing Tr. at 38–39; *see, e.g.*, Dkt. No. 543-54 at 367 (a
28 technical textbook explaining to customers how to use HANA as an EDW). SAP responds that
the relevant question is not whether SAP tried to sell HANA as an EDW but whether customers
purchase and use HANA for this purpose. It asserts that Asker’s “false assumption that, because
SAP tried to market SAP as an EDW, customers necessarily use it as an EDW, runs throughout
Asker’s EDW-related opinions and renders them unreliable.” Reply at 8.

1 Asker’s methodology is once again unreliable because he conducts an ADR analysis on
2 CRM data. Asker Rep. ¶ 95. His methodology is further problematic because it is inconsistent
3 with his methodology when defining the relevant ERP market. Asker Reply at 8. For the ERP
4 market, Asker applied his ADR analysis to determine the minimum number of market participants
5 and concluded that the relevant market consisted of only Oracle and SAP. *Id.* But under this
6 same approach, the tied market would have excluded SAP and therefore Asker included more than
7 the minimum number of participants to bring SAP into the market definition. As a result, and for
8 the same reasons above, Asker’s testimony regarding the tied market should be excluded as
9 unreliable and unhelpful to a jury.¹¹

10 **c. Alleged Harm to Competition and Benefits of Tie**

11 Finally, SAP opposes Asker’s claims that its alleged conduct caused harm to competition
12 in his proposed tied market because it lacks support in the record and is based on a series of
13 unwarranted assumptions. Asker Mot. at 16. Asker’s opinion is the following: “In this case, the
14 data and documents indicate that SAP’s tie is causing sales of HANA that otherwise would not
15 have occurred. That is, SAP’s conduct distorts purchasers’ choices of EDW products, which
16 harms purchasers and competitors competing for those sales.” Asker Rep. ¶ 12.

17 First, SAP asserts that Asker presents no evidence of harm to competition. *Id.* Notably, he
18 has not analyzed the impact of SAP’s alleged conduct on the major competitors in his purported
19 market for EDW products with OLAP capabilities. *Id.* at 17. He ignores the issue of harm to
20 competition generally. He does not dispute that Oracle accounts for █████ of database sales,
21 Microsoft accounts for about █████, IBM accounts for █████, and Amazon accounts for █████
22 Asker Reply at 10. In other words, despite the undisputed fact that █████
23 █████
24 █████

25 _____
26 ¹¹ Teradata cites two internal SAP documents but neither suggests Dr. Asker’s proposed
27 market is properly limited to just SAP and one competitor. Asker Reply at 20; *see, e.g.*, Dkt.
28 539-5 at 688–90 (concerns cloud competition and shows that while SAP considers Oracle its
“main” competitor, it also loses business to Microsoft and Workday); Dkt. 543–44 at 7 (includes
additional competitors like Infor, Sage, and Microsoft on the slide).

1 [REDACTED] Asker Mot. at 17.

2 Teradata responds that Asker is not required to quantify damages for every participant in
3 the relevant market in order to opine that there are anticompetitive effects due to the tie. Asker
4 Opp. at 21–22. It points to SAP’s own economist, Murphy, who admits that database vendors like
5 Oracle and IBM are losing sales for database products that include OLAP/EDW capabilities as a
6 result of SAP’s tie and that SAP’s licensing restrictions have an anticompetitive effect, as they
7 reduce customers’ demand for using Teradata. Dkt. No. 530-36 (“Murphy Depo.”) at 145–46;
8 Dkt. No. 541-31 (“Murphy Rep.”) ¶ 224. But Murphy’s statement concerned transactional
9 databases, not products that include OLAP/EDW capabilities. Asker Reply at 11.

10 Teradata asserts that “Tying arrangements are forbidden on the theory that, if the seller has
11 market power over the tying product, the seller can leverage this market power through tying
12 arrangements to exclude other sellers of the tied product.” *Cascade Health Sols. v. PeaceHealth*,
13 515 F.3d 883, 912 (9th Cir. 2008). It argues that “the injury caused by an unlawful tying
14 arrangement is ‘whether a total amount of business, substantial enough in terms of dollar-volume
15 so as not to be merely *de minimis*, is foreclosed to competitors by the tie.’” *Datagate, Inc. v.*
16 *Hewlett-Packard Co.*, 60 F.3d 1421, 1425 (9th Cir. 1995) (internal citations omitted). For
17 example, Asker relies on SAP revenue data [REDACTED]

18 [REDACTED] as evidence of a
19 distortion due to a tie and “not simply the result of competition on the merits. Asker Rep. ¶¶
20 145,147. Asker reviewed evidence that also showed that customers are not allowed “to use
21 S/4HANA and a third-party EDW without also purchasing HANA. In particular, the customer
22 must still purchase the ‘full use’ HANA license in order for it to use a competing third-party
23 EDW.” *Id.* ¶ 158. He opined: “If a condition of purchasing a product is the simultaneous
24 purchase of a product of a competitor, economic reasoning indicates that the product’s competitive
25 position is weakened.” *Id.* Teradata therefore argues that Asker’s opinions about the alleged harm
26 to competition are proper.

27 There needs to be a showing of “substantial” harm; *de minimis* harm is not enough under
28

1 rule of reason analysis.¹² See *Qualcomm*, 969 F.3d at 991 (Under § 1, “the plaintiff has the initial
2 burden to prove that the challenged restraint has a substantial anticompetitive effect that harms
3 consumers in the relevant market.”). Asker failed to show this; he presented no evidence of harm.

4 In addition, SAP asserts that Asker relies on a series of unwarranted assumptions,
5 specifically that because HANA has OLAP capabilities, it is necessarily always sold as an EDW.
6 Asker Reb. Rep. ¶ 127. When HANA is “sold together with S/4HANA, [it] is almost always
7 bundled with S/4HANA under a runtime license,” which precludes use of HANA as an EDW.
8 SMSJ at 28. With a runtime license, HANA can be used only to support the SAP application
9 running on top of it; in other words HANA is the transactional database that supports the
10 application, S/4HANA. Stiroh Decl. ¶ 176. It cannot be an EDW, as defined by Teradata,
11 because it does not bring data from multiple sources across an enterprise and then use
12 sophisticated analytics tools to conduct analysis of that combined data. See SAC ¶ 16.

13 Teradata does not dispute that approximately 88% of SAP’s customers have purchased
14 HANA with a runtime license. SMSJ at 29. And it does not present any evidence that a single
15 customer has taken S/4HANA together with HANA pursuant to a full use license and used that
16 HANA installation as an EDW. *Id.* Teradata does not provide any instance where a customer
17 who used Teradata Database replaced it with HANA for the same purpose. Because these
18 undisputed facts render Asker’s opinion unreasonable and because Teradata’s opposition is based
19 on an incorrect legal standard, SAP’s motion to exclude portions of Asker’s opinions related to
20 alleged harm to competition is GRANTED.

21 SAP also objects to Asker’s opinions that HANA’s adoption is not being driven by any
22 procompetitive benefits of the alleged tie. Asker Mot. at 4. According to SAP, Asker lacks the
23 expertise necessary to evaluate evidence of the design benefits of S/4HANA and admits that he
24 did not understand much of the relevant evidence. *Id.*; see Asker Rep. ¶ 171 (“I do not have the
25 expertise to evaluate whether there is a technical benefit from combining S/4HANA with
26 HANA.”). Teradata responds that Asker is not opining that there are no technical benefits for the

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28 ¹² See *infra* Part I.B.4.a for discussion on the application of either the rule of reason or per se analysis to this case.

1 integration of S/4HANA and HANA but rather that the “documentary and deposition evidence
2 indicates that there is no technical reason for the tie and that the decision to tie was made by
3 SAP’s board of directors on business grounds.” Asker Opp. at 22–23. SAP replies that this
4 distinction is nonsensical because if S/4HANA is designed to work with HANA such that
5 S/4HANA “is wholly incompatible with other transactional databases” as Teradata alleges, then
6 this is the technical reason why customers must license S/4HANA and HANA together. Asker
7 Reply at 12.

8 Teradata asserts that no SAP witness or expert has provided a technical justification—or
9 any justification—for tying S/3HANA to HANA’s analytical capabilities.¹³ Asker is qualified to
10 assess the economic realities of SAP’s business decisions to tie S/4HANA to the OLAP
11 capabilities of HANA. Asker Depo. at 226. His testimony related to the alleged lack of
12 procompetitive benefits should not be excluded.¹⁴

13 2. Motion to Exclude Mehrotra Testimony

14 Teradata’s moved to exclude three out of four of SAP’s expert, Dr. Sharad Mehrotra’s
15 opinions in sections VI and VII of his report, which rebut the opinions of Teradata’s technical
16 expert Hosagrahar Jagadish: (1) that SAP could achieve significant benefits by designing
17 S/4HANA for its HANA database product; (2) that SAP could not have achieved these same or
18 similar benefits by designing S/4HANA to run on other databases; and (3) that “porting”
19 S/4HANA to third-party databases would be challenging. Dkt. No. 472 (“Mehrotra Mot.”) at 1. It
20 contends that Mehrotra lacks the necessary factual foundation for these opinions and that he did
21 not follow any reliable methodology in reaching them. *Id.* It argues that Mehrotra never reviewed
22 any of the source code for S/4HANA or HANA, has never used or examined the products, has
23 never used or examined the third-party database products he compares to HANA, disregarded
24 testimony from SAP executives, and relies on cherry-picked documents for sweeping conclusions.

25

26 ¹³ The reason for this lack of evidence, however, is Teradata’s allegation of a new tying theory
27 during the summary judgment briefing. *See infra* Part I.B.3.

28 ¹⁴ Because Teradata’s tying claim fails, *see infra* Part I.B.4, I will not address SAP’s motion to
exclude Asker’s analysis of lost profits due to the alleged tying arrangement.

1 *Id.* at 2. SAP responds that Mehrotra’s methodology is reliable, and that the rest of Teradata’s
2 arguments go to the weight and not the admissibility of evidence. Dkt. No. 533 (“Mehrotra
3 Opp.”) at 1.

4 First, Teradata argues that Mehrotra’s opinion in section VI of his report—that SAP was
5 able to realize multiple technical and practical benefits by designing S/4HANA to work closely
6 with HANA—should be excluded because it is unsupported and unreliable. Mehrotra Mot. at 2.
7 Mehrotra admits that he has never used or even examined the S/4HANA or HANA software, any
8 SAP ERP applications, or source code. Dkt. No. 483-4 (“Mehrotra Depo.”) at 42–44 (“Q: Have
9 you ever used S/4 Hana? A: Personally, no . . . Q: Have you ever used any part of SAP’s Business
10 Suite? A: No, I have not. Q: Have you ever used SAP’s HANA database? A: I have personally
11 not used SAP HANA database. It’s not an open source database. So it’s not free.”). When asked
12 whether he had ever used any SAP ERP software, he responded, “No. I am an academic. We
13 normally do not deal with the operational aspect of the problem, so where companies sort of run
14 these things.” *Id.* at 43–44. Teradata contends that SAP “is silent on the issue” and “cites no case
15 where an expert was allowed to opine on the design, capabilities, performance, and compatibility
16 of products without ever having even looked at them.” Dkt. No. 551-4 (“Mehrotra Reply”) at 1.

17 SAP does not respond directly to the argument that Mehrotra did not use any of the SAP
18 products. It does assert, however, that Mehrotra reviewed the architecture and design of
19 S/4HANA, relying on a series of 28 architectural guidelines of all of the versions starting with the
20 first in May 2014 through March 2019. Mehrotra Opp. at 18. It also asserts that it was unfeasible
21 and not useful for Mehrotra to review all 300 million lines of source code. *Id.* at 10. Teradata
22 responds that the argument that Mehrotra “cannot look at everything does not mean it is proper to
23 look at little to nothing” and at the very least, he “should have identified some representative
24 queries in S/4HANA that would require porting to third-party database.” Mehrotra Reply at 1.

25 Mehrotra did not have to review the source code because he reviewed the architecture and
26 design of S/4HANA instead. Mehrotra Depo. at 147. For example, he stated that he is “intimately
27 aware” of the “architectural aspects of things, but [] not [as] aware of the exact software
28 implementation.” *Id.* But he testified that source code is simply “one aspect of the system

1 analysis” and that he understood “the system and its properties” by the architectural diagrams. *Id.*
2 SAP contends that reviewing S/4HANA and HANA at a design and architectural level is “a
3 common and accepted method of software analysis,” as evidenced by the academic and expert
4 works that Mehrotra cites in Appendix B of his report, which “rely on exactly this architectural
5 level of analysis.” Mehrotra Opp. at 11 (citing Dkt. No. 483-3 (“Mehrotra Rep.”), Appendix B).
6 Teradata responds that SAP does not point to any specific methodologies that are supposedly
7 found in any of these works. Mehrotra Reply at 2. It asserts that “[t]he reality is that the cited
8 works provide only general software background, not any methodology for the sort of software
9 analysis required in this case.” *Id.* SAP also, however, contends that Mehrotra’s reliance on the
10 architecture and design of S/4HANA is proper as evidenced by Teradata’s expert Jagadish also
11 relying on architecture-level analyses. Mehrotra Opp. at 11 (citing Dkt. No. 531-21 (“Jagadish
12 Rep.”) ns. 290–92, 306, 319–33, 336, 341–45, 357–60, 365–70). Teradata does not respond to
13 this argument.¹⁵

14 The following cases provide a helpful analysis of whether Mehrotra’s approach is proper.
15 Teradata relies on a Seventh Circuit case in support of its argument that Mehrotra’s approach is
16 flawed, but the case is distinguishable. In *Autotech Tech. Ltd. P’ship v. Automationdirect.com*,
17 471 F.3d 745 (7th Cir. 2006), an expert testified “[b]ased on his 26 years of experience in software
18 development, review of the EZTouch software, and review of advertisements about C–More . . .
19 that the features of C–More could not be developed independently of EZTouch” but he had “never
20 conducted tests on the product.” *Autotech*, 471 F.3d at 749. The Seventh Circuit affirmed the
21 district court’s decision that this methodology was unreliable because “computer experts must do
22 more than read advertisements.” *Id.* The court held that “[t]o qualify as an expert on software, an
23 expert should, at a minimum, examine the product and software upon which the expert bases his
24 opinion.” *Id.* In this case, while Mehrotra did not use the product or examine the source code, he

25
26 ¹⁵ Teradata does assert that unlike Mehrotra, Jagadish examined the source code and software.
27 Mehrotra Mot. at 10. SAP responds that nowhere in the sections of Jagadish’s report, to which
28 Mehrotra responds, does Jagadish refer to S/4HANA source code. Mehrotra Opp. at 13–14.
Instead, Jagadish discusses the source code only in relation to trade secrets. *Compare* Jagadish
Rep. § X.C ¶¶ 247–75 (discussing trade secrets) *with* Jagadish Rep. § X.E ¶¶ 336–77 (discussing
antitrust opinions).

1 reviewed the architecture and design of S/4HANA over the course of five years.

2 *Iconics, Inc. v. Massaro*, 266 F. Supp. 3d 461 (D. Mass. 2017) is more factually analogous
3 to the case here. In *Iconics*, the court declined to exclude the expert’s testimony regarding the
4 “core architecture” of the software products, which was based on “three architectural diagrams,”
5 even though the expert failed to inspect the software code or review technical documents. *Iconics*,
6 266 F. Supp. at 470. The court held that because the expert “illuminates aspects of the core
7 architecture trade secret” any challenge went to the credibility of the testimony and not
8 admissibility. *Id.* Teradata contends that *Iconics* is distinguishable because there the expert relied
9 on the same architecture documents that the plaintiff cited to whereas here Mehrotra relies on
10 “hand-selected” documents by SAP’s counsel and not Teradata’s materials. Mehrotra Mot. at 4–5.
11 But in *Iconics* the product at issue belonged to the plaintiff whereas here the S/4HANA product
12 belongs to SAP. It is unclear why it is improper for Mehrotra to rely on technical documents from
13 SAP itself when reviewing its product. Mehrotra Opp. at 18. As the *Iconics* court held,
14 “[r]egardless of the benefits of any alternative approaches,” for example those found in Jagadish’s
15 report, Mehrotra’s opinion is sufficiently reliable. *Iconics*, 266 F. Supp. at 470. “Any questions
16 on the comparative weight or credibility of these two analyses are questions for a jury to resolve.”
17 *Id.*

18 As for Teradata’s other objections—“that Mehrotra could not identify with sufficient
19 specificity the academic literature he relied on, did not cite to the particular documents that
20 Teradata thinks he should have, and did not interview the individuals that Teradata thinks he
21 should have”—all go to the weight of his testimony are not grounds for excluding his opinions.
22 Mehrotra Opp. at 16; *In re Korean Ramen Antitrust Litig.*, 281 F. Supp. 3d 892, 931 (N.D. Cal.
23 2017) (holding that an expert’s failure to “address (or review) deposition testimony where
24 defendants’ employees testified to matters that purportedly undermine some of his opinions or
25 assumptions does not make his testimony excludable. Those are grounds for cross-examination.”).
26 For example, Teradata asserts that Mehrotra’s opinions are flawed in part because he did not
27 interview the SAP employees that Rudolf Hois spoke with in preparation for his 30(b)(6)
28 deposition. Mehrotra Mot. at 4. SAP responds that Mehrotra did not have to speak with the

1 individuals that Hois spoke with because Hois’s experience is in the area of ERP applications
2 whereas Mehrotra’s experience is in databases. Mehrotra Opp. at 23. SAP also points out that
3 Mehrotra had the deposition transcripts of Hois and other SAP employees related to the interface
4 of S/4HANA with HANA. *Id.* (citing Mehrotra Rep., Appendix B). Its argument is well-taken:
5 Teradata’s motion to exclude Section VI of Mehrotra’s expert report is DENIED.

6 Finally, Teradata moves to exclude section VII of Mehrotra’s report which opines that
7 SAP could not have realized the same benefits by designing S/4 for multiple databases and that
8 porting S/4HANA to another database would be challenging and unpredictable because it is
9 unsupported and unreliable. Mehrotra Mot. at 8. Teradata asserts that in support of his opinions,
10 Mehrotra could and should have reviewed some of the analytical queries in S/4HANA in order to
11 provide at least one specific example of a query that purportedly requires the use of HANA, and
12 not another database. Mehrotra Reply at 5–6.

13 SAP contends that it is unclear how Mehrotra was supposed to do this or what purpose it
14 would serve. Mehrotra Opp. at 14. Mehrotra and Jagadish do not dispute that [REDACTED]

15 [REDACTED] *Id.* at 7;

16 Mehrotra Reply at 5. But [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED] Mehrotra Opp. at 14 (citing Dkt. No. 531-8 (“Hois Depo.”) at

22 14–16, 70–74. [REDACTED]

23 [REDACTED]

24 [REDACTED] Mehrotra Depo at 131–32. SAP points out that review of this code is unnecessary

25 because both Jagadish and Mehrotra agree that the key issue is not how much code must be ported

26 to another database but how difficult it would be. Mehrotra Opp. at 16 (citing Mehrotra Depo. at

27 186–88; Dkt. No. 531-14 (“Jagadish Depo.”) at 227).

28 To determine how difficult porting would be, Mehrotra relies on “SAP’s past experience

1 porting Business Suite optimizations to Oracle and IBM databases, the more integrated design and
2 architecture of S/4HANA on HANA compared to Business Suite on HANA, and the differences in
3 the architectures and technologies of other databases” such as those of Oracle and IBM, to
4 conclude that trying to port S/4HANA to a database other than HANA would be difficult,
5 time-consuming, and unpredictable. Mehrotra Opp. at 7 (citing Mehrotra Rep. ¶¶ 177–98).
6 Teradata objects to Mehrotra’s reliance on SAP documents and testimony, arguing that SAP’s
7 counsel “cherry-picked” these documents for him. Mehrotra Reply at 7. But Teradata “provides
8 no basis for its insinuation that the SAP documents upon which Dr. Mehrotra relied are in any way
9 biased.” Mehrotra Opp. at 18. Mehrotra explained that he relied primarily on technical
10 documents, not marketing documents. Mehrotra Depo. at 153–54, 156–57. Teradata responds
11 that SAP’s technical documents “can be biased or inaccurate” but such arguments go to weight
12 and not admissibility of the opinions.

13 Teradata also asserts that Mehrotra’s analysis is flawed because he improperly relied on
14 “SAP’s alleged experience porting its prior ERP applications (not S/4HANA) to databases prior to
15 2015 (not databases that exist today or even in the last five years).” *Id.* (citing Mehrotra Rep.
16 ¶¶ 168, 177–78). Mehrotra admits that he has not used IBM’s or Oracle’s database software since
17 2006 and 1998 respectively and that he has not examined the current database products. Mehrotra
18 Depo. at 44, 45, 47. According to Teradata, he also misunderstood capabilities of these third-party
19 databases, e.g., misstating that HANA [REDACTED]
20 [REDACTED] and wrongly assuming
21 that IBM and Oracle’s products were released after the development of S/4HANA. Mehrotra Rep.
22 ¶ 9.c. SAP responds that Mehrotra correctly testified about the dates on which the IBM and
23 Oracle databases were released because it is undisputed that Oracle did not release its database
24 until six months after SAP began development of S/4HANA. Mehrotra Opp. at 20. Although
25 IBM released a version of its database in the summer of 2013, Mehrotra relied on SAP documents
26 that explained that [REDACTED]
27 [REDACTED]. *Id.* at 21. Teradata makes the
28 same objection that I rejected above—that this “is not Mehrotra’s conclusion but SAP’s allegation,

1 parroted from SAP documents selected by SAP’s counsel.” Mehrotra Reply at 12. It also points
2 out that Mehrotra failed to reconcile this allegation with results of ██████████ as noted in
3 Jagadish’s opening report. *Id.* (citing Jagadish Rep. ¶¶ 342, 372). But again, Mehrotra’s failure to
4 consider contrary evidence goes to weight and not admissibility. Teradata’s motion to exclude
5 portions of Mehrotra’s expert report is therefore DENIED.

6 **3. Teradata’s Objections to SAP’s Reply Evidence**

7 The final preliminary matter I must address is Teradata’s objections to SAP’s reply
8 evidence, namely its declaration of Rudolph Hois, Dkt. No. 552-1 (“Hois Declaration”). Dkt. No.
9 568-4 at 1. Teradata asserts that I should strike the declaration because it is impermissible and
10 highly prejudicial. *Id.* The Hois Declaration concerns a key issue underlying Teradata’s theory—
11 that SAP’s requirement that S/4HANA customers license HANA’s analytical capabilities violates
12 federal antitrust law. *Id.* Teradata argues that even if it were true that SAP first heard of this
13 theory from Asker’s reply report, as it claims, SAP should have submitted the Hois declaration
14 with its motion, a full month after Asker’s reply report. *Id.* Instead, it asserts that SAP improperly
15 waited until its reply brief to submit the evidence. *Id.*

16 SAP responds that the Hois Declaration was necessary because it was not aware of
17 Teradata’s new theory until its opposition to SAP’s summary judgment motion. Dkt. No. 585 at 1.
18 There, Teradata abandoned the tying theory pleaded in its complaint and asserted a new one, after
19 the close of fact discovery. Dkt. No. 585 at 1. In the SAC, Teradata alleged that SAP tied
20 S/4HANA to HANA by making it “wholly incompatible with other transactional databases,”
21 forcing customers that purchase S/4HANA to also adopt HANA. SAC ¶¶ 89, 132. But in SAP’s
22 summary judgment motion, SAP showed how it and other leading vendors achieved
23 procompetitive benefits by integrating their ERP applications with their databases. Dkt. No. 585
24 at 1. Then, in its opposition, Teradata argued that the tie was different; it was between S/4HANA
25 and HANA’s analytical capabilities, which offer EDW functions. Dkt. No. 542 at 26. As a result,
26 the mechanism at issue is no longer a technological incompatibility but licensing terms that SAP
27 allegedly forces upon its customers. *Id.* at 31. Teradata asserts that SAP has failed to show
28 procompetitive justifications for the licensing practices that tie S/4HANA to HANA’s analytical

1 capacities. *Id.* at 27.

2 In support of its argument that Teradata changed its tying theory, SAP points to Asker’s
3 opening expert report that expressly and repeatedly defined the “tied product” to mean HANA, not
4 its analytical capabilities. Asker Rep. ¶¶ 5–6, 35. But in his reply report, Asker suggests that SAP
5 should have to justify the tie of S/4HANA to the EDW capabilities of its HANA database. Asker
6 Reb. Rep. ¶ 4. SAP contends that “this shift did not put SAP on notice that Teradata had changed
7 its legal theory regarding the alleged tie” and therefore it did not file the Hois Declaration with its
8 summary judgment motion. Dkt. No. 585 at 2.

9 Teradata maintains that its theory has not changed. It emphasizes paragraph 95 of the
10 SAC, which states:

11 “SAP’s Top-Tier ERP Applications customers were free to choose
12 how to manage their data needs, those locked-in customers will now
13 be forced to adopt HANA. Given the costs of licensing,
14 implementing, and maintaining EDAW products, the vast majority of
15 large-scale customers will have no choice but to abandon their prior
16 EDAW providers because they cannot support dual EDAW providers.
17 Thus, because *HANA purports to offer some or all of the functionality
18 offered by Teradata*, SAP is effectively coercing its customers into
19 leaving Teradata and adopting the full stack of SAP products
20 (including HANA).”

21 Dkt. No. 599 (quoting SAC ¶ 95) at 1. Teradata explains that throughout its complaint, the
22 “functionality offered by Teradata” that HANA purports to offer to replace Teradata’s products is
23 HANA’s *analytical* (or EDAW) functionality. *Id.*; *see, e.g.*, SAC ¶ 45 (HANA purports to provide
24 “EDAW functionality that SAP claims can enable enterprise analytics similar to those offered by
25 Teradata” and “[t]hus, with HANA . . . SAP now positions itself as a direct competitor in the
26 EDAW market”). It contends that it has never alleged that HANA’s transactional functionality
27 competes with EDAW products. Dkt. No. 467 at 4.

28 Teradata’s arguments do not address SAP’s point—that Teradata initially challenged the
technological integration of the ERP application and HANA, not the licensing practice. Teradata
asserts that its allegation that SAP’s “sales practice” is “directly contrary to the practices of other
ERP applications” is regarding its licensing. But in actuality, the alleged “sales practice” in the
SAC does not refer to licensing but a design change, i.e., “tying upgrades of customers’ ERP

1 Applications to customers’ adoption of HANA (while ending support for older versions of ERP
2 Applications).” SAC ¶ 58. Furthermore, references to “licensing” in the SAC concern the exit
3 fee, not the licensing of HANA’s analytical capabilities. *See, e.g.*, SAC ¶ 90 (“SAP’s licensing
4 agreements further restrict the ability of customers to read and copy S/4HANA ERP data to any
5 other database); *id.* ¶ 151 (“This rate will only rise more rapidly as more customers upgrade to
6 S/4HANA and are foreclosed from either licensing alternative EDAW products or accessing their
7 SAP ERP data for use with Teradata’s EDAW products.”).

8 Teradata also claims that Hois Declaration contradicts his deposition as a corporate witness
9 and should be struck as undisclosed expert testimony. Dkt. No. 568-4 at 3–5. It asserts that in his
10 declaration, Hois explains HANA’s capabilities as unique and opines about the comparisons
11 between HANA and other databases. Hois Decl. ¶¶ 4–6. But during his deposition he repeatedly
12 claimed that he lacked the requisite knowledge or expertise to compare the databases and deferred
13 to other experts. Dkt. No. 568-6 (“Hois Depo.”) at 64; Dkt. No. 568-8 (“Hois Depo.”) at 12, 14,
14 18. In the his declaration, however, Hois is not comparing databases; instead, he explains a
15 feature of Oracle databases in a manner that is consistent with his deposition testimony. *Compare*
16 Hois Decl. ¶ 6 with Hois Depo. at 34–35. Moreover, Hois’s high-level opinions are based on his
17 personal knowledge and therefore are proper. Hois Decl. ¶¶ 2–3.

18 SAP contends that “Teradata cannot oppose summary judgment on the basis of an unpled,
19 and prejudicially-late change in theory.” Dkt. No. 552 at 13 (citing *Navajo Nation v. U.S. Forest*
20 *Serv.*, 535 F.3d 1058, 1080 (9th Cir. 2008) (“where . . . the complaint does not include the
21 necessary factual allegations . . . raising such a claim in a summary judgment motion is
22 insufficient to present the claim to the district court”)). I agree. The Hois Declaration is proper,
23 even though it is new evidence, as a “reasonable response to the opposition.” *Hodges v. Hertz*
24 *Corp.*, 351 F. Supp. 3d 1227, 1249 (N.D. Cal. 2018).

25 **4. Motion for Summary Judgment**

26 I will now turn to SAP’s motion for summary judgment on Teradata’s tying claim. To
27 state a sufficient tying claim under Section 1 of the Sherman Act, Teradata must prove: (1) a
28 contract, combination or conspiracy among two or more persons or distinct business entities; (2)

1 by which the persons or entities intended to harm or restrain trade or commerce []; (3) which
2 actually injures competition.” *Kendall v. Visa U.S.A., Inc.*, 518 F.3d 1042, 1047 (9th Cir. 2008).

3 **a. Per Se or Rule of Reason Analysis**

4 The first dispute between the parties is whether the per se rule or rule of reason test applies
5 in this case. To determine whether a practice unreasonably restrains trade, courts sometimes apply
6 a “rule of reason” analysis. *Bhan v. NME Hosps., Inc.*, 929 F.2d 1404, 1410 (9th Cir. 1991).

7 Under the rule of reason test, courts “analyze the degree of harm to competition along with any
8 justifications or pro-competitive effects to determine whether the practice is unreasonable on
9 balance. The focus is on the actual effects that the challenged restraint has had on competition in a
10 relevant market.” *Id.* “Some practices, however, are so likely to interfere with competition that
11 they violate the Sherman Act per se. In these cases, [courts] do not require evidence of any actual
12 effects on competition because [they] consider the potential for harm to be so clear and so great.”

13 *Id.* Under the per se test, Teradata must prove: (1) that the defendant tied together the sale of two
14 distinct products or services; (2) that the defendant possesses enough economic power in the tying
15 product market to coerce its customers into purchasing the tied product; and (3) that the tying
16 arrangement affects a “not insubstantial volume of commerce” in the tied product market.

17 *Cascade Health*, 515 F.3d at 913.

18 “Restraints that are not unreasonable per se are judged under the ‘rule of reason.’” *Fed.*

19 *Trade Comm'n v. Qualcomm Inc.*, 969 F.3d 974, 989 (9th Cir. 2020). “[N]ovel business

20 practices—especially in technology markets—should not be conclusively presumed to be

21 unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have

22 caused or the business excuse for their use.” *Id.* at 990–91 (internal quotation marks omitted).

23 “Because innovation involves new products and business practices, courts[’] and economists’

24 initial understanding of these practices will skew initial likelihoods that innovation is

25 anticompetitive and the proper subject of antitrust scrutiny.” *Id.* at 991. In this case, the rule of

26 reason applies because this is not a case that “has so little redeeming virtue, and that there would

27 be so very little loss to society from its ban, that an inquiry into its costs in the individual case [can

28 be] considered [] unnecessary.” *United States v. Microsoft Corp.*, 253 F.3d 34, 94 (D.C. Cir.

1 2001) (internal quotation marks and citations omitted).

2 Contrary to Teradata’s argument, there are procompetitive justifications from SAP’s
3 design of S/4HANA to run on HANA rather than on multiple databases. Reply SMSJ at 14. For
4 example, under Teradata’s original theory, SAP’s expert, Mehrotra, explains how SAP achieved
5 efficiency gains such as improved performance and functionality with S/4HANA by designing it
6 for only HANA. Mehrotra Rep. ¶¶ 138–98. Under its new theory, Teradata implies that there is
7 no reason SAP could not separately license HANA’s analytical capabilities, SMSJ Opp. at 35, but
8 SAP explains that unlike Oracle and Microsoft, SAP lacks the ability to license analytical and
9 transactional functionalities separately because they operate on the same set of data and are
10 intertwined. Hois Decl. ¶¶ 5–6. It asserts that SAP “achieved procompetitive benefits by
11 designing S/4HANA to run on all of HANA, including its analytical capabilities.” SMSJ Reply at
12 15. That Teradata contends that the design of S/4HANA has no efficiency gains is irrelevant to
13 the question of whether the rule of reason applies. Instead, these “purported efficiencies suggest
14 that judicial ‘experience’ provides little basis for believing that” SAP’s S/4HANA “lacked any
15 redeeming virtue and therefore should be presumed unreasonable.” *Microsoft*, 253 F.3d at 90–91.
16 Rule of reason applies in this case.

17 **b. Failure to Properly Define a Tied or Tying Market**

18 That said, under either test, Teradata’s tying claim fails. As established above, because
19 Teradata has failed to properly define a tied market, there is no triable issue of fact whether the
20 alleged tying arrangement harmed competition in the tied market under the rule of reason analysis.
21 Likewise, because Teradata has failed to properly define a tying market, there is no triable issue of
22 fact whether SAP has market power in a properly-defined tying market. *See Truck-Rail Handling*
23 *Inc. v. BNSF Ry. Co.*, 2005 WL 8178364, at *8 (N.D. Cal. Mar. 8, 2005) (granting defendants’
24 motion for summary judgment on market definition because plaintiff’s evidence did not “assist in
25 evaluating cross-elasticity of supply and demand”).

26 Teradata contends that the issue of market definition should be decided by a jury. Opp.
27 SMSJ at 32; *see High Tech. Careers v. San Jose Mercury News*, 996 F.2d 987, 990 (9th Cir. 1993)
28 (“The process of defining the relevant market is a factual inquiry for the jury.”). But where there

1 is an absence of evidence to support Teradata’s claim that SAP competes in the purported tying or
2 tied market, summary judgment is appropriate. In *Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d
3 1421 (9th Cir. 1995), the Ninth Circuit acknowledged “that the definition of the relevant market is
4 a factual inquiry for the jury, and the court may not weigh evidence or judge witness credibility.”
5 *Rebel Oil*, 996 F.2d at 1435. It held, however, “that an issue is factual does not necessarily
6 preclude summary judgment. If the moving party shows that there is an absence of evidence to
7 support the plaintiff’s case, the nonmoving party bears the burden of producing evidence sufficient
8 to sustain a jury verdict on those issues for which it bears the burden at trial.” *Id.* It also noted
9 that when, as here, “an expert opinion is not supported by sufficient facts to validate it in the eyes
10 of the law, or when indisputable record facts contradict or otherwise render the opinion
11 unreasonable, it cannot support a jury’s verdict” and therefore summary judgment is appropriate.
12 *Id.* at 1436 (quoting *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242
13 (1993)). Accordingly, SAP’s motion for summary judgment on Teradata’s tying claim is
14 GRANTED.¹⁶

15 **II. TERADATA’S MOTION FOR SUMMARY JUDGMENT**

16 Teradata moves for summary judgment against SAP’s counterclaims, which contend that
17 Teradata infringes its ’321 Patent, ’179 Patent, and ’421 Patent. Dkt. No. 472 (“TMSJ”) at 1.
18 Teradata asserts that the claims of the ’321 Patent are invalid because they are directed to
19 patent-ineligible subject matter under 35 U.S.C. § 101. *Id.* Teradata also asserts that SAP is not
20 entitled to damages for the alleged infringement of the ’179 and ’421 Patents before May 19,
21 2019, when it first informed Teradata of its infringement allegations because SAP had failed to
22 give notice to the public that its products practice the claims of these patents prior to then. *Id.*; *see*
23 35 USC § 287. SAP does not oppose Teradata’s motion for summary judgment against an award
24 of damages for infringement of the ’179 and ’421 Patents before May 21, 2019. Dkt. No. 520
25 (“Opp. TMSJ”) at 1. SAP does, however, contend that the ’321 Patent is valid. *Id.*

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28 ¹⁶ Moreover, even if the tied market definition was proper, summary judgment would still be
appropriate because Teradata cannot show that SAP has caused actual injury to competition in a
market for “EDW products with OLAP capabilities for large enterprises.” *See supra* Part I.B.1.b.

1 **A. Legal Standard**

2 Under Section 101 of the Patent Act, “[w]hoever invents or discovers any new and useful
3 process, machine, manufacture, or composition of matter, or any new and useful improvement
4 thereof, may obtain a patent therefor” 35 U.S.C. § 101. The Supreme Court “has long held
5 that this provision contains an important implicit exception: Laws of nature, natural phenomena,
6 and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216
7 (2014). The reason for the exception is clear enough—“such discoveries are manifestations
8 of . . . nature, free to all men and reserved exclusively to none.” *Mayo Collaborative Servs. v.*
9 *Vomethus Labs., Inc.*, 566 U.S. 66, 71 (2012) (internal quotation marks and citations omitted).
10 The boundaries of the exception, however, are not so clear.

11 The *Alice* court highlighted “the concern that drives this exclusionary principle as one of
12 pre-emption.” *Alice*, 573 U.S. at 216 (noting the delicate balance inherent in promoting progress,
13 the primary object of patent law, and granting a monopoly, the means for accomplishing that
14 goal). In other words, patents that seek to wholly preempt others from using a law of nature or an
15 abstract idea—“the basic tools of scientific and technological work”—are invalid. *Id.*
16 “Accordingly, in applying the § 101 exception, we must distinguish between patents that claim the
17 buildin[g] block[s] of human ingenuity and those that integrate the building blocks into something
18 more, thereby transform[ing] them into a patent-eligible invention.” *Id.* at 217 (internal quotation
19 marks and citations omitted).

20 In evaluating whether claims are patent-eligible, I must first “determine whether the claims
21 at issue are directed to one of those patent-ineligible concepts.” *Alice*, 573 U.S. at 217. “[T]he
22 ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the specification,
23 based on whether their character as a whole is directed to excluded subject matter.” *Enfish, LLC v.*
24 *Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (internal quotation marks omitted).
25 Although there is no bright-line rule for determining whether a claim is directed to an abstract
26 idea, courts have articulated some guiding principles. When evaluating computer-related claims,
27 courts look to whether the claims “improve the functioning of the computer itself,” *Alice*, 573 U.S.
28 at 225, or whether “computers are invoked merely as a tool” to implement an abstract process.

1 *Enfish*, 822 F.3d at 1336.

2 If the claims are directed to a patent-ineligible concept, I must then “consider the elements
3 of each claim both individually and ‘as an ordered combination’ to determine whether the
4 additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at
5 1334 (internal citations omitted). This step entails the “search for an inventive concept—i.e., an
6 element or combination of elements that is sufficient to ensure that the patent in practice amounts
7 to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 573 U.S. at 217–18
8 (internal quotation marks and citations omitted). An inventive concept “cannot simply be an
9 instruction to implement or apply the abstract idea on a computer” and “must be significantly
10 more than the abstract idea itself.” *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*,
11 827 F.3d 1341, 1350 (Fed. Cir. 2016).

12 “For the role of a computer in a computer-implemented invention to be deemed
13 meaningful in the context of this analysis, it must involve more than performance of
14 well-understood, routine, [and] conventional activities previously known to the industry.” *Content*
15 *Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347–48 (Fed. Cir.
16 2014). “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract
17 idea into a patent-eligible invention.” *Id.* at 1348. However, “an inventive concept can be found
18 in the non-conventional and non-generic arrangement of known, conventional pieces.” *BASCOM*,
19 827 F.3d at 1350.

20 **B. Whether the ’321 Patent Is Invalid Under 35 U.S.C. § 101**

21 The ’321 Patent is titled “Systems and Methods for Data Processing.” Dkt. No. 124-1
22 (“’321 Patent”). SAP alleges that Teradata infringes at claims 1, 2, and 4 of the ’321 Patent. Dkt.
23 No. 461 at 1. Independent claim 1 and dependent claim 2 recite:

24 “1. A data processing method comprising:
25 providing a set of database tables in a data warehouse, each
26 database table being assigned to an entity type and storing
27 entities of its entity type;
28 providing a set of online analytical processing cubes in a data
warehouse, each online analytical processing cube specifying a
layout for transactional data storage;
providing at least one application program for processing at least
one class of database tables and at least one class of online

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analytical processing cubes;
mapping a sub-set of the set of database tables to the at least one class of database tables, the sub-set of database tables comprising database tables of one or more entity types;
mapping a sub-set of the set of online analytical processing cubes to the at least one class of online analytical processing cubes;
invoking an online analytical processing component to fill the online analytical processing cubes with transactional data;
processing the entities stored in the sub-set of database tables and the transactional data stored in the sub-set of online analytical processing cubes by the application program; and
providing analysis of the entities and the transactional data the application program to a user.

2. The method of claim 1, comprising providing a set of application programs, whereby each application program of the set of application programs is adapted to process a set of classes of database tables and online analytical processing cubes.”

’321 Patent at 7:12-42.

Independent claim 4 is a system claim that is similar to claim 1:

“4. A data processing system comprising:
a relational database of a data warehouse for storing a set of database tables, each database table being assigned to an entity type and storing entities of its entity type;
a relational database of a data warehouse for storing a set of online analytical processing cubes, each online analytical processing cube specifying a layout for transactional data storage;
at least one application program for processing at least one class of database tables and at least one class of online analytical processing cubes;
a mapping table for mapping a sub-set of the set of database tables to the at least one class of database tables, the sub-set of database tables comprising database tables of one or more entity types;
a mapping table for mapping a sub-set of the set of online analytical processing cubes to the at least one class of online analytical processing cubes;
means for invoking an online analytical processing component to fill the online analytical processing cubes with transactional data;
means for processing the entities stored in the sub-set of database tables and the transactional data stored in the sub-set of online analytical processing cubes with the application program; and
means for providing analysis of the entities and the transactional data processed by the application program to a user.”

Id. at 7:46–8:18. Claim 1 is representative because it is “substantially similar” to claim 4. TMSJ at 5; *see Content Extraction*, 776 F.3d at 1348 (concluding that a claim is representative of other claims when they are “substantially similar and linked to the same abstract idea”). SAP does not oppose that claim 1 is representative.

1 **1. The '321 Patent Is Directed to the Abstract Idea of “Organizing
2 Information into Logical Groups”**

3 Teradata asserts that the '321 Patent is directed to the abstract idea of “associating
4 (‘mapping’) database tables and OLAP cubes with respective classes for use with application
5 programs.”¹⁷ TMSJ at 7. When evaluating computer-related claims, the first step in the *Alice*
6 inquiry “asks whether the focus of the claims is on the specific asserted improvement in computer
7 capabilities” or “instead, on a process that qualifies as an ‘abstract idea’ for which computers are
8 invoked merely as a tool.” *Enfish*, 822 F.3d at 1335–36. Teradata argues that the “‘mapping’ to
9 classes at the heart of the '321 patent is simply a practice of organizing information, a type of
10 activity that courts have held to be abstract and ineligible for patent protection.” TMSJ at 7. For
11 example, even SAP’s expert, Dr. David Maier, explains,

12 “The '321 patent relates to ways to organize the tables and cubes used
13 in databases so that they can be more easily and efficiently recognized
14 and accessed. At a high level this organization is accomplished by
15 assigning a table or cube to a particular class. These classes serve to
16 group data structures storing related data, so an application can access
17 the structures together.”

18 Dkt. No. 472-2 (“Maier Reb. Rep.”) ¶ 683.

19 SAP contends that “if there is an abstract idea, it is organizing information into logical
20 groups.” Opp. TMSJ at 3–6. Although its opposition assumes *arguendo* that the claims are
21 directed to an abstract idea, SAP does not dispute that the claims are directed to an abstract idea.
22 It “does not contest that the claims are directed to this idea of ‘organizing information into logical
23 groups’ and that it is abstract.” *Id.* at 4. Instead, it disputes Teradata’s assertion that the claims
24 are directed to the narrower abstract idea of “associating (‘mapping’) database tables and OLAP
25 cubes with respective classes for use with application programs.” TMSJ at 7.

26 SAP takes the unusual position as a patentee of asserting a broader definition of the
27 abstract idea in order to contend that the physical-realm claim elements—i.e., database tables,
28 OLAP cubes, application programs, and mapping—and their combination should be analyzed

17 In the Claim Construction Order, I rejected Teradata’s proposal to construe “mapping” as
“associating or assigning.” Claim Construction Order at 14–15. Instead I construed “mapping” as
“[c]reating and storing, in computer system memory or secondary storage for a computer system,
an association between data elements in the computer system such that a computer can locate a
data element using that association.” *Id.*

1 under *Alice* step two to determine that there is an inventive concept. *See* Opp. TMSJ at 6; Hearing
2 Tr. at 60–61. An inventive concept “reflects something more than the application of an abstract
3 idea using well-understood, routine, and conventional activities previously known to the industry.
4 It must be enough to transform an abstract idea into a patent-eligible invention.” *Cellspin Soft,*
5 *Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1316 (Fed. Cir. 2019), *cert. denied sub nom. Garmin USA, Inc.*
6 *v. Cellspin Soft, Inc.*, 140 S. Ct. 907 (2020) (internal quotation marks and citations omitted).

7 In *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018), the Federal Circuit held that
8 “[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time
9 of the patent is a factual determination.” *Berkheimer*, 881 F.3d at 1369. The court held that the
10 claims at issue were directed to the abstract ideas of parsing, comparing, storing, and editing data.
11 *Id.* at 1366. The patentee argued that the specification described “an inventive feature that stores
12 parsed data in a purportedly unconventional manner” which “eliminates redundancies, improves
13 system efficiency, [and] reduces storage requirements” among other things. *Id.* at 1369. The
14 Federal Circuit therefore held that the “improvements in the specification, to the extent they are
15 captured in the claims, create a factual dispute regarding whether the invention describes well-
16 understood, routine, and conventional activities.” *Id.*

17 In contrast, in *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281 (Fed. Cir. 2018), the
18 Federal Circuit held that the dispute about whether the claims recited “unconventional features
19 that provides benefits over conventional prior art databases” was irrelevant because “a claimed
20 invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept
21 that renders the invention ‘significantly more’ than that ineligible concept.” *BSG*, 899 F.3d at
22 1289–91. The court held that the claims at issue were directed to the abstract idea of “considering
23 historical usage information while inputting data.” *Id.* at 1286. The only alleged unconventional
24 feature of the claims was “the requirement that users are guided by summary comparison usage
25 information or relative historical usage information.” *Id.* at 1291. The Federal Circuit held that
26 “this simply restate[d]” what it had already determined was an abstract idea and therefore the
27 question about whether this requirement was non-routine or unconventional was irrelevant. *Id.*
28 “As a matter of law, narrowing or reformulating an abstract idea does not add ‘significantly more’

1 to it.” *Id.* The Federal Circuit affirmed the district court’s determination that the asserted claims
2 lacked an inventive concept. *Id.*

3 In this case, Teradata asserts that the abstract idea is “associating (‘mapping’) database
4 tables and OLAP cubes with respective classes for use with application programs” because then
5 SAP’s purported inventive concept is simply a restatement of the abstract idea and arguably fails.
6 In contrast, SAP contends that the abstract idea is “organizing information into logical groups”
7 because then the combined elements of the database, OLAP cubes, application programs, and
8 mapping arguably create an inventive concept and a genuine dispute of fact of whether the
9 combination of these elements is non-routine or unconventional. I will now address which
10 abstract idea the claims are directed towards.

11 SAP argues that “mapping” database tables and OLAP cubes with respective classes for
12 use with application programs is not an abstract idea because database tables, OLAP cubes, and
13 application programs are computer structures, not mere concepts, and “mapping” requires the
14 creation of computer data structures. Opp. TMSJ at 4. Teradata cites no precedent holding that a
15 database, OLAP cube, or application program is an abstract idea. *See id.* For “mapping,”
16 however, Teradata points to *Autodesk*, where the district court held that “it would be difficult to
17 conceive of a more abstract concept than ‘mapping,’ when that concept is not tied to any particular
18 object or method.” *East Coast Sheet Metal Fabricating Corp. v. Autodesk, Inc.*, 2015 WL
19 226084, at *6 (D.N.H. Jan. 15, 2015), *amended in part*, 2015 WL 925614 (D.N.H. Mar. 3, 2015),
20 *and aff’d*, 645 F. App’x 992 (Fed. Cir. 2016). Although SAP does not directly address *Autodesk*, it
21 contends that “mapping” as construed by the Claim Construction Order is not abstract because it
22 requires the creation of computer data structures: “[c]reating and storing, in computer system
23 memory or secondary storage for a computer system, an association between data elements in the
24 computer system such that a computer can locate a data element using that association.” Claim
25 Construction Order at 15. According to SAP, “[t]here is nothing abstract about a data structure
26 that an application program running on a computer uses to locate particular data stored in other
27 data structures in the computer system.” Opp. TMSJ at 4.

28 Teradata responds that despite the claim construction, “mapping” is an abstract idea

1 because “there is nothing in the claim language or specification that would materially distinguish a
 2 computerized mapping table from one that could be created with a pen and paper.” TMSJ at 11. I
 3 agree. In *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307 (Fed. Cir. 2016), the
 4 Federal Circuit held that the patent at issue was directed to the abstract idea of “receiving e-mail
 5 (and other data file) identifiers, characterizing e-mail based on the identifiers, and communicating
 6 the characterization—in other words, filtering files/e-mail.” *Symantec Corp.*, 848 F.3d at 1313. It
 7 held that the patent was invalid because “with the exception of generic computer-implemented
 8 steps, there is nothing in the claims themselves that foreclose them from being performed by a
 9 human, mentally or with pen and paper.” *Id.* at 1318. In this case, SAP’s expert, Maier, opined
 10 that “[a] folder or directory structure stored on a computer system [that] groups objects and allows
 11 them to be located . . . can be considered a mapping table.” Dkt. No. 472-3 (“Appendix 3 to Maier
 12 Report”) at 32. Because a computer folder “originated as a metaphor for paper folders,”
 13 “mapping” is an abstract idea. TMSJ at 12.

14 Moreover, the claims are not focused on how “mapping” improves computer functionality.
 15 SAP’s expert explains that the “ways to organize the tables and cubes used in databases,” e.g.,
 16 “assigning a table or cube to a particular class,” makes the database tables and OLAP cubes “more
 17 easily and efficiently recognized and accessed.” Maier Reb. Rep. ¶ 683. But the specification
 18 expressly states that the improvement is simplifying the “selection of database tables as input
 19 parameters and the selection of OLAP cubes” to make it “more *user* friendly.” ’321 Patent at
 20 5:63-65 (emphasis added); *see also id.* at 2:40-44; 3:61-64; 4:8-19; 5:27-30; 5:35-44; 6:11-16
 21 (references to how the value from “mapping” is a result of a human’s choice to associate particular
 22 tables or cubes with classes, not from a new data structure or technological improvement).
 23 Further, neither the claims nor the specification recites any specific algorithms for mapping tables
 24 and cubes to classes, collecting data into OLAP cubes, processing the data, or analyzing the data.
 25 TMSJ at 14. Consequently, SAP only “conclusorily claims an improvement, but never identifies
 26 what the specific improvement is, despite the Federal Circuit’s requirement that claims assert a
 27 ‘specific asserted improvement.’” *MyMail, Ltd. v. OoVoo, LLC*, No. 17-CV-04487-LHK, 2020
 28 WL 2219036, at *15 (N.D. Cal. May 7, 2020), *aff’d*, 2021 WL 3671364 (Fed. Cir. Aug. 19, 2021)

1 (quoting *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314–15 (Fed. Cir.
2 2016)). As a result, “mapping” is an abstraction.

3 Teradata also asserts that the presence of physical components—i.e., the computer data
4 structures composed of the database, OLAP cubes, and application programs—do not save the
5 claims from being directed to an abstract idea. Dkt. No. 559 (“Reply TMSJ”) at 5–6. For
6 example, in *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607 (Fed. Cir. 2016), the Federal
7 Circuit determined that the claim at issue was directed to an abstract idea even though the claims
8 required “concrete, tangible components such as ‘a telephone unit’ and a ‘server,’” because “the
9 specification makes clear that the recited physical components merely provide a generic
10 environment in which to carry out the abstract idea.” *TLI*, 823 F.3d at 611.

11 But SAP does not dispute that the claims are directed to an abstract idea; instead it disputes
12 the scope of the abstract idea. SAP persuasively contends that, contrary to Teradata’s narrow
13 characterization of multiple Federal Circuit decisions, the Federal Circuit “resists conflating a
14 claim’s abstract idea with its physical-realm elements.” Opp. TMSJ at 6. For example, Teradata
15 characterized the Federal Circuit’s conclusion in *Capital One* as stating that the claims were
16 directed to the abstract idea of “[s]ystems for manipulating XML documents by organizing data
17 components into data objects and records and responding to modifications of the data.” TMSJ at
18 8. Instead, the Federal Circuit concluded that “the patent claims are, at their core, directed to the
19 abstract idea of collecting, displaying, and manipulating data.” *Capital One*, 850 F.3d at 1340.
20 Similarly, Teradata characterized the decision in *Electric Power Group* to hold that the claims at
21 issue were directed to the abstract idea of “[s]ystems and methods for performing real-time
22 monitoring of an electric power grid by collecting data from multiple data sources, analyzing the
23 data, and displaying the results.” TMSJ at 8. But the Federal Circuit held that the claims were
24 focused on the following abstract idea: “a process of gathering and analyzing information of a
25 specified content, then displaying the results.” *Elec. Power Grp.*, 830 F.3d at 1354.

26 Teradata points to *Intellectual Ventures I LLC v. Erie Indemnity Co.*, 850 F.3d 1315 (Fed.
27 Cir. 2017) as an example of the Federal Circuit including a physical-realm element in its
28 articulation of the abstract idea. Reply TSMJ at 4. There, the Federal Circuit held that “the

1 invention is drawn to the abstract idea of ‘creating an index and using that index to search for and
2 retrieve data.’” *Erie*, 850 F.3d at 1327. An “index” was a known structure in the field of database
3 technology. The Federal Circuit, however, was not discussing the specific index in the field of
4 database technology in its definition of the abstract idea, but indexes generally. *See id.* (explaining
5 that “[t]his type of activity, i.e., organizing and accessing records through the creation of an
6 index-searchable database, includes longstanding conduct that existed well before the advent of
7 computers and the Internet. For example, a hardcopy-based classification system (such as
8 library-indexing system) employs a similar concept as the one recited by” the patent).

9 Accordingly, I agree with SAP that the claims are directed to the abstract idea of
10 “organizing information into logical groups”.¹⁸ But for the reasons explained below, the claims
11 are patent-ineligible because they fail to encompass an inventive concept.

12 2. The ’321 Patent Does Not Contain an Inventive Concept

13 Teradata asserts that the ’321 Patent lacks an inventive concept because it “recites
14 well-known, routine, and conventional database elements” and “uses these elements to perform
15 well-understood, routine, and conventional functions of collecting, organizing, processing, or
16 analyzing data.” TMSJ at 13. An inventive concept “cannot simply be an instruction to
17 implement or apply the abstract idea on a computer” and “must be significantly more than the
18 abstract idea itself.” *BASCOM*, 827 F.3d at 1350. “If a claim’s only ‘inventive concept’ is the
19 application of an abstract idea using conventional and well-understood techniques, the claim has
20 not been transformed into a patent-eligible application of an abstract idea.” *BSG*, 899 F.3d at
21 1290–91 (Fed. Cir. 2018). But “an inventive concept can be found in the non-conventional and
22 non-generic arrangement of known, conventional pieces.” *BASCOM*, 827 F.3d at 1350.

23 At the summary judgment stage, Teradata, as the movant, has the burden of showing that
24 there is no genuine dispute as to any material fact and that it is entitled to judgment as a matter of
25 law. FED. R. CIV. P. 56(a). “[W]hether a claim limitation or combination of limitations is

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27 ¹⁸ Teradata asserts that whether I adopt SAP’s or its articulation of the abstract idea, the Section
28 101 analysis does not change because its articulation “is simply a form of organizing information
into logical groups.” Reply TMSJ at 7.

1 well-understood, routine, and conventional is a factual question.” *BSG*, 899 F.3d at 1290.
2 Because such a fact is “pertinent to the invalidity conclusion” it “must be proven by clear and
3 convincing evidence.” *Berkheimer*, 881 F.3d at 1368. “When there is no genuine issue of
4 material fact regarding whether the claim element or claimed combination is well-understood,
5 routine, conventional to a skilled artisan in the relevant field, this issue can be decided on
6 summary judgment as a matter of law.” *Id.* And if the only alleged unconventional feature is the
7 abstract idea itself, summary judgment is appropriate. *BSG*, 899 F.3d at 1291.

8 **a. Inventive Concept Identified During the Hearing**

9 Notably, SAP did not assert what the inventive concept is in its opposition. When asked
10 during the hearing, its counsel explained that the inventive concept is composed of three elements
11 in claim 4:¹⁹ (1) a relational database that stores both database tables and OLAP cubes (’321
12 Patent at 7:47-53); (2) an application program that accesses and processes those database tables
13 and OLAP cubes, not individually, but as a class (’321 Patent at 7:54-56); and (3) the two
14 mapping tables, which are data structures inside the computer, which associate the database tables
15 and the OLAP cubes with a particular class (’321 Patent at 8:1-7). Hearing Tr. at 60–61. Its
16 counsel contended that combining these elements constituted an improved database technique that
17 simplified “the selection of database tables as input parameters and the selection of OLAP cubes”
18 and made it “more user friendly.” *Id.* at 62 (citing ’321 Patent at 5:63-67). According to the ’321
19 Patent, the improved database technique also “may enable non-expert users to perform complex
20 transactional data processing and to integrate expert knowledge in the class definitions.” *Id.*

21 Teradata’s counsel responded that these elements do not create an inventive concept. For
22 the first element, under the agreed claim construction, “a relational database of a data warehouse
23 for storing a set of [OLAP] cubes” is “a database that stores information in tables of rows and
24 columns of data located in a data warehouse that can store at least one [OLAP] cube.” Dkt. No.
25 206 (“Joint Claim Construction Statement”) at 2. In other words, the OLAP cube is not stored in
26 the relational database as SAP’s counsel explained, but in the data warehouse. Hearing Tr. at 64;

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28 ¹⁹ SAP only addresses claim 4 but Teradata addresses the parallel elements of claims 1 and 4
together. Reply TMSJ at 9.

1 *see also* '321 Patent at 4:58-60, Fig. 3 (showing that the data warehouse contains a set of OLAP
2 cubes and not a relational database). And the specification admits that the storage of OLAP cubes
3 in data warehouse systems is well-understood, routine, and conventional. *Id.* at 1:26-27 (“An
4 OLAP cube is a multi-dimensional representation of a set of data. Such a cube is the basis for
5 transaction data storage in prior art data warehouse systems.”).

6 For the second element, Teradata’s counsel pointed out that SAP admitted that application
7 programs were well-known in the prior art. *See* Dkt. No. 211 (“SAP Opening Claim Construction
8 Brief”) at 20 (“Application programs were well-known to the POSITA at the time the '321 patent
9 was filed.”). And for the third element, Teradata’s counsel asserted that “mapping” is “merely an
10 abstraction” for the reasons explained above, e.g., there is nothing in the specification that would
11 distinguish the mapping tables from what a person could do on pen and paper. Hearing Tr. at 66;
12 *see supra* Part II.B.1.

13 SAP’s counsel conceded that application programs, database tables, and OLAP cubes were
14 well-known. Hearing Tr. at 68. But he argued that nothing in the specification or the record
15 suggested that any of the three elements it identified were well-known or conventional in 2003, the
16 patent’s effective filing date. *Id.* This does not address, however, Teradata’s argument that
17 “mapping” is an abstraction. Because “mapping” simply restates what I have determined is an
18 abstract idea, i.e., organizing information into logical groups, the question of whether the claim
19 element is well-understood, routine, and conventional, is irrelevant. *BSG*, 899 F.3d at 1291.

20 SAP’s response also does not address Teradata’s argument that application programs,
21 database tables, and OLAP cubes are generic software components that cannot supply an inventive
22 concept. Reply TMSJ at 11; *see Content Extraction*, 776 F. at 1348 (“[T]he mere recitation of a
23 generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible
24 invention.”). The specification does not identify any specific advancement over prior art. Instead,
25 it explains that these physical elements were well-understood, routine, and conventional features
26 of databases. As SAP’s counsel explained, “mapping” is how the application program accesses
27 the data in the database tables and OLAP cubes as a class and therefore because “mapping” is an
28 abstraction, none of these elements can provide an inventive concept. *See* Hearing Tr. at 60–61.

1 Even though the question of conventionality is irrelevant, Teradata also points to examples
2 in the prior art to argue that “mapping” is a well-understood, routine, and conventional element.
3 *Id.* at 14–15. Some prior art patent applications contained the same process of classifying or
4 assigning tables or cubes to logical groupings or classes, each associated with applications for
5 processing. *See, e.g.*, Dkt. No. 472-4 (“’061 Colossi Reference”) (U.S. Patent Application
6 Publication No. US 2004/0139061) (Figure 3 showing a grouping of tables related to the
7 measurement of sales by time, product, and region); Dkt. No. 472-5 (“Bakalash Reference”) (U.S.
8 Patent No. 6,385,604”) (Figure 4A showing a grouping of tables by supplier, time period, part, and
9 supplied parts); Dkt. No. 472-6 (“Colossi Article” or “Colossi Reference”) (Figure 1 showing a
10 class of OLAP cubes related to finance, market share, employees, and customers).

11 SAP contends that Teradata has not shown an absence of a genuine dispute of material fact
12 because “[w]hether a particular technology is well-understood, routine, and conventional goes
13 beyond what was simply known in the prior art. The mere fact that something is disclosed in a
14 piece of prior art, for example, does not mean it was well-understood, routine, and conventional.”
15 *Berkheimer*, 881 F.3d at 1369. It argues that the prior art references do not support Teradata’s
16 argument because Teradata “cites no evidence that these references were widely read and
17 understood by 2003, or adopted by others so widely that they became routine and conventional.”
18 *Opp.* TMSJ at 10. For example, the Colossi ’061 reference was not published until 2004, after the
19 ’321 Patent’s effective filing date and therefore “it cannot possibly show that others adopted its
20 teachings to such an extent that they became conventional in 2003.” *Id.* As for the other Colossi
21 reference, it contends that Figure 1 of the 2002 Colossi article was simply a proposal and Teradata
22 cites to no evidence showing that anyone adopted the proposal so that it became routine and
23 conventional by 2003. *Id.* Similarly, it argues that there is no evidence that the Bakalash
24 reference was widely read or understood by 2003. *Id.*

25 Further, SAP contends that Teradata has not met its burden of showing that the patent
26 claims’ combination of physical-realm elements was conventional, routine, and well-understood.
27 *Id.* at 11. According to SAP, the prior art references show different claimed inventions than the
28 one at issue in the ’321 Patent. *Id.* For example, both the Colossi ’061 reference and the Bakalash

1 reference describe the claimed invention as a “star schema,” a way to represent the logical
 2 structure of a relational base, which is not the claimed invention at issue here. *Id.* at 17; *see*
 3 Bakalash Reference at 3:54-57 (“An exemplary star schema is illustrated in FIG. 4A”); ’061
 4 Colossi Reference ¶¶ 0075 (“FIG. 3 illustrates a sample star-join schema”). Teradata does not
 5 contend that either reference shows any of the other ’321 claim elements, e.g., any system in
 6 which both tables and cubes are mapped to classes, as required by the ’321 Patent. *Id.* at 11–12.
 7 Similarly, SAP’s expert opines that Figure 1 in the Colossi Reference describes cubes that are
 8 different from the construed definition of OLAP cubes in this case. Dkt. No. 520-2 (“Maier Reb.
 9 Rep.”) ¶¶ 746–48.

10 These arguments are irrelevant, however, because under a Section 101 analysis, as opposed
 11 to a Section 102 or 103 analysis, Teradata does not have to compare each ’321 claim to the prior
 12 art. Reply TMSJ at 10. As the Federal Circuit has explained,

13 “The appropriate question is not whether the entire claim as a whole
 14 was ‘well-understood, routine [and] conventional’ to a skilled artisan
 15 (i.e., whether it lacks novelty), but rather, there are two distinct
 16 questions: (1) whether each of the [elements] in the claimed [product]
 17 (apart from the natural laws themselves) involve well-understood,
 routine, conventional activity previously engaged in by researchers in
 the field, and (2) whether all of the steps as an ordered combination
 add[] nothing to the laws of nature that is not already present when
 the steps are considered separately.”

18 *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1348–49 (Fed. Cir. 2019), *cert.*
 19 *denied*, 141 S. Ct. 241 (2020) (internal citations and quotation marks omitted). Teradata explains
 20 that it was relying on the prior art references to show that “mapping” and “mapping tables,” under
 21 my construction and as interpreted by SAP’s expert, were well-known in the art. Reply TMSJ at
 22 10–11. SAP does not address Teradata’s arguments that the Colossi ’061 and Bakalash references
 23 show mappings of tables to classes. Further, SAP’s expert undermines its argument that there is
 24 no clear and convincing evidence that the Colossi and Bakalash references were widely circulated
 25 or understood by 2003; Maier opines that a POSITA would have understood how to implement
 26 certain claim elements at the time based on these three references. *See infra* Part II.B.2.b; *see*
 27 Maier Reb. Rep. ¶¶ 704, 715. SAP’s argument that these three elements create an inventive
 28 concept fails.

b. Remaining Claim Elements

SAP’s counsel clarified that SAP was not abandoning the seven physical-realm elements outlined in its opposition by focusing on the elements above. Hearing Tr. at 63. According to SAP, “even if each of the [] seven claim elements individually were known, Teradata submits no clear and convincing evidence that this particular combination of structural, physical-realm elements was conventional by 2003”: the elements above and (1) “an OLAP component filling the OLAP cubes with transactional data and [a particular] means for invoking that component to perform that function; (2) “a [particular] means for processing with the application program the entities stored in the sub-set of database tables and the transactional data stored in the sub-set of OLAP cubes; and (3) “a [particular] means for providing analysis of those entities and transactional data processed by the application program.” Opp. TMSJ at 9.

But these remaining claim limitations—“filling cubes with data, processing data, and providing analysis”—are also abstract and cannot provide an inventive concept. TMSJ at 14. Contrary to SAP’s addition of the word “[particular]” in the elements,²⁰ these limitations are purely functional because the claims do not recite any specific algorithms for performing these steps; instead they simply claim a result and reflect abstract ideas. TMSJ at 14; *see Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016) (“The purely functional nature of the claim confirms that it is directed to an abstract idea, not to a concrete embodiment of that idea.”). SAP does not respond to this argument. The question of whether these elements are well-understood, routine, and conventional is therefore irrelevant because these elements are abstract ideas and therefore cannot supply an inventive concept. *See BSG*, 899 F.3d at 1290–91.

In any event, Teradata argues that all of these steps are also well-understood, routine, and conventional, as SAP admits. *Id.* SAP’s expert admits that filling cubes with data, processing data, and providing analysis are all well-known elements and would be familiar to a skilled artisan. *See, e.g.*, Maier Reb. Rep. ¶ 704 (arguing that the “Colossi and Colossi ’061

²⁰ Teradata asserts that SAP’s rewriting of claim 4 underscores that the ordered “combination” of elements in claim 4 cannot survive *Alice* step two. Reply TMSJ at 9. It argues that SAP (1) combines the first two elements; (2) moves the “mapping” limitations to follow the filling, processing, and providing analysis limitations; and (3) adds the word “[particular]” to make three claim elements seem less generic. *Id.*

1 references . . . further demonstrate that a POSITA would have been well aware of applications that
 2 utilized RDBMS components to fill OLAP cubes.”); *id.* ¶ 715 (arguing that the “Colossi
 3 reference . . . further demonstrate[s] that a POSITA would have been well aware of applications
 4 that processed the entities stored in the sub-set of database tables and the transactional data stored
 5 in the sub-set of online and analytical processing cubes with the application program.”); *id.* ¶ 719
 6 (arguing that the structures for “providing analysis of the entities and the transaction data
 7 processed by the application program to a user” were “familiar to a skilled artisan”). Maier
 8 pointed to business intelligence tools such as “Microsoft Excel, BusinessObjects and Tableau” as
 9 examples of applications that were well-known that filled cubes with data, processed data, and
 10 provided analysis of data. *Id.* ¶¶ 701, 712, 719.

11 Furthermore, the specification is silent as to any purported improvement provided by the
 12 claimed combination. *See MyMail*, 2020 WL 2219036, at *19 (invalidating claims under § 101 in
 13 part because the specification was “entirely silent as to . . . how any inventive feature, alone or in
 14 an ordered combination, is used in an unconventional manner.”) (internal quotation marks
 15 omitted). Because the claim elements simply apply the abstract idea of organizing information
 16 into logical groups using well-understood, routine, and conventional activities previously known
 17 to the industry, the claims do not make the abstract idea patent eligible. *Cellspin Soft*, 927 F.3d at
 18 1316.²¹ SAP’s claims are directed to the abstract idea of organizing data into logical groups.
 19 There is no inventive concept that provides something more than the abstract idea itself.
 20 Teradata’s motion for summary judgment is GRANTED.

21 **III. MOTION TO EXCLUDE LEONARD AND WOLFSON TESTIMONY**

22 Teradata’s final motion to exclude expert testimony seeks to exclude portions of Dr.
 23 Wolfson and Dr. Leonard’s reports. Dkt. No. 480 (“L&W Mot.”) at 1. Teradata asserts that I
 24 should exclude Wolfson’s apportionment opinions because they do not satisfy Rule 702 and

25 _____
 26 ²¹ SAP also contends that Teradata has not shown a lack of genuine dispute that there are no other
 27 ways to implement the alleged abstract idea. Opp. TMSJ at 15–16. But Teradata does not have to
 28 show that SAP has preempted an entire idea for the ’321 claims to be patent-ineligible. “While
 preemption may signal patent ineligible subject matter, the absence of complete preemption does
 not demonstrate patent eligibility.” *FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089,
 1098 (Fed. Cir. 2016) (citation omitted).

1 Leonard’s Profit Apportionment Method with respect to the ’321 Patent, which relies on
2 Wolfson’s apportionment factors. *Id.* Because I conclude that the ’321 Patent is invalid, any
3 arguments related to it are DENIED as moot. Teradata also moves to exclude certain alternative
4 calculations for reasonable royalties, such as damages before May 21, 2019 for the ’421 and ’179
5 Patents and damages related to an exhibit labeled as “Scenario 2.” *Id.* SAP does not dispute these
6 issues and therefore Teradata’s motion in relation to these is GRANTED. *See* Dkt. No. 525
7 (“L&W Opp.”) at 12, 15. As for the antitrust damages, Teradata moves to exclude Leonard’s
8 opinion that certain Teradata business decisions caused the damages. L&W Mot. at 2. Because I
9 conclude that Teradata’s tying claim fails, any argument about antitrust damages is DENIED as
10 moot. The remaining issues, then, are whether Wolfson’s apportionment analysis of the ’421 and
11 ’179 Patents is unreliable and therefore whether Leonard’s Profit Apportionment Method for the
12 ’421 and ’179 Patents is unreliable.

13 Teradata asserts that Wolfson’s apportionment analysis is flawed. *Id.* at 5. SAP explains
14 that Wolfson “was tasked with estimating the value of Teradata’s infringing technology by
15 drawing on his more than 35 years of experience as a computer science professor and the president
16 of a startup company in the data science field.” L&W Opp. at 1 (citing Dkt. No. 488-6 (“Wolfson
17 Rep.”) ¶¶ 4–18). Teradata points out that Wolfson admits that he has never conducted an
18 apportionment analysis before, and he could not provide examples of others apportioning revenues
19 in the manner he did or any third-party resources that could guide his efforts. Dkt. No. 488
20 (“Wolfson Depo.”) at 42–43, 46, 77–78.

21 Wolfson’s analysis follows the same methodology affirmed by the Federal Circuit in
22 *Summit 6, LLC v. Samsung Elecs. Co. Ltd.*, 802 F.3d 1283, 1296–98 (Fed. Cir. 2015). *Id.* at 2–3.
23 There, the expert determined the smallest salable patent-practicing unit for which revenue data is
24 available and further apportioned the value of the claimed invention to take into account only
25 those features that infringed. *Summit 6*, 802 F. 3d at 1297. In this case, Wolfson identified the
26 smallest salable unit for each patent, e.g., the Teradata Columnar feature for the ’421 Patent and
27 the Teradata Database for the ’179 Patent, and then undertook a “multi-step, quantitative
28 apportionment specific to each patent.” *Id.* at 1297. Teradata asserts that *Summit 6* is

1 distinguishable because there, an economist, not a technical expert, made opinions based on his
 2 careful quantitative review of objective financial and customer usage data. Dkt No. 561 (“L&W
 3 Reply”) at 4. Here, Wolfson repeatedly confirmed that he had no data on customers’ usage of the
 4 specific features. *See* Dkt. No. 560-6 (“Wolfson Depo.”) at 98–110.

5 But Wolfson explains that he does not use such data because Teradata claims that it does
 6 not possess or maintain information about how its customers deploy or configure features such as
 7 the Teradata Columnar, for example. Wolfson Rep. ¶ 49. Instead, Wolfson “had information
 8 about how certain Teradata employees who are in direct contact with customers value various
 9 features that are related to ’421” Wolfson Depo. at 110. Like the expert in *Summit 6*, for the
 10 ’421 Patent he determined the proportion of customers who would be expected to configure
 11 Teradata Columnar in an infringing manner based on Teradata’s documentation and publications
 12 and then subtracted non-infringing configuration options. Wolfson Rep. ¶¶ 48–69. For the ’179
 13 Patent, he approximated the value of Teradata’s “complex query” processing components of the
 14 Teradata Database based on Teradata’s internal spreadsheets. *Id.* ¶¶ 97–108. Wolfson then
 15 excluded use cases that do not involve the infringing subquery processing. *Id.* ¶¶ 119–22. His
 16 methodology is proper.

17 Teradata asserts that when asked how he came to determine or know what the alleged
 18 infringing conduct was, Wolfson responded that he did not “exactly recall how” he identified the
 19 exact piece that infringes and that “some of it is a hunch.” Wolfson Depo. at 77–78. But the full
 20 context of his statement was that apportionment is not an “exact science,” which has been
 21 acknowledged by courts. L&W Opp. at 4; *see Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1315,
 22 1319 (Fed. Cir. 2014), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d
 23 1339 (Fed. Cir. 2015) (recognizing that estimating a “reasonable royalty” for example “is not an
 24 exact science” and holding that an expert’s method of apportionment was admissible even if other
 25 reliable methods of estimating a reasonable royalty existed). Wolfson testified that he did not
 26 analyze the infringement, or the claim construction order himself and he never spoke to SAP’s
 27 expert on infringement, Dr. Maier. *Id.* at 34, 84. But his analysis of the relative value of the
 28 infringing technology relies on Maier’s opinions on patent infringement, which is common and

1 appropriate. *Fujifilm Corp. v. Motorola Mobility LLC*, No. 12-cv-03587-WHO, 2015 WL
 2 1737951, at *4 (N.D. Cal. Apr. 8, 2015) (It is “reasonable to expect that experts will rely on the
 3 opinion of experts in other fields as background material for arriving at an opinion.”). When
 4 asked when he received Maier’s report, he stated that the earliest copy he had was from the same
 5 day that he signed his own report, but he testified that it was his impression that he had received
 6 something similar beforehand. *Id.* at 162–63. In addition, Wolfson testified that he relied upon
 7 SAP’s infringement contentions, which were the basis of Maier’s report, before finalizing his
 8 report. *See* Wolfson Depo. at 67–68, 157–61.

9 Teradata also emphasizes that “Wolfson’s views on the patents are confused and plainly
 10 omit key elements of the claimed invention.” L&W Mot. at 7. According to Teradata, he ignored
 11 the existence of a limitation in the ’179 Patent that subqueries be optimized “without
 12 transformation” and only focused on whether there were subqueries to the queries being processed.
 13 *See* Dkt. No. 491-15 (“’179 Patent”) at 39:3–5; *see* Wolfson Depo. at 126–27 (stating that he
 14 believed the question of “transformation” was “completely tangential” to his report and confirming
 15 that the word “transformation” was “not even in” his report). Because Wolfson “values only the
 16 prevalence of subqueries rather than subqueries that are optimized ‘without transformation,’”
 17 Teradata asserts that his approach is inappropriate. L&W Mot. at 7. SAP responds that it is
 18 appropriate that Wolfson only considered the prevalence of subqueries because according to Maier,
 19 the “without transformation” limitation is met when a query contains a subquery. L&W Opp. at 5
 20 (citing Dkt. No. 524-11 (“Appendix 4 of the Maier Expert Rep.”) at 82–84). It contends that
 21 Teradata has cited no evidence otherwise and therefore Wolfson did not need to account for the
 22 “without transformation” limitation. *Id.* These arguments go to the weight and not the admissibility
 23 of Wolfson’s opinions.

24 Finally, Teradata asserts that Wolfson’s calculations “reflect a host of allegedly quantitative
 25 assumptions that do not connect to the qualitative documents on which he relies.” L&W Mot. at 8.
 26 For example, Teradata argues that he assumes that 50–100% of Teradata’s customers use a certain
 27 configuration of Columnar solely because Teradata “recommends” the configuration, but he has no
 28 basis for this assumption. *Id.* SAP points out that this is a rational analysis given that some

1 customers may not follow Teradata’s recommendation and therefore would be expected to choose
2 both options equally (the 50% endpoint of the range). *Id.* at 5. And because customers are likely to
3 follow a manufacturer’s recommendation, this would result in the upper endpoint of the range
4 (100%). *Id.* Teradata also argues that with the ’179 Patent, Wolfson relied on a 50% estimate for
5 the prevalence of queries containing subqueries “solely on a third-party paper,” but SAP contends
6 that the paper “analyzed a well-established industry performance benchmark, was peer-reviewed, []
7 was presented at a prestigious computer science conference,” and Wolfson analyzed the benchmark
8 independently. L&W Mot. at 8–9; L&W Opp. at 5–6; *see* Wolfson Rep. ¶ 121. These arguments
9 go to the weight and not the admissibility of Wolfson’s opinions.

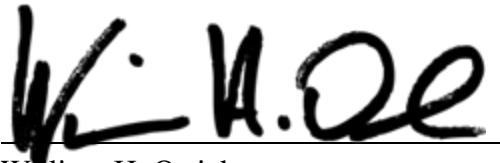
10 Wolfson’s apportionment analysis was based on reliable principles and guided by Federal
11 Circuit case law. Leonard’s Profit Apportionment Approach for the ’421 and ’179 Patents should
12 not be excluded either.

13 **CONCLUSION**

14 For the reasons above, SAP’s motion for summary judgment on Teradata’s trade secret
15 claims is GRANTED. Its motion related to Teradata’s business trade secret claims under the
16 DTSA is DENIED as moot. Its motion related to Teradata’s tying claim is GRANTED.
17 Teradata’s motion for summary judgment on the invalidity of the ’321 Patent is GRANTED. Its
18 motion for partial summary judgment against an award of damages for infringement of the ’179
19 and ’421 Patents before May 21, 2019, is GRANTED. Its motion to exclude portions of Kraska’s
20 expert report is DENIED as moot. Its motion to exclude portions of Horn’s report is GRANTED
21 in part and DENIED in part. Its motion to exclude portions of the Leonard and Wolfson reports is
22 DENIED in part as moot and DENIED in part on the merits. Its motion to exclude portions of
23 Mehrotra’s report is DENIED. SAP’s motion to exclude portions of Asker’s report is GRANTED
24 in part and DENIED in part.

25 **IT IS SO ORDERED.**

26 Dated: November 8, 2021

27 
28 William H. Orrick
United States District Judge