IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

VASUDEVAN SOFTWARE, INC.,

Plaintiff,

v.

MICROSTRATEGY INC.,

Defendant.

_____/

VASUDEVAN SOFTWARE, INC.,

Plaintiff,

v.

TIBCO SOFTWARE INC.,

Defendant.

_____/

No. C 11-06637 RS
No. C 11-06638 RS

CLAIM CONSTRUCTION ORDER

I. INTRODUCTION

Plaintiff Vasudevan Software Inc. ("VSi") alleges that the software products of defendants Microstrategy Inc. and TIBCO Software Inc. infringe divisional U.S. Patent Nos. 6,877,006 ("the '006 patent"), 7,167,864 ("the '864 patent"), 7,720,861 ("the '861 patent") and 8,082,268 ("the '268 patent").[1] Pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996), and Patent Local Rule 4-3, the parties have presented three

[1] Three of those patents were construed in part during proceedings previous action by VSi against defendants IBM and Oracle. *See Vasudevan Software, Inc. v. Int'l Bus. Mach. Corp.*, No. C 09-5897, 2011 WL 196884 at *1 (N.D. Cal. Jan. 20, 2011) (claim construction order).

terms found in the claims of the patents for construction by the Court.[2] In consideration of the briefing, the arguments presented at the *Markman* hearing, and for all the reasons set forth below, the disputed terms are construed as follows.

II. BACKGROUND

The patents in suit relate to business intelligence software technology, and specifically, an alleged invention for dynamically[3] creating, updating, and securing an online analytical processing ("OLAP") cube. The parties agree that "OLAP cube" means a "data structure having more than two dimensions that provides online analytical processing." In other words, it is an analysis tool for capturing data from "disparate databases" (a disputed claim term) and making the information available to display to the user. It might be used, for example, to analyze the sales results for specific items, periods, and locations. According to the parties, one prior art limitation of OLAP technology was that data residing in different databases were often stored in incompatible formats or schemas.[4] Where disparate databases were involved, an OLAP cube could not be constructed dynamically on "live" data. Instead, the data from disparate databases needed to be transformed into a compatible format ahead of a user's request and stored in an intermediate data repository described as a data warehouse. Therefore, a business organization might extract data from disparate databases each night and store the results in a data warehouse. In that case, any resulting OLAP cube constructed from data in the warehouse would consist of "stale" data. By contrast, one aspect of the claimed invention involves creating the OLAP cube dynamically in response to a user's request. Thus, data from disparate databases are accessed directly to assemble the OLAP cube without going through an intermediate repository of stale data.

III. LEGAL STANDARD

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[2] In their opposition brief, defendants agreed to give the terms "3-dimensional visualizations" and 3-D visualizations" their plain and ordinary meaning, eliminating dispute. The parties also agreed to the definition of "OLAP cube," another term initially subject to dispute. MicroStrategy alone contests the final two terms to be construed in this order.

[3] The parties agree that "dynamically" means "at run time in response to an ad hoc user query or request." The parties also agree that "database" means "a structured set of data."

[4] There does not appear to be debate that, in this context, "schemas" define "aspects of the database, such as attributes (fields) and domains and parameters of the attributes." MICROSOFT COMPUTER DICTIONARY 421 (3d ed. 1997).

Claim construction is a question of law to be determined by the Court. *Markman*, 52 F.3d at 979. "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). Accordingly, a claim should be construed in a manner that "most naturally aligns with the patent's description of the invention." *Id*.

The first step in claim construction is to look to the language of the claims themselves. "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). A disputed claim term should be construed in a manner consistent with its "ordinary and customary meaning," which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312-13. The ordinary and customary meaning of a claim term may be determined solely by viewing the term within the context of the claim's overall language. *See id*. at 1314 ("[T]he use of a term within the claim provides a firm basis for construing the term."). Additionally, the use of the term in other claims may provide guidance regarding its proper construction. *Id*. ("Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.").

A claim should also be construed in a manner that is consistent with the patent's specification. *See Markman*, 52 F.3d at 979 ("Claims must be read in view of the specification, of which they are a part."). Typically, the specification is the best guide for construing the claims. *See Phillips*, 415 F.3d at 1315 ("The specification is . . . the primary basis for construing the claims."); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term."). In limited circumstances, the specification may be used to narrow the meaning of a claim term that otherwise would appear to be

susceptible to a broader reading. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc*., 242 F.3d 1337, 1341 (Fed. Cir. 2001); *Phillips*, 415 F.3d at 1316. Precedent forbids, however, a construction of claim terms that imposes limitations not found in the claims or supported by an unambiguous restriction in the specification or prosecution history. *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998) ("[A] court may not import limitations from the written description into the claims."); *Comark Commc'ns., Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) ("[W]hile . . . claims are to be interpreted in light of the specification, it does not follow that limitations from the specification may be read into the claims."); *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc) ("It is the *claims* that measure the invention.") (emphasis in original). A final source of intrinsic evidence is the prosecution record and any statements made by the patentee to the United States Patent and Trademark Office (PTO) regarding the scope of the invention. *See Markman*, 52 F.3d at 980.

The court also may consider extrinsic evidence, such as dictionaries or technical treatises, especially if such sources are "helpful in determining 'the true meaning of language used in the patent claims.'" *Phillips*, 415 F.3d at 1318 (quoting *Markman*, 52 F.3d at 980). Ultimately, while extrinsic evidence may aid the claim construction analysis, it cannot be used to contradict the plain and ordinary meaning of a claim term as defined within the intrinsic record. *Phillips*, 415 F.3d at 1322-23. Once the proper meaning of a term used in a claim has been determined, that term must have the same meaning for all claims in which it appears. *Inverness Med. Switzerland GmbH v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1371 (Fed. Cir. 2002). Several terms disputed in these related actions have already been construed in prior litigation involving other alleged infringers. While those constructions are not binding, and were adopted in consideration of different accused devices, without the benefit of the arguments raised here, "uniformity in the treatment of a given patent" is also generally desirable. *Markman*, 517 U.S. at 390. Those previous constructions may therefore be viewed as "persuasive and highly relevant." *Verizon Cal. Inc. v. Ronald Katz Tech. Licensing, P.A.*, 326 F. Supp. 2d 1060, 1069 (C.D. Cal. 2003).

IV. DISCUSSION

No.	Claim term	VSi's construction	Defendants' construction
1.	disparate [] databases	incompatible databases having different schemas	databases having an absence of compatible keys or record identifier (ID) columns of similar value or format in the schemas or structures of the database that would otherwise enable linking data within the constituent databases

The parties debate the appropriate scope of the limitation "disparate databases." It appears, among other places, in claims 1-2 of the '006 patent, directed to "accessing with a computer a plurality of disparate digital databases and retrieving with a computer requested data from such databases." '006 patent, cols. 13:29-32, 14:4-7. The meaning of "databases," as noted above, is settled. *See supra* note 3. The parties' positions also reflect a degree of general consensus that "disparate" implies incompatibility, although there is dispute as to how specifically to express that understanding. VSi proposes "*incompatible* databases having different schemas" (emphasis added), whereas defendants urge "an absence of *compatible* keys or record identifier (ID) columns of similar value or format in the schemas or structures … that would otherwise enable linking data within the constituent databases" (emphasis added).[5]

VSi claims support for its position in the intrinsic record. Specifically, it notes that emphasizes that the specifications for all four patents-in-suit summarize the inventions thusly: "The present invention, for the first time, assembles an OLAP (online analytical processing) view of data (i.e., an OLAP cube) at run time, in response to a data query by a user, by accessing a plurality of incompatible source databases." *See, e.g., id.* at cols. 2:38-42. VSi also notes that the '006 patent's specification speaks of "incompatible source databases," comprising "any database type, including SQL, relational, object oriented, multi-dimensional, and flat databases." *Id.* at cols. 2:38-42, 3:1-3. VSi also notes that the U.S. Patent & Trademark Office (PTO) appeared to equate "incompatible databases" with "disparate digital databases" in certain materials created during prosecution of the

[5] Defendants actually go a step further, and argue that VSi intended "incompatible" to mean something other than "disparate," on a claim differentiation theory. Given, however, that "compatibility" figures prominently in defendants' own construction of the term "disparate," that argument is inconsistent and may be disregarded.

patent, directed to showing similarities between the pending claims of the '268 patent and VSi's already-issued '864 patent. (*See* Exh. 20 to Enger Decl. in Supp. of VSi's Br. at VSI0101882). Even assuming that were true, however, it is of little consequence as there does not appear to be a substantive disagreement between the parties concerning the requisite of "incompatibility."[6] The question is how narrowly or specifically that requirement should be drawn to reflect the understanding of those reasonably skilled in the art.

Defendants predicate their proposed construction on a statement made by VSi during prosecution of the '006 patent. The PTO initially rejected VSi's claims as obvious in light of U.S. Patent No. 6,516,324, which, it noted, teaches a method of "accessing with a computer a plurality of digital databases," wherein "the plurality of databases are incompatible to each other." (Exh. A to Pak Decl. in Supp. of Defs.' Br. at VSI0000239, 242). VSi responded by adding the limitation "disparate" to "digital databases" and arguing that the prior art "access[ed] only one singular database – the multidimensional database – not a plurality of disparate databases," as in the '006 application. (Exh. 21 to Enger Decl. in Supp. of VSi's Br. at VSI0000267). As VSi went on to explain to the PTO:

> *The disparate nature of the above databases refers to the absence of compatible keys or record identifier (ID) columns of similar value or format in the schemas or structures of the database that would otherwise enable linking data within the constituent databases.* An example of such a common key is a social security number …. In embodiments of Applicant's invention, such a common key is not necessary. The disparate nature extends, for example, to the type of database (Oracle, IBM DB2, Microsoft SQL Server of Object Databases) and the structure, schema, and nature of the databases (i.e., type of the data fields in various tables of the constituent databases).

(*Id.* at VSI0000265) (emphasis in italics added, underline in original). Defendants argue that plaintiff has clearly adopted this position, given that VSi reiterated it to the PTO in the course of prosecuting the '861 patent, again to distinguish prior art. (Exh. D. to Pak Decl. in Supp. of Defs.'

[6] At argument, VSi also heavily emphasized that in a prior litigation, IBM and Oracle stipulated to its proposed construction. While perhaps of some import, the prior stipulation is hardly dispositive, and as counsel conceded, could not bind defendants in this case on a collateral estoppel theory without violating their due process rights. *Verizon Cal.*, 326 F. Supp. 2d at 1069.

Br. at VSI0011495). Defendants also argue that VSi relied upon the foregoing in prosecuting the '006 and '861 patents, and must be bound to their representation.

The Federal Circuit has held that patentees should be "bound by representations and actions that were taken in order to obtain the patent." *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381 (Fed. Cir. 2011) (citations omitted); *Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003) ("The public notice function of a patent and its prosecution history requires that a patentee be held to what he declares during the prosecution of his patent. A patentee may not state during prosecution that the claims do not cover a particular device and then change position and later sue a party who makes that same device for infringement"). To be bound, however, the patentee must have "clearly set forth a definition of the disputed term in either the specification or the prosecution history." *Typhoon Touch*, 659 F.3d at 1382 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). VSi replies that it has not done so here, and stresses that the prosecution history "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Phillips*, 415 F.3d at 1317. *See also Grober v. Mako Prods., Inc.*, 686 F.3d 1335, 1341 (Fed. Cir. 2012) ("ongoing negotiations between the inventor and the PTO" will "often produce[] ambiguities"). In particular, it points to the final sentence of the quoted passage, which states that the claimed "disparate" nature of the databases encompasses distinct "types" of database, such as those developed by different commercial vendors (Oracle, IBM, Microsoft, etc.). In its papers and at argument, VSi emphasized the need to preserve this concept in any appropriate construction of the claim term, and argues that the inclusion of commercial vendors renders the definition it proffered to the PTO unclear or ambiguous.

The trouble with VSi's position is that defendants' construction is *not* necessarily inconsistent with the distinction drawn between databases supplied by different vendors – as VSi's own statements to the PTO make quite clear. (Exh. 21 to Enger Decl. in Supp. of VSi's Br. at VSI0000265) ("The disparate nature extends, *for example*, to the type of database…" (emphasis added)). Neither side suggests that different vendors' databases have identical record identifiers or formats within the structures or schemas organizing the data, and VSi's own proposed construction

apparently preserves vendor-specific incompatibility by making reference to different "different schemas." Furthermore, the prosecution history reflects that VSi inserted the word "disparate" in each of its claims after a rejection, and adopted the definition of "disparate" set forth above. While precedent sets a fairly high bar for disavowal during prosecution, requiring "a clear and unmistakable disavowal of scope," here that requirement appears to be met. *Purdue Pharm. L.P. v. Endo Pharms. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006). Although VSi insists that defendants have put undue emphasis on the particular passage set forth above and maintains that it primarily distinguished the Jones prior art on other grounds, a review of VSi's response to the PTO's Office Action rejecting the '006 applications' claims reveals that it distinguished Jones on multiple grounds, including the "disparate" limitation. (*See* Exh. 21 to Enger Decl. in Supp. of VSi's Br. at VSI0000267). There is nothing ambiguous about the statement VSi made to the PTO; its definition of the term "disparate" is relatively succinct, and clear. It is unmistakable evidence of how VSi understood the scope of its claims, and the PTO apparently relied on those representations in granting the '006 patent. Accordingly, the term "disparate databases" is construed to mean, "databases having an absence of compatible keys or record identifier columns of similar value or format in the schemas or structures that would otherwise enable linking data." Should any of the terms contained in the construction set forth above require further clarification, such matters may be resolved later in the proceedings.

No.	Claim term	VSi's construction[7]	MicroStrategy's construction
2.	a persistent repository	a repository of the responsive source data stored in a permanent or semi-permanent state	repository of information stored on a disk or other permanent storage device

The next term for construction, "a persistent repository," appears in claims 1 and 9 of the '268 patent. Those claims cover a method for "dynamically assembling a multidimensional view of at least a portion of said responsive data source without first accessing a persistent repository of said

[7] At oral argument, VSi submitted a newly amended construction, set forth in the table above. Defendants, however, were unable to agree to that proposal, as it does not significantly narrow the parties' outstanding disputes. Initially, VSi urged "a storage medium containing non-transient data."

responsive source data created after the data retrieval request is received," and "dynamically assembling a slice of an OLAP cube using at least a portion of said responsive source data without first accessing a persistent repository of said responsive data created after the data retrieval request is received." '268 patent, cols. 13:19-25, 14:22-26. The parties' disagreements regarding the second claim term are: (1) whether "persistent" describes the data in the repository or whether it describes the storage device on which the repository is stored; and (2) whether "persistent" means "permanent," "semi-permanent," or "responsive." VSi maintains that "persistent" refers to the "responsive" data in the repository, stored in a "permanent" or "semi-permanent" storage medium, whereas MicroStrategy contends that it describes a "permanent" form of storage.

VSi persuasively argues that the intrinsic evidence reflects a "data-centric" interpretation of "persistent repository." Specifically, it points to the claims that recite "dynamically assembling a multidimensional view … without first accessing a *persistent repository of said responsive source data*." '268 patent, cols. 13:19-23 (emphasis added). Obviously, to the extent VSi's revised claim construction tracks the actual language of the claims, it is on firm ground. *Innova/Pure Water*, 381 F.3d at 1115 (it is a "bedrock principle" that "the claims of a patent define the invention"). VSi also notes that the prosecution history refers to "[a] multidimensional database[] of stored or persisted retrieved data assembled a priori." (Exh. 21 (10/29/03 Resp. to O.A.) to Enger Decl. in Supp. of VSi's Br. at VSI0000265). Looking at the claims as a whole, and the purported improvements the alleged invention makes over the prior art, it is apparent that VSi's understanding comports closely with the intrinsic record.

To the extent the parties resort to the extrinsic evidence, those materials do not militate one way or another. MicroStrategy insists that to computer scientists, "persistence" means "the storage of an object on a disk or other permanent storage device." ALAN E. FREEMAN, THE COMPUTER GLOSSARY 312 (8th ed. 1998). VSi counters that "persistent" has a unique and well recognized meaning in computer science, and refers to "the property of data that continues to exist after a process accessing it has finished." OXFORD DICTIONARY OF COMPUTING 377 (6th ed. 2008). Both sides appear to be correct: the word simply has different meanings depending on whether it refers to

data structures, or storage. To put the distinction slightly differently, persistent data need not exist in a permanent storage medium, as VSi's revised construction reflects. The fact that one extrinsic reference suggests some connection between the persistence of data and its stored format is not dispositive where, as here, the storage medium simply does not appear to have any functional significance for purposes of VSi's actual claims. Notably, in an attempted concession to MicroStrategy, VSi amended its construction to incorporate the limitation requiring a "permanent" or "semi-permanent" storage medium. MicroStrategy contends that the claims must be narrowed to encompass solely permanent forms of storage, while VSi argues that goes too far. VSi has the better part of the argument: there is scant, if any, intrinsic evidence to support such a limitation. It also does not appear that VSi has taken an inconsistent position in the prior litigation as to whether "persistent" may be equated with "permanent," as defendant alternatively suggests.[8] *See Vasudevan Software*, 2011 WL 196884 at *2 ("Plaintiff claims… that persistent describes 'the nature of the data that populates the databases.' The data, according to plaintiff, must be at least semipermanent. Therefore, plaintiff reasons, the opposite of persistent data is transient data." (internal citations omitted)).

While it is true, as MicroStrategy suggests, that the application of ordinary grammatical rules would suggest that "persistent" modifies "repository," *see HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1274-75 (Fed. Cir. 2012), that need not be strictly assumed where, as here, "persistent" has recognized, specialized meanings with respect to both data and storage formats, and the intrinsic record overall supports the conclusion that "persistent" chiefly describes the stored data. Finally, although MicroStrategy maintains that VSi's construction is ambiguous, complicated, and unhelpful to the lay fact finder, those concerns appear to be somewhat overstated. For the reasons set forth above, "a persistent repository" is construed to mean "a repository of responsive source data stored in a permanent or semi-permanent state."

[8] To the extent VSi has arguably conflated the two terms, it has done so in a manner that supports its position that "persistent" modifies data, rather than the storage medium. (*See* Exh. G. (*Markman* Tr.) to Pak Decl. in Supp. of Defs.' Br. at 32:25-33:2) ("Data resides permanently. We went over that before. That's an admission that in the database, the data has to be persistent.").

No.	Claim term	VSi's construction	MicroStrategy's construction
3.	directly	no construction necessary; plain and ordinary meaning *alternatively*, the retrieved data is accessed dynamically on demand by reading the data from the disparate databases *and*, updating one or more of said plurality of incompatible databases by writing data to those databases in a manner consistent with the request to modify *and*, the assembled multidimensional view/slice of an OLAP cube by writing data to the multidimensional view/slice in a manner consistent with the request to modify	without storing the data in an intermediate repository

The parties' disagreement as to the third claim term is relatively stark: VSi requests plain and ordinary meaning, or else three alternative proposals applicable to particular uses of the term. MicroStrategy, on the other hand, proposes a much narrower construction of the term "directly," specifically drawn to eliminate the possibility that intermediate storage might satisfy the claim. The term "directly" appears in claims 1 and 3 of the '861 patent, as well as claims 1 and 9 of the '268 patent. '861 patent, cols. 13:1-8, 14:4-12 ("viewing the OLAP cube formed from the retrieved data using the GUI, wherein the retrieved data is accessed dynamically on demand *directly* from the disparate digital databases" (emphasis added)); '268 patent, cols. 13:31-36, 14:32-37 ("in response to receiving the request to modify: [] directly updating one or more of said plurality of incompatible databases consistent with the request to modify; and [] directly updating the assembled multidimensional view consistent with the request to modify").

There appears to be general agreement among the parties that, in the context of the '861 patent, the claimed invention retrieves data from a plurality of disparate digital databases without

storing the data in a "pre-configured" intermediate database. That feature differentiated VSi's alleged inventions from U.S. Patent No. 5,088,052 ("the Spielman prior art"), as VSi apparently argued to the PTO. VSi also made similar argument in connection with the prosecution of the '861 patent to distinguish the "Castelli" prior art. (*See* Exh. 34 to Pak Decl. in Supp. of Defs.' Br. at VSI97920). *See also* '268 patent col. 8:32-41 ("Since [VSi's product] MIDaS's data display utilizes data obtained directly from the raw database(s) and is not a processed form of the database (as in the case of OLAP), MIDaS is not encumbered by the limitation of traditional OLAP tools, namely, the inability to update the data in the database directly from the OLAP view.").

Those arguments to the PTO, while undoubtedly of some significance under *Typhoon Touch*, 659 F.3d at 1381, do not necessarily require the Court to replace a fairly straightforward term, such as "directly," with a much more specific construction that applies only in some contexts within the asserted claims, as MicroStrategy urges. *See, e.g., Inverness Med.*, 309 F.3d at 1371 (terms must be construed consistently across all claims). To the extent that VSi's claims are limited by the term "directly," and do not require resort to an intermediate database, that limitation is fairly implied by the other claims in the asserted patents. Significantly, both parties agree the meaning of "directly" is not confined to that particular meaning everywhere in VSi's asserted claims, and neither party contends that the limitation must be accorded some peculiar meaning, known only to those skilled in the art, and unavailable to laypeople. In light of the foregoing, it follows that the term "directly" requires no construction. To adopt MicroStrategy's overly specific construction, even if sensible in the context of some claims, would merely confuse matters when imported into others. "Directly" is to be understood according to its plain and ordinary meaning.

V. CONCLUSION

The disputed claim terms of the patents-in-suit are hereby construed as set forth above. Where the order has identified terms that may require further construction, such matters shall be presented, if it becomes necessary, in the context of any dispositive motions or at the time of formulating jury instructions.

IT IS SO ORDERED.

Dated: 9/19/12

RICHARD SEEBORG
UNITED STATES DISTRICT JUDGE