IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SUN MICROSYSTEMS, INC.,

           Plaintiff,

   v.

NETWORK APPLIANCE, INC.,

           Defendant.

No. C-07-05488 EDL

ORDER DENYING SUN'S MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT OF U.S. PATENT NO. 6,868,417; GRANTING IN PART AND DENYING IN PART SUN'S MOTION TO STRIKE SUPPLEMENTAL EXPERT REPORT OF DR. GANGER; SUSTAINING NETAPP'S OBJECTION TO DECLARATION OF JEFF BONWICK; AND OVERRULING SUN'S OBJECTION TO ROBERT GITTENS' DEPOSITION TESTIMONY

I.   INTRODUCTION

On October 29, 2007, Sun Microsystems, Inc. ("Sun") filed its Complaint, alleging that Network Appliance, Inc. ("NetApp") infringed and is infringing, directly and indirectly under 35 U.S.C. § 271, certain of its patents, by making, using, selling, or offering for sale certain data processing systems and related software. Sun seeks a declaratory judgment that certain patents owned by Sun are each not infringed, are invalid or unenforceable, as well as a permanent injunction and damages. On December 21, 2007, NetApp filed an Answer and Counterclaim, denying the material allegations of Sun's Complaint and asserting a number of affirmative defenses and counterclaims. Sun denies infringing any of the NetApp Patents, including the patent at issue in this motion (U.S. Patent Number 6,868,417 (the "'417 Patent")) and alleges that NetApp infringes a number of its patents instead. On December 23, 2008, this Court issued an Order Construing Claims (the "12/23/08 Order") in which it construed certain disputed terms and phrases contained in various claims in the patents at issue between the parties, including terms contained in the '417 patent. The parties subsequently conducted discovery, and each party has filed two motions in the above-

1 captioned 07-5488 case.

2 On December 2, 2009, Sun filed a Motion For Summary Judgment Of Non-Infringement Of

3 U.S. Patent No. 6,868,417 (the "'417 Motion") on the basis that its allegedly infringing product,

4 ZFS, does not practice the "block level server providing service through implementation in terms of

5 the [in]ode layer operations" claim limitation of the '417 patent. In Support of the '417 Motion, Sun

6 filed a Declaration of Jeff Bonwick, to which NetApp objected in its opposition papers. In

7 opposition to the Motion, NetApp filed a supplemental report of its expert, Dr. Ganger, and Sun

8 objected to and moved to strike the supplemental expert report. The '417 Motion and Motion to

9 Strike the Supplemental Report of Dr. Ganger were fully briefed, and a hearing was held on January

10 27, 2010. During oral argument, NetApp sought to introduce deposition testimony of Robert

11 Gittens, and Sun objected to the evidence in a joint brief submitted following oral argument. Having

12 considered the record in this case and the parties' statements at oral argument, and for the reasons

13 set forth below, the Court hereby DENIES Sun's Motion For Summary Judgment Of Non-

14 Infringement of the '417 patent; GRANTS IN PART and DENIES IN PART Sun's Motion to Strike

15 the Ganger Supplemental Report; SUSTAINS NetApp's objection to the Declaration of Jeff

16 Bonwick; and OVERRULES Sun's objection to the deposition testimony of Robert Gittens.

17 **II.   MOTION TO STRIKE SUPPLEMENTAL EXPERT REPORT OF DR. GANGER
        AND OBJECTIONS TO BONWICK DECLARATION AND GITTENS TESTIMONY**
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19 On the evening that NetApp's Oppositions to the '417 and '385 summary judgment motions

20 were due, NetApp served Sun with a Supplemental Expert Report of Gregory G. Ganger regarding

21 infringement of the '417 and '385 Patents ("Supplemental Ganger Report"). In the Supplemental

22 Ganger Report, Dr. Ganger states that he is providing the report "to address a number of statements

23 in [the Court's Order Granting Sun's Summary Judgment Motion No. 2 Regarding the '211 Patent in

24 the related -6053 case] that may be directly or indirectly relevant to my opinions concerning the

25 '417 and '385 patents and that appear to misunderstand or misinterpret my opinions regarding ZFS."

26 Corbett Decl. Ex. A (Ganger Supplemental Report) at ¶ 2. Dr. Ganger continues, "In this

27 supplemental expert report, I clarify opinions provided in my Opening Report to avoid any future

28 misunderstanding or misinterpretation of my opinions." Id. ¶ 3.

1   The Court-ordered deadlines for initial and rebuttal expert reports were October 12 and

2   November 2, 2009 (later modified to November 4) respectively, and the parties exchanged initial

3   and rebuttal reports on these dates. There was no agreement to extend these deadlines. The only

4   agreement between the parties concerning supplemental expert reports was contained in an email

5   confirming that: "If circumstances require a liability witness to be deposed after expert reports are

6   served, the parties may supplement their respective expert reports to address that deposition

7   testimony and issues of documents reasonably related to that testimony." Williamson Reply Decl.

8   Ex. A. Sun points out that the parties never agreed to allow supplementation of expert reports based

9   on the Court's order in a related case, or anything other than subsequent depositions of liability

10   witnesses.

11   Sun moves to strike the Ganger Supplemental Report based on Federal Rule of Civil

12   Procedure 26(a)(2)(c), which requires expert disclosures "at the times and in the sequence that the

13   court orders." The Court-ordered deadlines for opening and rebuttal expert reports are undisputed.

14   Sun argues that failure to comply with this rule requires that untimely expert testimony be excluded

15   at trial, unless that party shows that its failure to disclose the information was substantially justified

16   or harmless. See Fed. R. Civ. P. 37(c)(1).

17   NetApp counters that the Supplemental Ganger Report is not untimely, and Sun's reliance on

18   Rule 26(a) is misplaced, because the report is a proper Rule 26(e) supplementation. Rule 26(e)(1)

19   provides for supplementation of parties' initial disclosures and discovery responses "in a timely

20   manner if the party learns that in some material respect the disclosure or response is incomplete or

21   incorrect. . . " Rule 26(e)(2) is directed to expert witnesses specifically, and provides that: "For an

22   expert whose report must be disclosed under Rule 26(a)(2)(B), the party's duty to supplement

23   extends both to information included in the report and to information given during the expert's

24   deposition. Any additions or changes to this information must be disclosed by the time the party's

25   pretrial disclosures under Rule 26(a)(3) are due." NetApp contends that the supplemental report,

26   triggered by the Court's summary judgment order in a related case on related issues, meets this

27   standard.

28   During oral argument on the '417 Motion, the parties agreed to submit their dispute

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1 regarding the Supplemental Ganger Report to the Court on the papers.

2 **A.   Timeliness of the Supplemental Ganger Report**

3 The Supplemental Ganger Report is not a proper Rule 26(e) supplement, which is reserved

4 for the supplementation of "incomplete or incorrect" information. NetApp does not contend that the

5 initial report contained any incorrect information, but instead states that the supplemental report

6 "addresses opinions and subject matter that were disclosed and discussed in Dr. Ganger's October

7 12 Opening Report, but amplifies the explanation to respond to the Court's statements in its

8 November 16 Order (or to newly discovered evidence)." Opp. at 3. NetApp argues that the new

9 report does not break new substantive ground, but instead simply "explains his reasoning and basis

10 for these opinions in direct response to the factual findings, characterizations, and discussion in the

11 Court's November 16 Order, which he plainly could not have done" in the opening report. Opp. at

12 5.

13 NetApp relies on cases where courts have allowed supplemental expert reports that clarify or

14 amplify matters expressly referenced in the original report. See, e.g. Medtronic Vascular, Inc. v.

15 Abbot Cardiovascular Systems, Inc., 2009 WL 2058245 (N.D. Cal. 2009) (noting that a party may

16 not rely on Rule 26(e) as a way to remedy a deficient expert report or as a means of getting in a

17 brand new report, but allowing portions of a supplemental report that "clarifies or amplifies matters

18 expressly referenced in the original report without revising or reversing" the original opinion);

19 Lucent Techs, Inc. v. Gateway, Inc., 2007 WL 5289734 (S.D. Cal. 2007) (denying motion to strike

20 supplemental expert report made in response to court's earlier opinion regarding the expert's

21 damage theory presented at earlier proceeding).

22 However, Sun correctly points out that NetApp's timeliness argument ignores the parties'

23 agreement regarding supplemental expert reports after liability witness depositions. This agreement

24 clearly does not contemplate expert report supplementation every time the Court issues an order or

25 expresses an opinion (even in a different but related case) on an ongoing basis in all three cases.

26 Further, the cases Sun cites for its position are persuasive. In Leviton Mfg. Co. Inc. v. Nicor, Inc.,

27 245 F.R.D. 524, 528 (D.N.M. 2007), a Court addressed whether to consider an untimely

28 supplemental expert report filed after a summary judgment motion was fully briefed and before the

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1 hearing. The Court noted that Rule 26(e) "does not allow a party to file supplements intended to

2 'deepen' or 'strengthen' its own expert's prior rule 26(a)(2)(B)," and that the rule allowing an expert

3 to supplement or correct "does not give license to sandbag one's opponent with claims and issues

4 which should have been included in the expert witness' report . . . ." Id. (noting that the

5 supplemental report appeared to be an effort to create an issue of fact for summary judgment).

6 ### B.   New Information

7 Sun further contends that the Supplemental Ganger Report is improper even under Rule

8 26(e), and there is no substantial justification for it, because it contains new opinions and

9 substantially expands on prior opinions which could and should have been included in Dr. Ganger's

10 opening expert report, which was served on October 12, 2009. Dr. Ganger was fully aware of Sun's

11 non-infringement positions following the summary judgment briefing and hearing in the 07-6053

12 case, which occurred before he produced his initial report. Further, Sun argues that, to the extent

13 that Dr. Ganger is attempting to clarify points made in his initial report, he should have made his

14 points clear initially, particularly where he had all of the information and evidence he now relies on

15 (other than the Court's summary judgment order) at that time. Finally, Sun contends that most of

16 the depositions and documents Dr. Ganger relies on in the supplemental report were taken and

17 produced well before his opening report. Corbett Decl. ¶ 4-5. However, because paragraphs 10-12

18 of the Supplemental Report address the recent deposition of Mike Shapiro, which Sun admits took

19 place after Dr. Ganger's initial expert report was prepared, they are a proper supplement pursuant to

20 the parties' agreement and the motion to strike is denied as to these paragraphs.

21 NetApp counters that Sun placed the Court's prior summary judgment order at issue by

22 relying heavily on it in its '417 summary judgment moving papers, and NetApp could not have

23 known this when Dr. Ganger issued his opening report. However, the Court does not rely on its

24 prior order regarding another patent to reach a decision in this matter, and any reliance on the Order

25 by Sun, that is not also tethered to evidence and argument with respect to the patent at issue here,

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1 | has been given no weight with respect to the '417 Motion.[1]

2 | **C.   Prejudice**

3 | **1.   Case Management Mayhem**

4 | Sun argues that allowing the supplemental report will result in prejudice because the doors to

5 | discovery in this and the related cases will "come flying open" and the parties will spend additional

6 | time and resources on additional expert reports and depositions if Court orders become grounds for

7 | supplementing expert reports. Sun contends that, if the supplemental report is allowed, it will need

8 | to respond with another report, and then another round of expert depositions will be required. The

9 | Court agrees that, if this cycle continues with respect to all or even some of the Court's summary

10 | judgment orders in the cases going forward, a seemingly endless cycle of supplementation may well

11 | ensue, imposing skyrocketing costs and delays on all involved.

12 | **2.   Opportunity to Respond**

13 | Sun argues that the Supplemental Ganger Report should also be excluded as prejudicial and

14 | unfair because Dr. Ganger prepared it with the benefit of having reviewed Sun's rebuttal expert

15 | report, an advantage that Sun did not have in preparing its own expert reports. See Lee v. City of

16 | Novato, 2004 WL 1971089 (N.D. Cal. 2004) (refusing to allow initial expert report where it was not

17 | produced until the date for rebuttal reports because of prejudice in giving other side chance to

18 | review opposing expert report and respond, essentially making it a rebuttal report and depriving

19 | opponents of opportunity to respond).

20 | NetApp counters that any prejudice can be cured by allowing Sun to depose Dr. Ganger

21 | again, and notes that Dr. Ganger's deposition based on his prior reports remains incomplete, so Sun

22 | has a day of his deposition remaining. Sun counters that one day is insufficient to question Dr.

23 | Ganger on his previous opinions as well as 60 pages of additional testimony, and that a deposition

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25 | [1]The supplemental report also purports to respond to the declaration of Jeff Bonwick submitted by Sun in support of its '417 summary judgment motion. See Ganger Supplemental Report at ¶ 26; Bonwick Decl. NetApp objects to the Bonwick Declaration as improper expert testimony that was not

26 | timely disclosed, does not conform to Rule 26, and should be stricken. The Court agrees with NetApp that the Bonwick Declaration contains improper expert testimony and will not be considered in

27 | connection with the '417 Motion. The Court notes that during oral argument, Sun stated that its '417 Motion does not reply on the Bonwick Declaration, so the Court's decision to sustain the objection to

28 | this evidence does not impact its substantive analysis of the Motion. To the extent that the Ganger Supplemental Report was submitted to rebut the Bonwick Declaration, that rebuttal is unnecessary.

1   cannot cure the prejudice from his ability to preview Sun's expert reports in connection with the

2   summary judgment motions before preparing his own. The Court agrees.

3.   Sun's Prior Supplemental Expert Reports

5   NetApp contends that Sun's opposition to the supplemental report is untenable in light of its

6   own history of supplementing expert reports at least nine times, at times relying on NetApp's ability

7   to depose the expert again to ameliorate any prejudice. Homrig Decl. ¶ 2. Sun responds that it has

8   supplemented expert reports only four times, and each time was following a liability witness

9   deposition, as specifically agreed upon by the parties.

10   On balance, and considering the parties' arguments, the Court GRANTS IN PART Sun's

11   Motion to Strike the Supplemental Ganger Report (as well as its Objection to Evidence concurrently

12   filed), but DENIES the motion as to paragraphs 10-12. The report is generally untimely under Rule

13   26(a), and for the most part does not comport with the requirements of either Rule 26(e) or the

14   parties' prior agreement concerning supplemental expert reports. It does not correct "incorrect or

15   incomplete" information based on new information, but instead simply provides an additional gloss

16   on a prior opinion that could have and should have been included initially. Further, Sun has

17   persuasively shown both that it will be prejudiced if the supplemental report is allowed, and that

18   allowing this report may create a cycle of discovery mayhem in all of the related cases going

19   forward. The Court notes that during oral argument NetApp stated that its opposition is not

20   dependent on the Supplemental Ganger Declaration. Therefore, the Court's decision to strike the

21   Supplemental Ganger Report (except paragraphs 10-12) does not affect on its decision with respect

22   the merits of the '417 Motion and will not prejudice NetApp.

D.   Sun's Objection to the Gittens Deposition Testimony

24   During oral argument on Sun's '417 Motion, NetApp cited the recent deposition testimony

25   of Sun employee Robert Gittens, who testified in essence that Jeff Bonwick was someone who could

26   abscond with somebody else's ideas. See 1/27/10 Tr. at 97. NetApp argued that this testimony calls

27   into question Mr. Bonwick's credibility regarding, among other things, Sun's description of ZFS

28   technology. Sun objected to the introduction of the Gittens testimony, and the Court ordered further

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1   briefing on the issue. On February 10, 2010, the parties submitted a joint brief on the issue of the

2   Gittens testimony.

3   NetApp argues that the Gittens testimony is relevant to Jeff Bonwick's credibility and

4   whether there was an effort on the part of Mr. Bonwick (and therefore Sun) to conceal Sun's

5   infringement of NetApp patents by crafting documents with an eye towards disguising infringement.

6   NetApp cites cases in which courts have denied summary judgment where "the opposing party

7   offers specific facts that call into question the credibility of the movant's witnesses." See Typeright

8   Keyboard Corp. v. Microsoft Corp., 374 F.3d 1151, 1158 (Fed. Cir. 2004). NetApp argues that this

9   testimony creates an issue of fact to defeat summary judgment.

10   Sun counters that the Gittens testimony is irrelevant to the non-infringement issues before the

11   Court. Sun contends that, despite NetApp's protestations, there is really no disputed issue as to the

12   actual design and operation of the accused ZFS technology and the issue is one of characterization

13   and nomenclature. The Court agrees that NetApp has not shown that Sun's description of how its

14   product operates is inaccurate, and instead challenges whether what Sun calls a dnode is actually an

15   inode. Therefore, to the extent NetApp believes that Gittens' testimony calls into question

16   Bonwick's credibility regarding product nomenclature, the Court does not consider Mr. Bonwick's

17   testimony for this purpose and, in any event, may not make a credibility determination as to his

18   testimony. To the extent that Gittens' testimony challenges Bonwick's testimony on other points,

19   Sun notes that NetApp does not specifically explain what should be discredited or why.

20   While the Court finds Sun's points persuasive, the Court will not refuse to consider the

21   Gittens testimony at this time. The Court does not believe that this testimony necessarily raises a

22   triable issue of fact, but it denies the '417 Motion on other grounds and therefore there is no

23   prejudice to Sun in allowing the evidence to come in. Therefore Sun's objection to the Gittens

24   deposition testimony is OVERRULED.

25   **III.   SUN'S MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT OF U.S.
             PATENT NO. 6,868,417**

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27   **A.   LEGAL STANDARD**

             1.   Summary Judgment

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     Summary judgment shall be granted if "the pleadings, discovery and disclosure materials on

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1   file, and any affidavits show that there is no genuine issue as to any material fact and that the

2   movant is entitled to judgment as a matter of law." Fed. R. Civ. Pro. 56(c). Material facts are those

3   which may affect the outcome of the case. See Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248

4   (1986). A dispute as to a material fact is genuine if there is sufficient evidence for a reasonable jury

5   to return a verdict for the nonmoving party. Id. The court must view the facts in the light most

6   favorable to the non-moving party and give it the benefit of all reasonable inferences to be drawn

7   from those facts. Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 587 (1986). The

8   court must not weigh the evidence or determine the truth of the matter, but only determine whether

9   there is a genuine issue for trial. Balint v. Carson City, 180 F.3d 1047, 1054 (9th Cir. 1999).

10   A party seeking summary judgment bears the initial burden of informing the court of the

11   basis for its motion, and of identifying those portions of the pleadings and discovery responses that

12   demonstrate the absence of a genuine issue of material fact. Celotex Corp. v. Catrett, 477 U.S. 317,

13   323 (1986). Where the moving party will have the burden of proof at trial, it must affirmatively

14   demonstrate that no reasonable trier of fact could find other than for the moving party. On an issue

15   where the nonmoving party will bear the burden of proof at trial, the moving party can prevail

16   merely by pointing out to the district court that there is an absence of evidence to support the

17   nonmoving party's case. Id. If the moving party meets its initial burden, the opposing party "may

18   not rely merely on allegations or denials in its own pleading;" rather, it must set forth "specific facts

19   showing a genuine issue for trial." See Fed. R. Civ. P. 56(e)(2); Anderson, 477 U.S. at 250. If the

20   nonmoving party fails to show that there is a genuine issue for trial, "the moving party is entitled to

21   judgment as a matter of law." Celotex, 477 U.S. at 323.

22   **2.**   **Patent Infringement**

23   **a.**   **Literal Infringement**

24   "To prove infringement, the patentee must show that the accused device meets each claim

25   limitation either literally or under the doctrine of equivalents." Catalina Mktg. Int'l v.

26   Coolsavings.com, Inc., 289 F.3d 801, 812 (Fed. Cir. 2002). A determination of infringement,

27   whether literal or under the doctrine of equivalents, is a question of fact. Id. "Literal infringement

28   requires the patentee to prove that the accused device contains each limitation of the asserted claim."

1 Id. "Summary judgment of no literal infringement is proper when, construing the facts in a manner

2 most favorable to the nonmovant, no reasonable jury could find that the accused system meets every

3 limitation recited in the properly construed claims." Id. Where the parties do not dispute any

4 relevant facts regarding the accused product, but disagree over possible claim interpretations, the

5 question of literal infringement collapses into claim construction and is amenable to summary

6 judgment. General Mills, Inc. v. Hunt-Wesson, Inc., 103 F.3d 978, 983 (Fed. Cir. 1997); Rheox,

7 Inc. v. RMT, Inc., 276 F.3d 1319, 1324 (Fed. Cir. 2002) (same); Rambus, Inc. v. Hynix

8 Semiconductor, Inc., 642 F. Supp. 2d 970, 977, n.6 (N.D. Cal. 2008) ("where two experts disagree

9 about infringement, but do not dispute the facts regarding the accused device . . . the question of

10 infringement is more appropriately viewed as a legal question of claim construction," and finding

11 that because the parties' agreed as to the structure and function of the accused devices but disputed

12 how the court's claim construction applied to those structures and functions, the dispute collapsed

13 into questions of law for the court); cf. Int'l Rectifier Corp. v. IXYS Corp., 361 F.3d 1363, 1375

14 (Fed. Cir. 2004) (distinguishing General Mills on the basis that only the structure of the accused

15 devices had been stipulated to, not the disputed factual determination of whether the device met the

16 claims as construed, but not addressing the scenario in which no reasonable juror could find that a

17 certain claim limitation was met).

18   In MyMail Ltd. v. America Online, Inc., 476 F.3d 1372, 1378 (Fed. Cir. 2007), the Federal

19 Circuit reviewed a District Court order granting summary judgment of non-infringement. Because

20 there were no material factual disputes as to the operation of the accused systems, and the parties'

21 disagreements concerned whether the defendants' systems performed "authentication" as defined by

22 the patent and construed by the district court, the Federal Circuit found that the issue reduced to a

23 question of claim interpretation and affirmed summary judgment. See id. (noting that the accused

24 product did not satisfy the authentication requirement as it did not validate the user's ID and

25 password, as required by the patent's authentication process). These cases teach that the Court

26 cannot leave it to the jury to decide the proper scope of the patent claim terms. 02 Micro Int'l Ltd.

27 v. Beyond Innovation Tech. Co. Ltd., 521 F.3d 1351, 1360 (Fed. Cir. 2008) ("When the parties raise

28 an actual dispute regarding the proper scope of the[] claims, the court, not the jury, must resolve the

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1 dispute.").

2 NetApp disputes the applicability of this legal standard to the '417 Motion, arguing that the

3 motion is one in which the parties dispute the relevant facts and disagree on claim interpretations,

4 unlike in General Mills. NetApp argues that here the dispute is over application of claim terms, not

5 their scope, and a "material issue of fact concerning how the asserted claims should be applied to the

6 accused device may exist even where there is no dispute over the structure of the accused device."

7 Opp. at 3. NetApp relies on Dorel v. Juvenile Group, Inc. v. Graco Children's Products, Inc., 429

8 F.3d 1043, 1047 (Fed. Cir. 2005), where the Federal Circuit reversed the trial court's decision that

9 an accused car seat could not infringe as a matter of law because it lacked a seat separate from the

10 base, which was required by the patent claims as construed. The Federal Circuit found that the

11 question of "whether the top and bottom structures of the [accused] products are in fact the claimed

12 'seat' and 'base' of the asserted patents . . . is a question of fact that cannot be determined on

13 summary judgment." Id. NetApp equates this to the question at play in the '417 Motion, which it

14 views as whether what Sun has labeled a dnode is properly characterized as an inode under the

15 Court's construction of the term. NetApp contends that this question is like that in Dorel, requiring

16 "comparison of the accused product to a construed term with dense technical opinions, analyses and

17 evidence proffered by each side," and is not subject to summary judgment. Opp. at 4.

18 However, Dorel is distinguishable because it does not address the situation of an undisputed

19 structure and operation of an accused device, and is instead a situation where the trial court

20 endeavored to define the structure of the device despite the lack of evidence before it on the issue.

21 Further, NetApp's Opposition makes no effort to explain why the general holding of General Mills,

22 MyMail, and Rheox – that summary judgment is appropriate where there is no dispute as to the

23 design of an accused product and the issue is whether the claim is broad enough to encompass the

24 product is not applicable to this case. The fact that the issues raised involve dense technical

25 opinions, analyses and evidence does not mean that the question cannot be decided as a matter of

26 law. After all, density is hardly unusual in patent cases.

27 **b.   Doctrine of Equivalents**

28 "Infringement under the doctrine of equivalents requires the patentee to prove that the

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accused device contains an equivalent for each limitation not literally satisfied." Id. The Court may

not apply the doctrine of equivalents so as to vitiate a claim limitation. Warner-Jenkinson, 520 U.S.

at 29, 39 n.8. The Federal Circuit articulates the test for equivalence in two different ways. See

Voda v. Cordis Corp., 536 F.3d 1311, 1326 (Fed. Cir. 2008). Under the insubstantial differences

test, "[a]n element in the accused device is equivalent to a claim limitation if the only differences

between the two are insubstantial." Honeywell Int'l Inc. v. Hamilton Sundstrand Corp., 370 F.3d

1131, 1139 (Fed.Cir. 2004); Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40

(1997)). Alternatively, under the function-way-result test, an element in the accused device is

equivalent to a claim limitation if it "performs substantially the same function in substantially the

same way to obtain substantially the same result." Schoell v. Regal Marine Indus., Inc., 247 F.3d

1202, 1209-10 (Fed. Cir. 2001). "Where the evidence is such that no reasonable jury could

determine two elements to be equivalent," summary judgment of non-infringement under the

doctrine of equivalents is proper. Warner-Jenkinson, 520 U.S. at 39 n. 8. Summary judgment has

been rejected because of conflicting expert testimony on the application of the function-way-result

test. Crown Packaging Tech., Inc. v. Rexam Bev. Can Co., 559 F.3d 1308, 1315 (Fed. Cir. 2009)

(holding that conflicting expert evidence regarding function establishes material issue of fact).

"The doctrine of prosecution history estoppel prevents a patent owner from recapturing

within the doctrine of equivalents subject matter surrendered to acquire a patent." Honeywell Int'l,

Inc. v. Hamilton Sundstrand Corp., 523 F.3d 1304, 1312 (Fed. Cir. 2008) (citing Festo Corp. v.

Sholetsu Kinzoku Kogyo Kabushiki, 344 F.3d 1359, 1365 (Fed. Cir. 2003)). Amendment-based

prosecution history estoppel applies if an applicant amends a claim element during prosecution

which narrows the scope of the claim in order to comply with a provision of the Patent Act. Festo,

344 F.3d at 1365-66. In such a case, the amendment creates a presumption of a "general disclaimer

of the territory between the original claim and the amended claim." Felix v. American Honda Motor

Co., 562 F.3d 1167, 1182 (Fed. Cir. 2009). To overcome the presumption, a patentee must show

one of the following: "(1) that the equivalent was unforeseeable at the time of the patent application;

(2) that the rationale underlying the amendment bore 'no more than a tangential relation to the

equivalent in question'; or (3) 'some other reason suggesting that the patentee could not reasonably

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1   be expected to have described the insubstantial substitute in question." Voda v. Cordis Corp., 536

2   F.3d 1311, 1325 (Fed. Cir. 2008). If the patentee cannot overcome the presumption, prosecution

3   history bars the patentee from relying on the doctrine of equivalents for the accused element. Festo,

4   344 F.3d at 1367.

5   **B.**   **Patent Prosecution, Claims and Claim Construction Background**

6   The '417 Patent, "Mechanism for Handling File Level and Block Level Remote File Access

7   Using the Same Server," is directed to an apparatus and method for handling both file level and

8   block level remote file accesses. The Abstract of the patent explains:

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10   An apparatus for handling file level and block level remote file accesses. The
apparatus includes a block level server. The apparatus includes a file level server.
The apparatus includes a storage layer implementing an inode layer performing

11   inode operations, and storing data accessed by the file level and block level servers.
The apparatus includes a management layer connected to the storage layer

12   underlying the block and file level servers, which performs data management
operations upon the underlying data. A method of handling file level and block

13   level network file accesses. The method includes the steps of performing
management operations by a management layer for a block level server and a file

14   level server. Then there is the step of performing the servers' data accessing and
updating operations using a vnode layer implemented on top of an inode layer.

15   Then there is the step of storing data from the block level server or the file level
server in a storage layer connected to the management layer.

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17   Williamson Decl. Ex. 1 ('417 Patent), Abstract. In the patent, "NAS" file servers utilize protocols

18   that operate at the file level, while "SAN" servers utilize protocols that operate at the disk and block

19   level. See id. at 15-21. The claimed invention has a file level server and a block level server, as well

20   as a storage layer that implements an "inode layer" that performs "inode operations." Id. at 2:14-19,

21   3:20-23, 11:21-32, Fig. 11.

22   Independent claim 1 of the patent provides:

23   1. An apparatus for handling file level and block level remote file accesses
comprising:

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25   a block level server for serving block level data;

26   a file level server for serving file level data and combined with the block
level server;

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> a storage layer implementing an [in]ode[2] layer performing [in]ode operations, and storing data accessed by the file level and block level servers, the block level server and the file level server sharing the storage layer, **the block level server providing service through implementation in terms of the [in]ode layer operations**; and

4
5
6
> a management layer connected to the storage layer underlying the block and file level servers, which performs identical data management operations upon the underlying block level and file level data from either the block level server or the file level server, respectively.

7   Williamson Decl. Ex. 1 ('417 Patent) at 11:21-37 (emphasis added).

8   The parties agree that the '417 Patent contains several definitional teachings relevant to this

9   Motion:

10   •   "file systems" are called "volumes" within the meaning of the patent ('417 Patent at 5:30-36; Opp. at n.10; Beebe Decl. Ex. 3 (Ganger Report) at ¶ 50);

11
12   •   the patent discloses at least two types of file systems – an "NAS volume" file system and a "SAN volume" filesystem ('417 Patent at 5:29-35, 10:50-53; Opp. at 6, 11; Ex. 3 at ¶ 50);

13
14   •   the NAS volume filesystem contains a set of files in a directory tree ('417 Patent 5:30-36, 9:65-10:4; Opp. at 6, 11; Ex. 3 at ¶ 50); and

15   •   the SAN volume filesystem contains a single file ('417 Patent at 5:30-36, 9:65-10:4, 10:48-53; Opp. at 6, 11; Ex. 3 at ¶ 50, 56).

16   The parties also appear to agree that the '417 Patent contemplates an "inode" that *can* store

17   status information about a file, opp. at 17-18; Reply at 9, though pursuant to the Court's claim

18   construction order is not required to do so.

19   During prosecution of the '417 Patent, the Examiner issued a rejection of claim 1 (and

20   others) in light of two prior art references. Williamson Ex. 3 ('417 Patent file history, June 24, 2003

21   Office Action) at 2-3. The applicants responded by arguing that the prior art combination did not

22   teach the specific layered architecture set forth in claim 1, referring to a management layer that is

23   below the storage layer. Id. Ex. 4 ('417 Patent file history, November 24, 2003 response). On

24   December 18, 2003, the PTO issued an Advisory Action rejecting the applicants' response. Id. Ex.

25   5 ('417 Patent File History, Dec. 18, 2003 Advisory Action). As a result, the applicants filed a

26

27
28   _____
      [2]In its Claim Construction Order, the Court corrected a typographical error in the patent and changed "mode" to inode." 12/23/08 Claim Construction Order at 38. Hereinafter, any quotation of the patent term will reflect the Court's change to "inode."

14

1   Preliminary Amendment, adding the claim language, "the block level server providing service

2   through implementation in terms of the inode layer operations." Id. Ex. 6 ('417 Patent File History,

3   Jan. 26, 2004 Preliminary Amendment) at 2. The applicants explained:

4   As the examiner has stated in the Office Action, the lock server locks a block,
            and this can be interpreted as somehow or other the lock server 130 serves a

5   block. Accordingly, applicants have amended Claims 1 and 12 to more
            specifically define the operation of the block level server. That is "the block

6   level server providing service through implementation in terms of the inode layer
            operations." Thekkath does not teach or suggest this limitation whatsoever.

7

8   Id. at 9.

9   The Examiner ultimately allowed the amended claims, including claim 1, after concluding,

10 "The prior art of record . . . fails to anticipate and/or suggest: a method and an apparatus for

11 handling file level and block level remote file accesses comprising: a block level server providing

12 service through implementation in terms of the inode layer operations as recited in claims 1 and

13 12." Id. Ex. 7 ('417 Patent File History, March 2, 2004 Notice of Allowability) at 2. The Notice of

14 Allowability did not mention the management layer, or the position of servers relative to the storage

15 layer. Id.

16   The Court has previously construed the terms "inode operations" and "the inode layer

17 operations" to mean "operations performed on inodes, where an inode is a file system structure for

18 pointing directly or indirectly to data blocks of a file, including blocks that only include metadata."

19 12/23/08 Claim Construction Order at 38 (emphasis added). In its Claim Construction Order, the

20 Court noted that:

21   [A]t the hearing, both sides' experts and Sun's counsel agreed that inode as used
            in the patent could be defined as a file system structure for pointing directly

22   and/or indirectly to data blocks, including blocks that only contain metadata, RT
            184-195, and NetApp's expert in effect conceded that the phrase "of a file" could

23   be added after "blocks," provided that "file" is interpreted broadly. RT 196. The
            Court therefore accepts this construction. However, other than the description of

24   inode in the preferred embodiment, which cannot suffice by itself, there is no
            support for the limitation "contains status information about the file" that was

25   initially proposed by Sun. The Court therefore declines to adopt that limitation.
            As the parties did not brief the issue of the meaning of "file," which was raised

26   for the first time at oral argument, the Court declines to construe "file" at this
            time.

27

28 Id. at 37.

15

1   **C.   NetApp's Infringement Assertions**

2   Sun describes its ZFS product in great detail at pages 5 through 15 of its Motion.

3   Because NetApp does not actually challenge Sun's description of the pertinent structure

4   and operation of ZFS (though it challenges how certain features are labeled), the Court

5   relies generally on Sun's description of ZFS. See Motion at 5-15; Opp. at 14-18 (citing

6   Sun's description of ZFS in the moving papers as evidence of how ZFS operates); Opp.

7   n.15 ("no dispute" that the ZFS On-Disk Specification generally describes ZFS structures

8   accurately). For ease of reference, Sun's nomenclature as to "file," "filesystem," "object,"

9   "volume," "inode," are used in the following general description of the technology at

10   issue, but the Court notes that a primary dispute in this Motion is whether Sun's labels for

11   the various parts of ZFS are accurate. Sun's own nomenclature as to the various parts of

12   its product is not determinative of whether the accused device meets the patent claims, and

13   the Court has not relied on Sun's labels in its infringement analysis.

14   ZFS is a universal storage system that operates as a pool of storage to support what

15   Sun refers to as "filesystems," as well as other types of data sets, including "volumes,"

16   that operate on top of the storage pool. ZFS has the ability to create filesystems for file

17   storage using the ZFS POSIX Layer ("ZPL") software module, and has separate software

18   for creating volumes ("ZVOLs") for block-based, or volume, storage. See generally

19   Williamson Decl. Ex. 10 (ZFS Specification) at 5, 45, 55. According to Sun, this is

20   different from a traditional filesystem, where the basic building blocks are a set of

21   physical disks which are combined into "volumes," and within each volume the user can

22   create a filesystem that can be used to manage files. A traditional filesystem typically

23   spans the entire volume and its size is limited by the size of the volume it is in. This type

24   of filesystem can create and manage files, directories and other file system structures.

25   In ZFS, the physical disks form a pool of storage and sets of disks are not

26   combined into separate volumes, so the same storage pool can be shared by numerous

27   ZPL filesystems as well as, among other things, ZVOLs. Therefore, a ZPL filesystem

28   typically does not span the entire storage pool, and each ZPL filesystem is not assigned a

1   predefined range of blocks. Instead, storage is allocated from the pool to ZPL filesystems

2   and ZVOLs on an as-requested basis, so that these objects can grow and shrink

3   dynamically. See Williamson Decl. Ex. 12 at Figs. 1-2.

4   ZFS includes a data management unit ("DMU") software layer that creates storage

5   "objects," which consist of blocks of storage allocated from the data pool. ZFS objects

6   are generic data structures used for storage of blocks, files, snapshots and metadata. The

7   ZFS Specification explains that the DMU "consumes blocks and then groups them into

8   logical units called objects. Objects can be further grouped by the DMU into object sets."

9   Id. Ex. 10 at 22. There are many different types of objects within ZFS, including one that

10 contains the data for a ZPL "plain file" and another that contains the data for a ZVOL. Id.

11 at 22-23, 27. Some objects created by the DMU layer are used by the ZPL to create what

12 look like POSIX filesystems, while others are used by the ZFS Volume Emulator to create

13 ZVOLs. Id. at 45, 55; see also id. at 26, 29; Motion at 14, Fig. 2. ZFS does not

14 implement ZVOLs via the ZPL filesystem layer or its files, but instead by using two

15 objects provided by the DMU layer. One of these objects (DMU_OT_ZVOL_PROP)

16 contains the volume size attribute of the ZVOL, and the other (DMU_OT_ZVOL) stores

17 the contents of the ZVOL. See Williamson Decl. Ex. 13 at 8; Bonwick Reply Decl. ¶ 5.

18   Objects in the DMU are managed with data structures known as "dnodes." A

19 number of other file systems (including NetApp's WAFL and the '417 Patent) use

20 structures known as "inodes" to manage files. According to Sun, dnodes and inodes both

21 contain pointers to data blocks on disk, but dnodes were designed to differ from inodes in

22 two respects. First, dnodes do not all point to the data blocks of a "file," and instead point

23 to the data blocks of an "object," which may be a ZPL plain file or may instead be

24 something other than a file, such as a ZVOL, that is not used by the ZPL layer. Second,

25 dnodes do not contain at least some of the information typically associated with

26 "traditional" inodes that refer to files, such as permissions, access and modification times,

27 and other file-related metadata. Bonwick Reply Decl. ¶ 6. Instead, according to Sun, a

28 ZFS dnode is a generic data structure that lacks file-specific information and operates at a

17

1 different software level (the DMU) than the layer that creates "files" (the ZPL).

2 ZFS also uses "znodes" for ZPL filesystem objects. According to Sun, these are

3 necessary because dnodes are generic and do not contain file-specific information,.

4 Znodes are contained in the "bonus buffer" of the dnode for filesystem objects and store

5 information about ZPL files that are needed in a filesystem. Only those objects that

6 contain a znode in their dnode bonus buffer are recognized by ZFS as filesystem objects,

7 because znodes are only present in object types used by the ZPL filesystems and are not

8 present in the dnodes of other object types, such as those used to store ZVOLs.[3]

9 In the Court's prior Orders Granting Summary Judgment of Non-Infringement of

10 U.S. Patent No. 6,892,211 in favor of Sun, the Court examined evidence concerning the

11 structure and function of Sun's ZFS technology, the same technology at issue in this

12 Motion. In its '417 Motion, Sun relies on statements made by the Court in those prior

13 Orders as support for its description of ZFS and arguments in favor of summary judgment.

14 See Motion at 15-17. NetApp counters that the Court's prior Orders were directed to an

15 entirely different aspect of ZFS and the patents have two entirely different understandings

16 of the term "filesystem," and thus the Court's statements in those Orders are not binding

17 for purposes of this Motion. Opp. at n.7.

18 Neither party cites any caselaw to support their position on the Court's prior

19 statements regarding ZFS. However, the Court's prior description of ZFS in the context

20 of the prior motions was necessarily based on the evidence before it at the time, and the

21 Court was not making all-purpose "findings of fact" that would be applicable in future

22 proceedings. Therefore, the Court's prior statements in a different (albeit related) case, in

23 a different context, relating to a different patent, are not binding as to this Motion.

24 NetApp does not dispute Sun's characterization of its infringement contentions as

25 follows:

26

27 [3]The Court reiterates that Sun's own labels and nomenclature do not resolve the issue of
   whether what Sun's calls a "dnode" or "znode" actually meets the patent's "inode" claim term. They
28 are used in this description of ZFS to signify the features themselves, but are analyzed below without
   regard to the labels given by Sun.

18

- •   The "block level server for serving block level data" is satisfied through the creation and use of a ZFS Volume (ZVOL);

- •   The "file level server for serving file level data" is satisfied by the ZFS POSIX Layer (ZPL) which serves file level data;

- •   The "storage layer" is satisfied by the ZFS DMU;

- •   The requirement that the "block level server provid[e] service through implementation in terms of the inode layer operations" is satisfied by operations performed on two ZVOL dnodes, the DMU_OT_ZVOL and DMU_OT_ZVOL_PROP dnodes.

Motion at 17. Sun correctly notes that, under the Court's construction of the relevant claim terms, the infringement contentions require that the ZVOL dnodes constitute "inodes," that is, "file system structures" that point to "data blocks of a file." Id. at 22.

Despite its arguments as to the appropriate legal standard, NetApp does not actually challenge Sun's description of the structure of the accused product or its functionality, or provide any evidence that the product operates other than as Sun describes. Instead, NetApp challenges the *nomenclature* used by Sun to label the various parts and functions of its ZFS product, in particular the "dnode," and argues that under the definitions stated in the '417 Patent itself there is at least a triable issue of fact regarding literal infringement. See Opp. at 4 ("The relevant fact in dispute is whether what Sun has self-servingly labeled a dnode is properly characterized as an inode under the Court's construction of that term.")

D.   **Sun's Motion**

        1.   **Literal Infringement**

                a.   **Is a ZVOL a "Filesystem" as Defined By the '417 Patent?**

Sun's Motion first argues that it is undisputed that a ZVOL is not a filesystem or part of a filesystem (and thus a ZVOL dnode is not a "filesystem structure"). It relies on the Court's prior '211 Patent summary judgment order, in which the Court stated that, "ZFS as a whole does more than the filesystems that it includes below the MOS, such as manage the relationships between the filesystems, and also manages other components

19

1 besides filesystems such as volumes." '211 Order at 18; see also id. at 9, 5. Sun then

2 points generally to the ten pages of its brief discussing the technical aspects of ZFS, but

3 does not specifically point to any portion of the '417 Patent defining "filesystem" or the

4 evidence regarding ZFS or ZVOLs, to support its contention that ZFS is a universal

5 storage system that supports both filesystems and other types of data sets including

6 ZVOLs. See Motion at 22. Sun simply contends that "file systems and ZVOLs are

7 separate object sets that are created by separate ZFS software modules," again simply

8 referring back to pages 5-15 of its brief generally explaining the technology. Id.

9   NetApp counters that a ZVOL itself is a filesystem as the term is used in the

10 patent, by pointing to the SAN filesystem described in the '417 Patent. NetApp contends

11 that one object within a ZVOL contains blocks representing a virtual disk, and that this

12 object corresponds to a SAN filesystem which also contains only one file. On Reply, Sun

13 argues that the foregoing constitutes a new argument not found in either NetApp's

14 infringement contentions or Dr. Ganger's Expert Report or Supplemental Expert Report,

15 and should therefore be ignored for purposes of this Motion. The Court declines to ignore

16 the argument, but does not find it persuasive.

17   Sun disputes NetApp's equation of a ZVOL to a SAN filesystem, noting that a

18 SAN filesystem contains a single file, while it is undisputed that a ZVOL has at least two

19 objects. At oral argument, Sun further specified that the '417 Patent only defines two

20 types of filesystems (called "volumes" in the patent): (1) NAS volumes containing a set

21 of files in a directory tree; and (2) SAN volumes containing a single file whose blocks

22 represent a virtual disk. '417 Patent at 5:30-36; see also id. at 9:65-10:4, 10:48-53. Sun

23 cited the portions of NetApp's Opposition and Dr. Ganger's report which concede that the

24 patent only contemplates these two types of filesystems. See Opp. at 6, 11; Beebe Decl.

25 Ex. 3 (Ganger Report) ¶¶ 50, 56. Sun contends that a ZVOL does not correspond to either

26 of these types of filesystems. It is not a SAN file because it does not contain a single file;

27 rather, it contains no files. Alternatively, even if an "object" is equated to a "file," a

28 position that the Court agrees with as set forth below, a ZVOL could still not be a SAN

20

1 filesystem because it contains two objects, not one. Less persuasively, Sun notes that Dr.

2 Ganger has previously testified that a "logical volume" or "logical disk" is not a

3 filesystem. See Williamson Reply Decl. Ex. A (Ganger Depo.) at 171, 184-85, 255. Dr.

4 Ganger has also indicated that ZVOLs at least create "logical volumes," which according

5 to Dr. Ganger are not filesystems. See Ganger Report ¶¶ 141, 145 (ZVOL creates

6 "logical volumes" or "block devices"). Sun argues that this testimony establishes that

7 ZVOLs are not filesystems, but the Court disagrees that the evidence is so clear.

8   To support its position that a ZVOL is a filesystem, NetApp points to internal Sun

9 documents relating to ZFS Intent Logs ("ZIL"), which save transaction records of system

10 calls that change the file system in memory, and statements that there is "one ZIL per file

11 system" and ZILs permit ZFS to provide consistent data on disk by following "traditional

12 filesystem semantics." See Beebe Decl. Ex. 19 (ZFS On-Disk Specification) at 51; see

13 also Ex. 24 (ZFS Intent Log) at SUN00101986. NetApp notes that ZILs are not only

14 associated with ZFS filesystems, as might be expected given Sun's position that

15 filesystems are separate from and entirely different than ZVOLs, but are also associated

16 with ZVOLs, indicating that ZFS engineers treated ZVOLs as equivalent to filesystems

17 for this limited purpose. See Beebe Decl. Ex. 19 at 51; Ex. 24 at SUN00101985,

18 SUN00102001 ("Every object set (ZFS/ZVOL) has a ZIL associated with it."). This

19 argument is not entirely persuasive, because the fact that a ZVOL is associated with

20 something that is also associated with filesystems does not necessarily turn a ZVOL into a

21 filesystem.

22   Given the foregoing, Sun has a somewhat stronger argument that a ZVOL is not

23 filesystem, as the term is understood in the '417 Patent. However, the Court need not and

24 does nor decide this issue, because there is a triable issue of fact as to whether ZFS as a

25 whole is a filesystem. Even if arguably no reasonable juror could find a ZVOL itself to be

26 a filesystem, if ZFS as a whole can be a filesystem then a ZVOL and its dnode structure

27 contained therein can be a "filesystem structure."

28   **b.   Is ZFS as a Whole A "Filesystem"?**

21

1   Sun relies heavily on the Court's '211 Patent summary judgment order for the

2 position that ZFS as a whole is not a filesystem, without any explanation or citation to

3 evidence.   Motion at 23 (generally citing '211 Order at 5-9, 12-18). At oral argument,

4 Sun also cited the ZFS On-Disk Specification's "Object Set Overview" for the position

5 that ZFS in more than a filesystem because it provides the ability to create four types of

6 object sets: filesystems, clones, snapshots and volumes. Williamson Decl. Ex. 10 at 29;

7 see also id. at 22-23 (distinguishing between plain file objects and ZVOL objects), Ex. 13

8 at 8. Sun contends that its position that ZFS as a whole is not a filesystem is further

9 supported by NetApp founder David Hitz's statements regarding the question, "Is WAFL

10 A Filesystem?" See Williamson Decl. Ex. 17. In a December 2008 blog entry, Mr. Hitz

11 states, "This top half/bottom half structure explains the confusion about WAFL. My

12 current view is that WAFL contains a filesystem, multiple filesystems actually, but that's

13 different from being a filesystem." Id.[4] From this document, Sun concludes that the

14 Court, NetApp and Sun agree that technologies like ZFS and WAFL contain filesystems

15 but are not themselves filesystems.

16   NetApp correctly counters that there is at least a triable issue of fact on this point.

17 See Beebe Decl. Ex. 3 (Ganger Report) at ¶ 44-51 (ZFS is a filesystem). As discussed

18 above, the Court has sustained NetApp's objection to the Bonwick Declaration, and

19 stricken most of Dr. Ganger's supplemental report, so much of the evidence discussed in

20 this context is not being considered. However, Dr. Ganger's initial expert report, coupled

21 with other evidence referring to ZFS as a whole as a filesystem, does create a fact question

22 as to whether ZFS as a whole is a filesystem under the patent. See Beebe Decl. Ex. 51

23 (BigAdmin System Administration Portal) at 2 (generally referring to ZFS as a

24 "transaction-based file system," but also stating that it is a combination of a filesystem and

25 volume manager); Ex. 46 (Ahrens Weblog) at SUN00011643 (same).

26

27   [4]However, Sun fails to note that the cited blog entry is from December 2008, more than a decade
    after WAFL was created, and the first line of the entry states, "Many people think WAFL is a filesystem.
    I certainly thought so fifteen years ago when I wrote it . . ." Id. NetApp points out that this can be
28 explained by the fact that Mr. Hitz used the term "filesystem" more broadly in his earlier patent than
    in the blog entry years later.

1   In its Reply, Sun contends that the patent discloses at least two types of filesystems

2   (NAS and SAN filesystems), but does not disclose that either is or can be a part of the

3   other. Reply at 9. At oral argument, Sun elaborated that the '417 Patent states that these

4   filesystems can reside on a "partition" of a storage pool ('417 Patent at 5:29-35) and that

5   nothing in the patent indicates that the partition or the storage pool is an overarching

6   filesystem. Therefore, according to Sun, ZFS as a whole cannot be seen as a filesystem of

7   which a ZVOL is a filesystem structure. Sun notes that Dr. Ganger's expert report does

8   not directly cite the '417 patent for his opinion that ZFS as a whole is a filesystem, and

9   instead his opinion relates primarily to another patent. See Beebe Decl. Ex. 3 (Ganger

10   Report) at ¶ 44-51. However, paragraph 50 of Dr. Ganger's report cites the '417 Patent

11   specification, acknowledges that the patents use the term "filesystem" somewhat

12   differently, but contends that the '417 patent's usage of the term is inconsistent with a

13   narrow definition.

14   Given that the evidence that Sun cites is equivocal on this point at best, and that

15   NetApp points to some expert testimony in its favor, reasonable jurors could disagree as to

16   whether ZFS as a whole is a file system. If there is a triable issue as to whether ZFS as a

17   whole can be considered a filesystem, then it follows that there is a question as to whether

18   a ZVOL dnode contained therein can be considered a "filesystem structure," an issue

19   discussed further below.[5]

20   **c.   Are ZVOL Dnodes "Inodes"?**

21   Sun next contends that ZFS cannot infringe as a matter of law because the two

22   ZVOL-specific dnodes that NetApp accuses of being the claimed "inode" –

23   DMU_OT_ZVOL and DMU_OT_ZVOL_PROP – are not in fact inodes. Sun's argument

24   appears to be as follows: ZFS supports a variety of object sets, including both filesystems

25   and volumes. Typically in other technology, an "inode" points to files, and therefore

26

27   [5]The Court notes that in the context of the '211 Patent summary judgment order, it indicated that
     it did not think a reasonable juror could find ZFS as a whole to constitute a "filesystem," regardless of
     the labels attributed to ZFS and under either parties' proposed construction of the term. However, the
28   issues and evidence presented to the Court were different in considering the previous motion, and the
     Court has considered this motion in the context of the evidence and argument as to the '417 Patent.

23

1　contains file-specific information and can be part of a filesystem. In the case of ZFS,

2　because ZFS can support both files and volumes, there is nothing as specific as an inode,

3　so Sun named the corresponding feature a "dnode" because it does not just point to files

4　but can also point to volumes. In the case of ZVOLs, there are two types of dnodes that

5　point to ZVOLs, but neither contains "file-specific information" and neither is part of a

6　"filesystem," as Sun contends is required to be an "inode." Instead, it is only in the case

7　of ZFS filesystems (as opposed to ZVOLs) that a structure called a "znode" contains file-

8　related information and is placed in the "bonus buffer" of the dnode pointing to the

9　filesystem. Since the dnodes pointing to ZVOLs do not have znodes containing file-

10　specific information and are therefore not related to filesystems, and also because they do

11　not point to data blocks "of a file," according to Sun they do not constitute inodes as

12　claimed in the patent (where inodes have been construed by the Court as "a file system

13　structure for pointing directly or indirectly to data blocks of a file").

14　　　　　　　　　　　　**i.　　Are ZVOL Dnodes "File System Structures"?**

15　　　　Sun argues that the universal storage nature of ZFS results in the use of

16　intentionally generic objects that can support a variety of object sets, including filesystems

17　and ZVOLs. These generic objects are represented by dnodes, which are also generic

18　structures. Sun contends that ZVOL dnodes differ from inodes because they do not

19　contain much of the information typically associated with inodes that refer to files (i.e.,

20　they do not contain file specific information and cannot be used as part of a filesystem).

21　To support this contention, Sun generally cites various pieces of evidence without

22　analysis. See Motion at 23 (referring to Williamson Decl. Ex. 8 (Bonwick Depo.) at 241-

23　45 (discussing whether a dnode is an inode and stating that "inode" is not a well defined

24　term outside of particular filesystems); Ex. 14 (Maybee Depo.) at 125-31 (stating that

25　dnodes and znodes are different than inodes, but agreeing that the ZFS team uses the term

26　"inode" as a point of reference to describe dnodes and znodes to those unfamiliar with the

27　ZFS system); Ex. 10 (ZFS On-Disk Specification- Draft) at 45 ("All filesystem objects

28　contain a znode_phys_t structure in the bonus buffer of it's [sic] dnode. This structure

24

1   stores the attributes for the filesystem object.").

2   Sun contends that, when a dnode is used as part of a ZFS filesystem, a znode

3   containing the necessary file related information is placed in the bonus buffer of the

4   dnode. See Williamson Ex. 10 at 45; Ex. 16 (Ahrens Depo.) at 312, 320; Ex. 8 at 241-42.

5   However, with respect to ZVOLs, neither of the two ZVOL-specific dnodes include a

6   znode (or the file-specific information contained in znodes) and, therefore, according to

7   Sun, they do not and can not represent files. See Ex. 10 at 55 (describing ZVOLs as

8   simple object sets with two objects (or dnodes), neither of which is a znode). Because

9   dnodes do not and cannot represent files, Sun contends that they are not "file system

10   structures" as required of an inode.

11   NetApp counters with internal Sun evidence equating dnodes with inodes. See

12   Beebe Decl. Ex. 31 (Bonwick Email) at SUN00261431 (email from Jeff Bonwick

13   agreeing that "ZFS inodes are dnodes"). NetApp also counters with evidence that a dnode

14   can be considered a "filesystem structure." NetApp first points to the '417 Patent itself,

15   which NetApp argues takes a broad view of what constitutes a "filesystem." It notes that

16   the patent discloses two different types of filesystems: an NAS filesystem containing a set

17   of files in a directory tree; and a SAN filesystem containing a file holding a representation

18   of a virtual disk, with no directories or hierarchical relationship between files. Beebe

19   Decl. Ex. 4 ('417 Patent) at 5:31-36. NetApp also argues that the patent discloses a third

20   type of filesystem, shown in Figure 3 as a "Superblock," but the testimony that it cites to

21   support this theory is equivocal and speculative at best, and therefore unpersuasive. See

22   Ex. 20 (Brandt Depo.) at 828-29 (stating that Figure 3 appeared to be "reusing a file

23   system structure," but he was unsure whether or not that means it is part of a file system).

24   NetApp argues that the Superblock is a filesystem or filesystem structure because it

25   contains inodes pointing to other filesystems. NetApp also points to Dr. Ganger's opinion

26   that a "dnode is a ZFS structure (i.e., a file system structure) for pointing directly or

27   indirectly to data blocks of a file." Beebe Decl. Ex. 3 at ¶ 58. NetApp argues that Sun's

28   interpretation of a "file system structure" as only meaning a structure within a file system

25

1   is too narrow, because the patent takes a broader view of what a filesystem is.

2   　　　　Sun's Reply focuses on its position that neither a ZVOL or ZFS as a whole is a

3   filesystem and therefore their constituent parts cannot be filesystem structures. Reply at

4   12. Sun argues that NetApp's position that something outside of a filesystem (i.e., a

5   ZVOL) can be a "filesystem structure" has no basis in the patent. Sun notes that, in the

6   '417 Patent, the claimed "inode layer operations" through which the claimed "block level

7   server provid[es] service" are only performed on the inode of the single block of a SAN

8   filesystem, and are not performed on inodes outside of a SAN filesystem, indicating that

9   the patent only contemplates inode operations being performed on structures within the

10 SAN filesystem and not other, more tangentially related structures. See '417 Patent at

11 11:29-31; 9:61-10:14; see also Beebe Dec. Ex. 3 (Ganger Report) at ¶ 18. Sun also cites

12 NetApp's expert Dr. Ganger's Rebuttal Expert Report, where he distinguishes prior art on

13 the basis that the data in those inventions was stored on the underlying storage device

14 directly, not on a filesystem. Williamson Reply Decl. Ex. D at ¶¶ 56, 73, 160, 276.

15 According to Sun, it follows that a device that stores data outside of a filesystem (such as

16 a ZVOL), cannot be a filesystem structure.

17 　　　　However, and as discussed above, the Court disagrees with Sun that no reasonable

18 juror could find ZFS to be a filesystem, and if ZFS as a whole is a filesystem then a ZVOL

19 (as part of the ZFS filesystem) could be seen as a filesystem structure.

20 　　　　　　　　　**ii.　　Do ZVOL Dnodes Point to Data Blocks "of a**
　　　　　　　　　　　　　　File"

21

22 　　　　Sun also argues that a ZVOL dnode cannot be an inode because the two dnodes

23 pointing to ZVOLs do not point to the data blocks "of a file." Instead, one of them

24 (DMU_OT_ZVOL_PROP) does not point to any data block, and instead only holds the

25 size of the ZVOL. Williamson Ex. 10 at 55. The other (DMU_OT_ZVOL) points only to

26 data blocks of the "volume," or ZVOL, not of a "file." Id.; Bonwick Reply Decl. ¶ 5.

27 　　　　NetApp counters that the Court's decision to include the term "of a file" in its

28 construction was explicitly based on the fact that NetApp's expert conceded that the

26

1   phrase could be added after "blocks," "provided that 'file' is interpreted broadly." Claim

2   Construction Order at 37. NetApp characterizes this decision as reflective of the Court's

3   understanding that the term "file" would be understood broadly by one skilled in the art.

4   Sun counters that the Court did not actually rule that the term should be construed

5   broadly. Reply at 14. NetApp is correct. The Court's Claim Construction Order reflects

6   the fact that there was little dispute about whether "of a file" could be appended to the end

7   of the claim construction phrase because the parties and the Court agreed that the term

8   "file" was understood broadly by the experts. See Claim Construction Order at 37;

9   Williamson Reply Decl. Ex. D (claim construction hearing transcript) at 202-206. The

10 parties and the Court acknowledged that there might be a dispute about the term down the

11 road, but no one disputed that the term was understood broadly as used in the '417 Patent.

12 Id. at 203:6-7.

13   NetApp next argues that Sun's naming conventions for ZFS, which it relies on for

14 an overly narrow definition of "file" to support its non-infringement theory, are

15 inconsistent with the term's general usage. Specifically, NetApp argues that a "file," in

16 the context of the '417 Patent, should be understood as a "generic data structure used for

17 storage of data or metadata." Opp. at 5. NetApp points to the statement of Sun's expert,

18 during the claim construction hearing, that, "In the context of this patent, everything is a

19 file." Beebe Decl. Ex. 1 (Claim Construction Hearing Transcript) at 197. NetApp also

20 cites the various different ways in which the term is used throughout the '417 Patent itself.

21 See id. Ex. 5 ('417 Patent) at 4:1-4 ("vnode layer implements a tree of filed and directories

22 (vnodes) out of a linear array of abstract files (inodes), each of which can contain a file or

23 a directory"); 4:19-21 (referring to "objects" as files); 5:31-36 (distinguishing between

24 NAS and SAN filesystems which contain at least two different types of files); Beebe Decl.

25 Ex. 3 (Ganger Report) at ¶¶ 50, 56 (same). NetApp also points to Figure 3 (a preferred

26 embodiment), which shows an NAS filesystem and demonstrates that at least two "files"

27 are outside of this filesystem. See id. (showing separate "Log File"); '417 Patent at 5:52-

28 54 (explaining another "special file" in the Superblock of Figure 3 of the figure for

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1   mapping).

2   NetApp further contends that the patent's broad use of the term "file" is consistent

3   with the understanding of those skilled in the art and dictionary definitions. NetApp relies

4   on the testimony of its expert, Dr. Ganger, who pointed out that the '417 Patent's use of

5   file encompasses a variety of metadata objects. Beebe Decl. Ex. 3 at ¶¶ 54, 56. NetApp

6   also relies on broad dictionary definitions of "file" to support its point about the broad

7   meaning of the term. See Beebe Decl. Ex. 6 (Microsoft Computer Dictionary, 3rd Ed.

8   (1997)) at 194 (defining a file as: "A complete, named collection of information, such as a

9   program, a set of data used by a program, or a user-created document. A file is the basic

10   unit of storage that enables a computer to distinguish one set of information from

11   another."); Ex. 7 (IBM Dictionary of Computing, 10th Ed. (1993)) at 269 (file can mean,

12   among other things, a "named set of records stored or processed as a unit" or "a collection

13   of information treated as a unit"). Finally NetApp points to Sun's own Global Glossary,

14   which defines "file" as: "A block of information that is stored on some form of a storage

15   medium, such as a computer, disk, or tape. A file might not be human readable, but a

16   device can still process it." Id. Ex. 8 at 9; see also Ex. 9 (Shapiro Depo.) (Sun's current

17   manager of ZFS defining file as "essentially [an] opaque stream of bytes indexed by a

18   single integer," and not limiting it to a POSIX definition of "file").

19   Sun counters that these references do not support NetApp's position that the patent

20   somehow identifies all "objects" as "files." Opp. at 14. However, NetApp's point does

21   not appear to be that *all* objects are files, but simply that the patent uses the term "file" to

22   identify a number of different types of things within the system, so Sun's attempt to limit

23   the meaning of the term to one specific type of item (i.e., the counterpart to what is labeled

24   a "file" in a ZFS filesystem) goes too far. The Court agrees with NetApp's position that

25   "file" cannot be read as narrowly as Sun contends, and may encompass what Sun refers to

26   as an "object."

27   NetApp concludes that, applying the '417 Patent's broad definition of "file" to

28   ZFS, there is at least a triable issue of fact as to whether a ZFS object (such as a ZVOL)

28

1   can be considered a file. Because the parties agree that ZFS dnodes point to data blocks of

2   an object, if an object can be seen as a file there is a question of infringement. NetApp

3   cites the statements of Sun employees using the term "file" to describe a ZFS object. See

4   Beebe Decl. Ex. 11 (11/4/05 Bonwick email re: ZFS) ("[a[n object (file) in ZFS is a tree

5   of blocks, a filesystem is a tree of objects, and a storage pool is a tree of filesystems.");

6   Ex. 13 (ZFS Paper) at 5 (equating objects with "flat files"); Ex. 14 (Bonwick and Ahrens

7   Presentation Re: ZBS) at 6 ("An object is a 'flat file'"); Ex. 15 (Ahrens Depo.) at 297

8   (same); Ex. 16 (2/26/04 Ahrens email) ("They take a 'file' (DMU object in zvol's case)

9   and make it look like a device"); Ex. 38 at SUN00018903 ("An object is a "flat file."); Ex.

10   43 (7/25/07 Bonwick Email) at SUN00682205 (equating objects with files). NetApp

11   discounts Sun's effort to downplay testimony equating an object to a flat file (see Ex. 17

12   (Brandt Expert Report) at ¶ 73), and cites Sun's 30(b)(6) witness on the functionality of

13   ZFS, who testified that a "flat file" is a "file in its unstructured form." Ex. 18 (Shapiro

14   Depo.) at 45-46. NetApp argues that this understanding of an object as a file or a flat file

15   is consistent with Dr. Ganger's opinion that ZFS objects are files as contemplated by the

16   patent. See Ex. 3 at ¶ 52-56, n.6.

17   On Reply, Sun counters that each of these references by Sun is to a ZFS filesystem

18   file and that none of the cited references equating a "file" with an "object" relate to ZVOL

19   objects. However, Sun cites no evidence for this point and does not otherwise explain it.

20   The Court agrees with NetApp that the term "file," as it is used in the patent, is broad – as

21   evidenced by its varied use within the patent, its understood meaning as perceived by

22   those skilled in the art at the relevant time, and even as it is used within Sun itself. This

23   broad definition, coupled with testimony that ZFS objects are at least sometimes

24   considered "files," creates an issue of fact as to whether a ZVOL (which is an object) can

25   be considered a "file" as defined by the patent, so that the accused dnode would point to

26   the data blocks "of a file." Sun's argument that the ZVOL dnodes do not point to blocks

27   "of a file" merely because what they point to is not labeled a "file" by ZFS is rejected.

28

1   Summary judgment is therefore not warranted on this point.[6]

2   **iii.   Are ZVOL Dnodes Capable of Containing Status
                                            Information of a File?**

3

4   In addition to opposing Sun's arguments above, NetApp also takes issue with

5   Sun's position that dnodes cannot be inodes unless they contain a znode holding file-

6   specific information. Opp. at 19. NetApp notes that a znode does not actually point to

7   any data but contains status information about objects such as last access time, last

8   modification time, creation time, file time, size and other similar information. Beebe

9   Decl. Ex. 19 (ZFS On-Disk Specification) at 46-47; Ex. 3 (Ganger Report). NetApp

10 argues that the focus of Sun's argument really boils down to this file-specific information

11 contained in the znode (and thus the absence of it in the dnode). NetApp points to the

12 Court's claim construction order, in which is stated that "there is no support for the

13 limitation 'contains status information about the file' that was initially proposed by Sun.

14 The Court therefore declines to adopt that limitation." Claim Construction Order at 37.

15 NetApp argues that Sun's reliance on the fact that dnodes are not filesystem structures

16 unless they contain znodes containing file-specific information effectively reads out this

17 aspect of the Court's construction. NetApp has also filed a separate document entitled

18 "Objection to Sun's Reply Brief," in which it contends that Sun's Reply is effectively a

19 request for the Court to modify its claim construction order, which is improper on

20 summary judgment.

21   At oral argument, the Court questioned Sun about this issue, and Sun essentially

22 admitted that it was trying to get the Court to reconsider its claim construction order. See

23 1/27/10 Tr. at 60-62. Sun noted its belief that the current construction is not incorrect, as

24 far as it goes, but is instead incomplete because it does not also require an inode to contain

25 status information about a file. Id. Sun supports its position by pointing to an

26

27   [6]At oral argument, Sun contended that, even if the Court draws an inference that a ZFS object
    is a file, it does not matter so long as the Court finds that neither ZFS as a whole or a ZVOL is a
28 filesystem because then an inode still is not a filesystem structure. 1/27/10 Transcript at 109. However,
    as discussed above, reasonable jurors could disagree over whether ZFS as a whole is a filesystem.

                                              30

1   acknowledgment in NetApp's Opposition that, "[a]n inode in the patent points to data

2   blocks of a file and it is *capable of*, although not required to, contain status information of

3   a file." Reply at 13 (citing Opp. at 17-18) (emphasis added).

4   A requirement that an inode must be "capable of" containing status information

5   about a file is not directly inconsistent with the Court's prior claim construction order,

6   such that it would necessitate amending the claim construction. However, in light of

7   NetApp's concession that an inode must be at least capable of storing status information

8   about a file as well as pointing to data blocks of a file, the Court must analyze the

9   evidence to determine whether there is an issue of fact as to whether either the

10   DMU_OT_ZVOL or the DMU_OT_ZVOL_PROP are capable of doing both.

11   Sun argues that it is undisputed that one accused feature of ZFS, the

12   DMU_OT_ZVOL dnode, is incapable of containing any status information. Bonwick

13   Reply Decl. ¶ 6. The other accused dnode connected with a ZVOL,

14   DMU_OT_ZVOL_PROP, admittedly stores "volume size attribute of the volume" (which

15   could be seen as status information)**,** but according to Sun does not point to data blocks of

16   a file, which is also required. At oral argument, NetApp opposed this argument by

17   pointing to page 55 of Exhibit 19 of the Beebe Declaration to show that the

18   DMU_OT_ZVOL_PROP dnode points to data blocks of an object (which as discussed

19   above under the broad definition of the patent may also be seen as a "file") containing

20   metadata for the ZVOL. See 1/27/10 Tr. at 91-92. With respect to the

21   DMU_OT_ZVOL_PROP, Exhibit 19 states that, "The ZVOL property object is a ZAP

22   [ZFS Attribute Processor] object containing attributes associated with this volume. A

23   particular attribute of interest is the '*volsize*' attribute. This attribute contains the size, in

24   bytes, of the volume." Beebe Decl. Ex. 19 at 55. While this evidence is far from clear, a

25   reasonable juror might conclude that it supports NetApp's position that the

26   DMU_OT_ZVOL_PROP dnode points to data blocks of a "file" containing metadata, and

27   that pointing to blocks of a file is sufficient for it to be considered an inode as the term is

28   properly construed in the '417 Patent. Thus, summary judgment is not warranted.

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d. Was Sun's Documentation/Nomenclature Litigation-Driven?

NetApp's Opposition also argues that the naming conventions used in ZFS were litigation-driven, and should not be relied upon. Specifically, NetApp points to a 2003 internal Sun email in which an engineer expressed concern that "some of the specifics of the implementation are apparently quite close to WAFL," including some of the "names *and forms* of fundamental ZFS data structures." Beebe Decl. Ex. 39; see also Ex. 40 (Bonwick Depo.) at 185-87 (discussing conversation he has with employees about taking care to draft ZFS papers with a "legal audience" in mind). NetApp notes Sun's policy of tracking the origin of code to defend against infringement claims (Ex. 41 at 3-4), and contends that Mr. Bonwick may have strategically named ZFS structures to avoid comparison to WAFL from 2004 forward.

Regardless of why Sun settled on the terminology it did, the Court places no significance on the nomenclature used by Mr. Bonwick or Sun to describe ZFS, and has used Sun's names in this Order only for ease of reference and description. Rather, the Court has undertaken an independent review of the function and operation of the technology at issue, in light of the admissible evidence including experts testimony on both sides, as applied to the properly construed claims, to reach its conclusions.

The Court notes, however, that NetApp has not referred the Court to any evidence of the strategic adoption of naming conventions for ZFS, other than the deposition testimony of Robert Gittens, in which he expressed the belief that Jeff Bonwick was someone who might abscond with another's ideas. See Declaration of Byron Beebe in Support of Joint Brief at Ex. 1 (Gittens Depo.). This evidence is insufficient for the Court to entirely disregard the testimony of Mr. Bonwick or other Sun documents describing the function and operation of (as opposed to the names given to) ZFS technology. Even assuming that there may have been an attempt to artificially differentiate Sun's technology from NetApp's inventions in order to fend off infringement accusations, the issue is whether ZFS meets every element of the patent claims or not. As discussed above, and while the question is a close one, the Court has determined that there are triable issues of

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1 fact as to literal infringement.

2   **f.**   **NetApp's Alternate Interpretation of the Claim**

3   **Language**

4   NetApp's Opposition also contends that, regardless of the foregoing, the patent

5 language only requires that the block level server "be implemented in terms of the inode

6 layer operations." According to NetApp, this language does not actually require the block

7 level server to use inodes, so long as the same operations performed on file level data are

8 also performed on block level data. NetApp contends that the amendment relied on by

9 Sun during the patent prosecution was made only to establish this requirement. Opp. at

10 23. And, according to NetApp, even if Sun's argument that not all dnodes are inodes were

11 accepted, the fact remains that all ZFS objects (both filesystems and ZVOLs) are managed

12 by the same operations, whether or not their dnodes contain znodes and/or are considered

13 inodes. Opp. at 24 (citing Beebe Decl. Ex. 3 (Ganger Report at ¶ 34-40). Therefore,

14 according to NetApp, ZFS meets the elements of the claim because the block level server

15 is implemented in terms of the inode layer operations performed on dnodes relating to

16 objects within a filesystem.

17   Sun persuasively counters that another claim limitation of the '417 Patent might be

18 described this way, because the patent requires that the "management layer" simply

19 "perform[] identical management operations upon the underlying block level and file level

20 data," ('417 Patent at 11:32-35), but this argument is inapplicable to the portion of Claim

21 1 at issue here. Instead, the Court has construed the claim limitation discussing the

22 "storage layer" as requiring "operations performed on inodes," so NetApp's argument has

23 no merit as it essentially ignores the Court's construction of the claim at issue. However,

24 this conclusion does not impact the Court's decision that triable issues of fact remain as to

25 Sun's literal infringement of the '417 Patent.

26   For all of the foregoing reasons, Sun's Motion for Summary Judgment of no literal

27 infringement is DENIED.

28   **2.**   **Amendment-Related Prosecution History Estoppel As A Bar To**
                    Doctrine of Equivalents Infringement

1

2   Sun argues that it cannot be found to infringe under the doctrine of equivalents

3   because prosecution history estoppel precludes NetApp from asserting a doctrine of

4   equivalents theory. Specifically, Sun argues that it is undisputed that the claim limitation

5   at issue was added by amendment during prosecution, narrowing the scope of the claim in

6   order to overcome a prior art rejection. See Festo Corp. v.Sholetsu Kinzoku Kogyo

7   Kabushiki, 344 F.3d 1359, 1365 (Fed. Cir. 2003)). Specifically, Sun contends that on

8   June 24, 2003, the Examiner issued a final rejection of claim 1 in light of prior art.

9   Williamson Decl. Ex. 3 at 2-3. NetApp responded by arguing that the Thekkath prior art

10 in question lacked the block level server for serving block level data, but the Examiner

11 found this argument unpersuasive. Id. Ex. 4 at 22, Ex. 5. Thereafter, NetApp amended

12 the claim language to more specifically define the block level server as "providing service

13 through implementation in terms of the inode layer operations." Id. Ex. 6 at 2, 10. The

14 amended claim was allowed over prior art. Id. Ex. 7 at 2. Therefore, there is a presumed

15 disclaimer of any claim scope between the original claim and the amended claim, and

16 according to Sun, NetApp cannot rely on the doctrine of equivalents to establish the

17 existence of this claim limitation.

18   Sun further contends that no exception to the presumption applies, because

19 NetApp has not shown that any alleged equivalent was unforeseeable at the time of the

20 amendment. Sun notes that Dr. Ganger did not render any opinion on foreseeability in his

21 report. Second, according to Sun, the "tangential relation" exception does not apply

22 because the prosecution history shows that the amendment added the block level server

23 "inode layer operations" limitation for the express purpose of narrowing the scope of the

24 claim to overcome prior art. See Williamson Decl. Exs, 5, 6, 7. NetApp has identified no

25 other reason why the presumption should not apply.

26   NetApp disputes Sun's amendment-based prosecution history estoppel, arguing

27 that Sun has not fairly interpreted what was surrendered, but NetApp does not identify

28 Sun's alleged misunderstanding or identify what the correct interpretation is. NetApp also

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argues summarily that the asserted equivalent is only tangentially related to the amendment, and that under any interpretation of the amendment Sun's dismissal of the foreseeability exception is unwarranted given Sun's claims about the revolutionary nature of ZFS. However, NetApp offers no evidence to support these arguments or overcome the presumption of prosecution history estoppel. Therefore summary judgment of non-infringement based on the doctrine of equivalents is GRANTED, as Sun has shown that NetApp's amendment to the claim at issue estops it from relying on the doctrine of equivalents to allege infringement of Sun's ZFS product, and NetApp has not rebutted this showing.

IT IS SO ORDERED.

Dated: March 22, 2010

_____
ELIZABETH D. LAPORTE

United States Magistrate Judge