

No. 2019-1050

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

VIRNETX INC., LEIDOS, INC., fka Science Applications International Corporation,
Plaintiffs-Appellees,

v.

APPLE INC.,

Defendant-Appellant.

VIRNETX INC.,

Plaintiff-Appellee,

v.

APPLE INC.,

Defendant-Appellant.

On Appeal from the United States District Court for the Eastern District of Texas,
Nos. 6:12-cv-00855-RWS and 6:11-cv-00563-RWS, Judge Robert Schroeder, III

**DEFENDANT-APPELLANT APPLE INC.'S COMBINED PETITION FOR
PANEL REHEARING AND REHEARING EN BANC**

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CERTIFICATE OF INTEREST

Counsel for Defendant-Appellant Apple Inc. certifies the following:

1. The full name of every party or *amicus* represented by me is:

Apple Inc.

2. The name of the real party in interest represented by me is:

Not applicable.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or *amicus curiae* represented by me are:

None.

4. The names of all law firms and the partners or associates that appeared for the party or *amicus* now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

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5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal:

VirnetX Inc. v. Apple Inc., Nos. 17-1591, -1592, -1593 (Fed. Cir.)

VirnetX Inc. v. Iancu, Nos. 17-2593, -2594 (Fed. Cir.)

VirnetX Inc. v. Cisco Systems, Inc., No. 18-1197 (Fed. Cir.)

VirnetX Inc. v. Cisco Systems, Inc., No. 18-1751 (Fed. Cir.)

VirnetX Inc. v. Cisco Systems, Inc., No. 19-1671 (Fed. Cir.)

Inter Partes Reexamination Control No. 95/001,682 (USPTO)

Inter Partes Reexamination Control No. 95/001,714 (USPTO)

Inter Partes Reexamination Control No. 95/001,697 (USPTO)

Mangrove Partners Master Fund, Ltd. v. VirnetX Inc., Nos. IPR2015-01046, IPR2015-01047 (P.T.A.B.)

Dated: January 6, 2020

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STATEMENT OF COUNSEL

Based on my professional judgment, I believe the panel decision is contrary to the following precedents of the Supreme Court and this Court: *New Hampshire v. Maine*, 532 U.S. 742 (2001); *XY, LLC v. Trans Ova Genetics, L.C.*, 890 F.3d 1282 (Fed. Cir. 2018); *Voter Verified, Inc. v. Election Systems & Software LLC*, 887 F.3d 1376 (Fed. Cir. 2018); *Fort James Corp. v. Solo Cup Co.*, 412 F.3d 1340 (Fed. Cir. 2005).

Based on my professional judgment, I believe this appeal requires an answer to the following precedent-setting questions of exceptional importance:

1. Whether issue preclusion bars an invalidity defense not pursued at trial in a prior action.
2. Whether this Court should hold patent claims invalid and unenforceable where it has previously held claims indistinguishable therefrom unpatentable.

Panel rehearing is also sought on the following point overlooked or misapprehended by the panel:

3. Whether a method patent can be directly infringed where there is no evidence the defendant performed the claimed method steps in the United States.

/s/ William F. Lee
WILLIAM F. LEE

INTRODUCTION

Apple appealed a district court judgment of infringement, no-invalidity, and damages based on four patents: U.S. Patent Nos. 7,418,504 (“’504 patent”), 7,921,211 (“’211 patent”), 6,502,135 (“’135 patent”), and 7,490,151 (“’151 patent”). The panel correctly reversed the district court’s infringement judgment as to the ’504 and ’211 patents and vacated the damages judgment in its entirety. But the panel also should have: (1) vacated and remanded the no-invalidity judgment for all four patents; (2) addressed Apple’s argument that the asserted claims of the ’504 and ’211 patents are no longer valid and enforceable due to intervening legal developments; and (3) reversed the judgment of direct infringement for the ’135 patent.

1. This is the second district court action in which VirnetX has asserted the same four patents against Apple. In this action, Apple sought to challenge the patents’ validity on grounds not pursued at trial in the previous action. The district court nevertheless barred Apple’s obviousness defense and counterclaim based on issue preclusion, holding that “patent invalidity is a single ‘issue’ for preclusion purposes” and that—because Apple raised and lost on one invalidity ground (anticipation) in the prior action—it was barred from raising *any* invalidity ground in this action. Appx6-7. On appeal, the panel affirmed that Apple’s obviousness defense was precluded, relying on grounds not raised by VirnetX or relied on by

the district court. The panel erroneously held that obviousness was “actually litigated” in the prior action, even though Apple chose not to pursue that defense at trial and it was neither submitted to nor decided by the jury. This case should be reheard to correct this error and clarify that invalidity defenses not pursued at trial in a first case are not barred by issue preclusion in later cases.

2. While this appeal was pending, this Court issued two decisions affirming the unpatentability of all but one of the asserted claims of the ’504 and ’211 patents. Apple argued, and the panel should have held, that claim 5 of the ’504 patent—the sole remaining claim of the ’211 and ’504 patents—is invalid because it is not patentably distinct from claim 5 of the ’211 patent, which this Court affirmed as unpatentable. *XY*, 890 F.3d at 1294 (“[A]ffirmance [of the Board’s unpatentability determination] ... has an immediate issue-preclusive effect on any pending or co-pending actions involving the patent.”); *Ohio Willow Wood Co. v. Alps South LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013) (where “the differences between the unadjudicated patent claims and adjudicated patent claims do not materially alter the question of invalidity, collateral estoppel applies”).

The panel’s opinion did not address Apple’s argument on this point. Although the panel correctly reversed the district court’s infringement judgment as to the ’504 and ’211 patents, that determination did not moot Apple’s request to invalidate claim 5 of the ’504 patent under collateral estoppel. *See Fort James*,

412 F.3d at 1348-1349 (“[A] counterclaim questioning the validity or [un]enforceability of a patent raises issues beyond the initial claim for infringement that are not disposed of by a decision of non-infringement.”). Indeed, the enforceability and validity of the ’504 and ’211 patents continues to affect Apple’s rights more broadly and, for example, is the subject of a \$439 million judgment in a related proceeding. Therefore, this case should be reheard so that the panel or the en banc Court can hold claim 5 of the ’504 patent invalid.

3. Finally, the panel held that substantial evidence supported a finding that Apple directly infringed the ’135 patent. But the panel overlooked the complete absence of any evidence that Apple practiced the claimed method *in the United States*. The Court should correct the error and hold that any infringement of the ’135 patent is through inducement only. This is important, as on remand (and for ongoing royalties) any damages from inducement must be tied to “the extent to which the infringing method has been used.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1334-1335 (Fed. Cir. 2009).

BACKGROUND

VirnetX initially sued Apple in August 2010 (“the 417 Action”), alleging infringement by aspects of two software applications, VPN On Demand and FaceTime. Appx1. After multiple trials and a prior appeal to this Court, the district court ultimately entered a \$439 million judgment against Apple in that

case, and a panel of this Court summarily affirmed. *VirnetX Inc. v. Cisco Sys., Inc.*, 748 F. App'x 332 (Fed. Cir. 2019), *pet. for cert. filed*, No. 19-832 (U.S. Dec. 27, 2019).

After being accused of infringement in the prior action, Apple redesigned its products to avoid VirnetX's patents. In November 2012, VirnetX filed this suit ("the 855 Action") asserting the same four patents against the redesigned versions of VPN On Demand and FaceTime. In the 855 Action, Apple sought to challenge the patents' validity on grounds Apple elected not to try in the 417 Action. The district court recognized that claim preclusion did not prevent Apple from doing so, because Apple's redesigned products were not "essentially the same" as the originally accused products. Appx5. However, the court barred Apple's invalidity defenses and counterclaims based on issue preclusion. Appx5-9. The district court reasoned that "patent invalidity is a single 'issue' for preclusion purposes" and that, because Apple raised and lost on one invalidity ground in the 417 Action (anticipation by the Kiuchi prior art reference), it could not raise *any* invalidity ground in the 855 Action. Appx6-7. VirnetX did not argue (and the district court did not consider) whether Apple had "actually litigated" other invalidity defenses, including obviousness, in the 417 Action. *See* Appx16333.

In the 855 Action, a jury found that redesigned VPN On Demand and redesigned FaceTime infringed and awarded \$502 million in damages. Appx50-

52. The district court denied Apple's post-trial motions and awarded VirnetX supplemental damages and ongoing royalties at the jury's implied rate of \$1.20 per unit, \$173,549 in costs, \$93,177,592 in prejudgment interest, and post-judgment interest. Appx71-102; Appx111-117; Appx16317-16318.

Meanwhile, while this appeal was pending, this Court affirmed the unpatentability of all but one of the asserted claims of the '211 and '504 patents, the only patents found infringed by Apple's FaceTime feature. *VirnetX Inc. v. Cisco Sys., Inc.*, 776 F. App'x 698, 704 (Fed. Cir. June 28, 2019) ("18-1751 Decision"); *VirnetX Inc. v. Apple Inc.*, 931 F.3d 1363, 1380 (Fed. Cir. Aug. 1, 2019) ("17-1591 Decision"). As a result, claim 5 of the '504 patent is the only claim asserted against FaceTime that has yet to be affirmed as unpatentable by this Court. Critically, however, this Court also affirmed the unpatentability of claim 5 of the '211 patent, which is indistinguishable from claim 5 of the '504 patent. 17-1591 Decision, 931 F.3d at 1380. Apple accordingly requested that the panel apply collateral estoppel and invalidate claim 5 of the '504 patent in this appeal, because it is not patentably distinct from claim 5 of the '211 patent that this Court affirmed as unpatentable in the 17-1591 Decision. ECF No. 69 at 7.

The panel affirmed-in-part, reversed-in-part, vacated-in-part, and remanded. The panel affirmed the district court's determination that the prior litigation precludes Apple from pressing its separate invalidity challenges, but it relied on

reasoning not considered by the district court or raised by VirnetX below. Op. 10-17. The panel also affirmed the infringement judgment for the two patents asserted against the redesigned version of VPN On Demand, ruling *inter alia* that Apple infringed the '135 patent “directly through testing” because of evidence of “a test plan that the jury could infer was carried out.” Op. 20. The panel did not refer to any evidence permitting an inference that testing was “carried out” in the United States.

The panel reversed the infringement judgment for the '504 and '211 patents, holding that “a reasonable jury could not conclude that redesigned FaceTime is a ‘domain name service system’” as the asserted claims require. Op. 29. The panel accordingly “vacate[d] the damages award,” which did not differentiate damages among the different patents and products, and “remand[ed] for the district court to consider whether it can and should enter a revised award without conducting a new trial and, if not, to hold a new trial limited to damages.” Op. 3. However, the panel did not address Apple’s argument that claim 5 of the '504 patent is invalid.

ARGUMENT

I. THE COURT SHOULD CORRECT THE PANEL’S HOLDING THAT AN OBVIOUSNESS DEFENSE CAN BE “ACTUALLY LITIGATED” FOR ISSUE PRECLUSION PURPOSES EVEN THOUGH IT WAS NOT PURSUED AT TRIAL.

A. Apple Did Not “Actually Litigate” Its Obviousness Defense For Issue Preclusion Purposes.

Issue preclusion applies “when: (1) the identical issue was previously adjudicated; (2) the issue was actually litigated; and (3) the previous determination was necessary to the decision.” *Pace v. Bogalusa City Sch. Bd.*, 403 F.3d 272, 290 (5th Cir. 2005); Op. 11 (“issue preclusion prevents ‘successive litigation of an issue of fact or law actually litigated *and* resolved in a valid court determination essential to the prior judgment’” (quoting *New Hampshire*, 532 U.S. at 748-749)).¹

The panel erred by concluding that Apple “actually litigated” its obviousness defense in the prior action where Apple decided not to pursue it at trial and it was not submitted to the jury. The “actual litigation” requirement requires that the issue be “raised, contested by the parties, submitted for determination by the court, and determined.” *In re Keaty*, 397 F.3d 264, 272 (5th Cir. 2005); Restatement (Second) of Judgments § 27 (1982) (for issue to be “actually litigated,” it must be “properly raised” and actually “submitted for determination” and “determined”). For example, “[i]n the case of a judgment entered by confession, consent, or

¹ Emphases are added unless indicated otherwise.

default, none of the issues is actually litigated.” Restatement (Second) of Judgments § 27.

Here, although Apple “raised” obviousness in its pleadings and the parties’ joint pretrial order, Apple did not raise it at trial and in fact “tried to voluntarily dismiss the remaining invalidity challenges without prejudice on the eve of trial.” Op. 11-12. At trial, “Apple informed the district court and VirnetX that it intended to present only an anticipation claim based on the Kiuchi reference.” Op. 12; *see* Appx22395 (“Apple only presented an anticipation defense to the jury, and only with respect to the claims asserted by VirnetX at trial.”). And Apple “presented no other evidence at trial regarding its other invalidity theories and prior art references.” Appx22395-22396. Under established law, that removed the obviousness defense from the case. *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1193 (Fed. Cir. 2014) (“patentee’s announcement that it was no longer pursuing particular claims coupled with its ceasing to litigate them, was sufficient to remove those claims from the case even without” a formal motion or stipulation). Therefore, Apple did not “actually litigate” the obviousness issue at trial. *See Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 763 F. Supp. 2d 671, 680 n.7 (D. Del. 2010) (anticipation was not “actually litigated” where defendant “developed its anticipation defenses prior to trial ... and then made ‘strategic decisions’ not to present these defenses at trial”); *see also Adolph*

Coors Co. v. Commissioner, 519 F.2d 1280, 1283 (10th Cir. 1975) (issue that was raised and “subsequently abandoned unilaterally” was not actually litigated); *Wilwording v. Swenson*, 502 F.2d 844, 848-849 (8th Cir. 1974) (“dismissal at plaintiff’s request, even if it is with prejudice, is insufficient to invoke the bar of collateral estoppel,” which can be applied only to “issues actually litigated and determined”).

Tellingly, the district court itself rejected VirnetX’s post-trial request to “enter judgment on all of Apple’s invalidity defenses and counterclaims ... which Apple asserted up to the time of trial, ***but never presented to the jury***,” concluding that it “will not enter judgment upon claims and defenses ***that were not presented for consideration to the jury***.” Appx22395-22396. Under these circumstances, the panel erred in concluding that any non-anticipation issues were “actually litigated.” Indeed, the panel’s conclusion essentially merged two issue preclusion requirements, as it allows its erroneous conclusion that obviousness was previously ***adjudicated*** to dictate its conclusion that obviousness was also “***actually litigated***.”

The panel principally relied on the Wright & Miller treatise to conclude that obviousness was actually litigated. Op. 12 (citing 18A Wright & Miller, Federal Practice & Procedure § 4419 (3d ed.)). But Wright & Miller’s discussion merely reflects the treatise authors’ proposed rule, which is not supported by any cited authority. Moreover, *Santopadre v. Pelican Homestead & Savings Association*,

937 F.2d 268, 274 (5th Cir. 1991)—also relied on by the panel—is readily distinguishable. In *Santopadre*, summary judgment had been entered in the prior action on the identical issue where the party failed “to present enough proof to raise a genuine issue of material fact that would preclude summary judgment.” *Id.* Unlike this case, there was no indication that the party sought to dismiss the issue or otherwise did not pursue it any time before the summary judgment determination.

The panel’s application of issue preclusion to an issue raised in pleadings but not actually litigated—and to do so in a new case involving a different infringement claim against different products—raises serious fairness and efficiency concerns. The panel’s holding perversely requires defendants to pursue every single defense and counterclaim raised at any stage of the case all the way through trial, or else be forbidden from pursuing it when defending against a *different* claim later. But as the district court explained, “VirnetX and Apple were encouraged to narrow their cases for ... trial and both parties *voluntarily did so.*” Appx7; *see* Appx22396 (“The Court encourages and *requires* the parties to narrow their case for trial.”). With the trial limited to five days and both parties constrained by court-imposed time limits, it is impractical and unfair to require a defendant to litigate every single defense and counterclaim at trial on pain of issue preclusion with respect to subsequent claims. And as the district court recognized

in refusing to enter judgment on issues not actually litigated, Apple should not be penalized for narrowing its issues for trial. Appx22396 (“[T]he Court will not penalize such attempts to narrow issues by entering judgment on issues not presented at trial.”).²

Therefore, the panel erred in concluding that an issue not pursued at trial was “actually litigated” for purposes of issue preclusion.

B. The District Court Erred In Applying Issue Preclusion To Apple’s Obviousness Defense.

Because the panel held that Apple’s obviousness defense was “actually litigated” in the prior action, it did not address the district court’s erroneous reasoning for why issue preclusion barred Apple’s invalidity arguments in this case. The district court ruled that invalidity is always a single “issue” for preclusion purposes, while noting that this Court “ha[d] not yet explicitly addressed this matter.” Appx6-7.

Since then, however, this Court has rejected the district court’s approach of treating all invalidity defenses as a single, undifferentiated “issue,” by holding that issue preclusion did not bar a defendant who lost invalidity challenges under §§ 102 and 103 from pursuing a § 101 challenge in a second case. *Voter Verified*,

² The panel’s conclusion that Apple “actually litigated” its obviousness defense was not a finding the district court made below or an argument that VirnetX even pressed below. *See* Appx16333 (arguing only actual litigation of “anticipat[ion] by the Kiuchi reference”).

887 F.3d at 1382-1383. *Voter Verified* necessarily rejected the single-issue approach to invalidity in concluding that the mere fact that a defendant lost one type of invalidity challenge did not bar it from pursuing another in a different case. *Id.*

The only invalidity defense Apple pursued at trial in the first action was anticipation by Kiuchi under § 102. *See* Appx2. Accordingly, under *Voter Verified* and standard issue preclusion principles, it was error to bar Apple's invalidity defenses in this subsequent action—at least for those arising under other statutory provisions, including obviousness under § 103. *See* Appx2; *see generally* Appx15001-15020.

* * *

The application of issue preclusion with respect to invalidity defenses will continue to arise in cases where accused infringers are sued after attempting to design around previously asserted patents. As a result, this Court should provide guidance on this important issue. Rehearing should be granted, and the no-invalidity judgment for all four patents vacated and remanded.

II. THE PANEL SHOULD HAVE REACHED APPLE'S ARGUMENT AND HELD THAT CLAIM 5 OF THE '504 PATENT IS INVALID BASED ON COLLATERAL ESTOPPEL.

In supplemental briefing to the panel, Apple argued that the asserted claims of the '504 and '211 patents are unpatentable and VirnetX is estopped from

asserting the patentability of the asserted claims in this proceeding—*or any other proceeding*. ECF No. 69. Although the panel determined that the '504 and '211 patents were not infringed, that determination does not moot Apple's argument that this Court should invalidate claim 5 of the '504 patent in this appeal via collateral estoppel, because it is not patentably distinct from claim 5 of the '211 patent that this Court affirmed as unpatentable in the intervening 17-1591 Decision. *See Fort James*, 412 F.3d at 1348-1349 (“[A] counterclaim questioning the validity or [un]enforceability of a patent raises issues beyond the initial claim for infringement that are not disposed of by a decision of non-infringement.”). Claim 5 of the '504 patent continues to affect Apple's rights beyond the infringement allegations in this case, as it is the only asserted claim of the '504 and '211 patents that has not been affirmed as unpatentable and, for example, is part of the basis for a \$439 million judgment in a parallel action.

As Apple explained in its supplemental brief, of the asserted claims of the '504 and '211 patents, only claim 5 of the '504 patent has yet to be affirmed as unpatentable by this Court. ECF No. 69 at 3. And claim 5 of the '504 patent is necessarily unpatentable because it is indistinguishable from claim 5 of the '211 patent, which the 17-1591 Decision affirmed as unpatentable. *Id.* at 3-4 (citing 17-1591 Decision, 931 F.3d at 1380).

Claim 5 of both patents depends from claim 2, which depends from claim 1. Dependent claims 2 and 5 are identical in both patents, and while there are very minor differences in language between independent claim 1 of the '504 and '211 patents, they do not carry patentable weight—and VirnetX has never articulated a reason why those minor differences matter. ECF No. 69 at 4-6 (citing Appx262; Appx401); *Ohio Willow Wood*, 735 F.3d at 1342 (where “the differences between the unadjudicated patent claims and adjudicated patent claims do not materially alter the question of invalidity, collateral estoppel applies”). Moreover, claims 1 and 2 of the '504 patent and claims 1 and 2 of the '211 patent have all been affirmed as unpatentable. 17-1591 Decision, 931 F.3d at 1380; 18-1751 Decision, 776 F. App'x at 704.

Although the district court entered a judgment of no-invalidity, that does not alter the application of collateral estoppel here. This Court “must apply intervening legal developments affecting the asserted patent’s validity.” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 721 F.3d 1330, 1342 (Fed. Cir. 2013). And this Court’s “precedent holds that the defense of collateral estoppel based on a final judgment of patent invalidity in another suit can be timely made at any stage of the affected proceedings.” *Mendenhall v. Barber-Greene Co.*, 26 F.3d 1573, 1579 (Fed. Cir. 1994) (internal quotation marks omitted); see *Blonder-Tongue Labs., Inc. v. University of Illinois Found.*, 402 U.S. 313, 350 (1971) (permitting estoppel

argument by “one facing a charge of infringement of a patent that has once been declared invalid”); *XY*, 890 F.3d at 1294-1295 (applying collateral “estoppel *sua sponte* to avoid ‘unnecessary judicial waste’ from remanding an issue that has a clear estoppel effect”). Apple “raised [collateral estoppel] during [this] pending litigation at virtually the earliest possible date.” *Mendenhall*, 26 F.3d at 1580. Nor is the issue-preclusion ruling addressed in Part I above an obstacle here, because this Court’s intervening invalidity rulings are “special circumstances” warranting departure from any prior liability ruling. *See id.* at 1582-1583.

At a minimum, the panel should have addressed Apple’s collateral estoppel argument. Had it done so, it would necessarily have applied collateral estoppel and invalidated claim 5 of the ’504 patent in this appeal, because it is not patentably distinct from claim 5 of the ’211 patent that this Court affirmed as unpatentable in the 17-1591 Decision. *See XY*, 890 F.3d at 1294 (“[A]ffirmance [of the Board’s unpatentability determination] ... has an immediate issue-preclusive effect on any pending or co-pending actions involving the patent.”); *Chrimar Sys., Inc. v. ALE USA Inc.*, 785 F. App’x 854 (Fed. Cir. 2019) (same).

This Court should grant Apple’s petition for panel or en banc rehearing, invalidate claim 5 of the ’504 patent, and estop VirnetX from asserting the patentability of claims 1, 2, 5, and 27 of the ’504 patent and claims 36, 47, and 51 of the ’211 patent in this proceeding—or any other proceeding.

III. THE JUDGMENT OF DIRECT INFRINGEMENT OF THE '135 PATENT SHOULD BE VACATED.

Finally, the panel overlooked or misapprehended Apple's argument that it cannot have *directly* infringed the '135 patent, because VirnetX presented no evidence permitting an inference that Apple performed the claimed method steps "in the United States," and pointed to none in its brief. *E-Pass Techs., Inc. v. 3Com Corp.*, 473 F.3d 1213, 1222 (Fed. Cir. 2007); Apple Br. 41; Apple Reply Br. 12. Regarding direct infringement, the panel held only that "there was sufficient evidence of a test plan that the jury could infer *was carried out*," Op. 20, but did not hold (and could not have held) that a jury could infer that it was carried out *in the United States*. The judgment of direct infringement of the '135 patent should therefore be vacated. This is important because, on remand (and for ongoing royalties), damages due to induced infringement would have to be limited to "the extent to which the infringing method has been used." *Lucent Techs.*, 580 F.3d at 1334-1335. At the very least, this error should be corrected so that the damages proceeding on remand is properly limited.

CONCLUSION

The petition should be granted.

Respectfully submitted,

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ADDENDUM

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

**VIRNETX INC., LEIDOS, INC., FKA SCIENCE
APPLICATIONS INTERNATIONAL
CORPORATION,**
Plaintiffs-Appellees

v.

APPLE INC.,
Defendant-Appellant

VIRNETX INC.,
Plaintiff-Appellee

v.

APPLE INC.,
Defendant-Appellant

2019-1050

Appeal from the United States District Court for the
Eastern District of Texas in Nos. 6:11-cv-00563-RWS, 6:12-
cv-00855-RWS, Judge Robert Schroeder, III.

Decided: November 22, 2019

JEFFREY A. LAMKEN, MoloLamken LLP, Washington, DC, argued for all plaintiffs-appellees. Plaintiff-appellee VirnetX Inc. also represented by JAMES A. BARTA, MICHAEL GREGORY PATILLO, JR., LUCAS M. WALKER, RAYINER HASHEM; ALLISON MILEO GORSUCH, Chicago, IL; LAUREN F. DAYTON, JENNIFER ELIZABETH FISHELL, New York, NY; BRADLEY WAYNE CALDWELL, JASON DODD CASSADY, JOHN AUSTIN CURRY, Caldwell Cassady & Curry, Dallas, TX.

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WILLIAM F. LEE, Wilmer Cutler Pickering Hale and Dorr LLP, Boston, MA, argued for defendant-appellant. Also represented by MARK CHRISTOPHER FLEMING, LAUREN B. FLETCHER; THOMAS GREGORY SPRANKLING, Palo Alto, CA; BRITTANY BLUEITT AMADI, Washington, DC.

Before LOURIE, MAYER, and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

VirnetX Inc. and Leidos, Inc. (together, VirnetX) brought this case against Apple Inc., alleging that Apple infringed four VirnetX patents. The district court entered summary judgment for VirnetX on invalidity, determining that Apple was precluded from pressing its proposed invalidity challenges because of previous litigation between the parties. A jury found for VirnetX on infringement and awarded roughly \$503 million as a reasonable royalty, equal to a rate of \$1.20 for each device whose sale by Apple infringed. The district court denied Apple's post-trial motion for judgment as a matter of law and entered a final judgment for VirnetX.

Apple appeals. We affirm the district court's determination that Apple is precluded by the prior litigation from pressing its proposed invalidity challenges. We affirm the judgment of infringement as to two of the patents but reverse as to two others. In light of our partial reversal on infringement, we vacate the damages award and remand for the district court to consider whether it can and should enter a revised award without conducting a new trial and, if not, to hold a new trial limited to damages.

I

A

VirnetX owns U.S. Patent Nos. 6,502,135, 7,418,504, 7,490,151, and 7,921,211, the patents asserted in this case. Those patents are related to and claim improvements over VirnetX's U.S. Patent No. 7,010,604, which is not at issue in this appeal. The '604 patent describes Virtual Private Network (VPN) techniques for securely and privately transmitting communications over public networks. In particular, it describes a method in which a data packet is sent through a randomized series of servers before reaching its final destination. '604 patent, col. 3, lines 3–12. An intermediate server in the series may send the packet to its final destination or to another randomly selected server, subject to the constraint that each packet must stop at a minimum number of intermediate servers before being sent to its final destination. *Id.*, col. 3, lines 29–37. The recipient's identity is thereby obscured, enhancing privacy.

The '135, '151, '504, and '211 patents claim improvements of existing VPN methods, such as the '604 patent's method. The parties group the '135 and '151 patents together and the '504 and '211 patents together.

The '135 patent teaches a method of automatically establishing a VPN in response to a domain name inquiry. '135 patent, col. 47, lines 20–32. Claim 1 is representative of the asserted claims of the '135 patent:

1. A method of transparently creating a virtual private network (VPN) between a client computer and a target computer, comprising the steps of:

- (1) generating from the client computer a Domain Name Service (DNS) request that requests an IP [internet protocol] address corresponding to a domain name associated with the target computer;
- (2) determining whether the DNS request transmitted in step (1) is requesting access to a secure website; and
- (3) in response to determining that the DNS request in step (2) is requesting access to a secure target web site, automatically initiating the VPN between the client computer and the target computer.

Id.; see also '151 patent, col. 48, lines 18–29 (claim 13). The '151 patent issued from a divisional of the '135 patent's application, so the two patents share a specification. Whereas the '135 patent recites a method claim, the '151 patent recites a “computer readable medium” capable of executing a set of instructions. '151 patent, col. 48, lines 18–29. Claim 13 is the only asserted claim of the '151 patent:

13. A computer readable medium storing a domain name server (DNS) module comprised of computer readable instructions that, when executed, cause a data processing device to perform the steps of:

- (i) determining whether a DNS request sent by a client corresponds to a secure server;
- (ii) when the DNS request does not correspond to a secure server, forwarding the DNS request to a DNS function that returns an IP address of a nonsecure computer; and

(iii) when the intercepted DNS request corresponds to a secure server, automatically creating a secure channel between the client and the secure server.

Id.

The '504 patent and the '211 patent make up the second group of patents at issue in this case. The '504 patent, which issued from a continuation-in-part of the '135 patent's application, describes certain logistical aspects of a secure communication link between computer nodes, including a repository of names and network addresses. '504 patent, col. 55, lines 49–56. Claim 1 is representative of the asserted claims of the '504 patent:

1. A system for providing a domain name service for establishing a secure communication link, the system comprising:

A domain name service system configured to be connected to a communication network, to store a plurality of domain names and corresponding network addresses, to receive a query for a network address, and to comprise an indication that the domain name service system supports establishing a secure communication link.

Id.; *see also* '211 patent, col. 57, lines 38–46 (claim 36). The '211 patent issued from a continuation of the '504 patent's application, so the two patents share a specification. Whereas the '504 patent recites a system claim, the '211 patent claims a “machine-readable medium” comprising instructions for establishing the system. '211 patent, col. 57, lines 38–46.

B

Apple designs and sells mobile devices. Over time, various such devices have used different versions of Apple's

iOS operating system. Many of the devices at issue here included a VPN on Demand application. All the devices at issue included a FaceTime application.

VPN on Demand allows an Apple device to communicate with a secure website, generally one hosted by a private server and protected by a firewall, by establishing a VPN between the device and the private server. Before Apple released iOS 7, VPN on Demand had two modes of operation: “Always” and “If Needed.” For both modes, a user created a list of websites, indicated by domain names, that the user wanted to be able to access, at least some of the time, through a VPN. If the user selected “Always” mode, VPN on Demand established a VPN connection any time the user requested access to a domain name on the list. By contrast, if the user selected “If Needed” mode, VPN on Demand first attempted to connect to any requested website, including one on the list, without a VPN; only if the request failed—commonly, because a firewall stopped the request—did VPN on Demand establish a VPN.

FaceTime allows Apple devices to have secure audio and video communication sessions (calls) between devices in which the FaceTime application is installed. Before Apple released iOS 7, a user (the caller) initiated a FaceTime call by selecting another user (the receiver) from the caller’s list of contacts. The calling device constructed a message—containing the calling device’s IP address and certificate, the receiving device’s Apple ID, and a push token—and sent that message to a dedicated FaceTime server. When the FaceTime server received the message, it used the calling device’s certificate to confirm that the calling device was registered with FaceTime and used the receiving device’s Apple ID to obtain the receiving device’s IP address. Then, the server constructed a message with information about the calling device—its IP address and a session token—and sent that message to the receiving device. If the receiver accepted the call, the receiving device constructed a new message containing information about

itself—its IP address, its certificate, a push token, and a session token—and sent that message back to the FaceTime server. Finally, the FaceTime server sent the receiving device’s IP address and certificate to the calling device, which allowed the two devices to establish a secure communication.

C

In 2010, VirnetX sued Apple for patent infringement based on Apple’s use and sale of mobile devices running on iOS (the “417” litigation, reflecting the district court’s docket number). VirnetX relied on the “Always” mode of VPN on Demand to allege that Apple infringed the ’135 and ’151 patents and on FaceTime to allege that Apple infringed the ’504 and ’211 patents. Apple counterclaimed that each asserted claim was invalid. The case proceeded toward trial and in September 2012, VirnetX and Apple submitted a proposed joint final pretrial order. In that order, Apple indicated that it intended to press several invalidity theories at trial: anticipation, obviousness, written description, enablement, derivation, double patenting, and non-joinder of an alleged co-inventor. Apple submitted numerous prior-art references and extensive expert reports on invalidity. On October 22, 2012, the district court granted VirnetX partial summary judgment rejecting the derivation and non-joinder challenges. J.A. 25476, 25486.

On October 25, 2012, a week before trial was set to begin, Apple filed a motion to voluntarily dismiss the remainder of its invalidity counterclaims. J.A. 25487–90. The district court denied Apple’s motion. *See* J.A. 25591–92. Then, at trial, Apple informed the court that it would present only one invalidity challenge—an anticipation challenge based on a 1996 article by Takahiro Kiuchi and Shigekoto Kaihara (Kiuchi). Thereafter, the court entered judgment as a matter of law rejecting all of Apple’s other invalidity counterclaims.

On November 6, 2012, a jury found that Apple had infringed all asserted claims. The jury also found that Apple had failed to establish by clear and convincing evidence that the claims were anticipated by Kiuchi. Based on VirnetX's evidence at trial, the jury awarded VirnetX \$368,160,000 as a reasonable royalty for Apple's use of VirnetX's inventions.

D

On the day the jury returned a verdict in the 417 litigation, VirnetX filed the present infringement action against Apple. This case (the "855" litigation, again reflecting the district court's docket number) involves redesigned versions of VPN on Demand and FaceTime.

The redesigned version of VPN on Demand, found in iOS 7 and later versions of iOS, replaced the "Always" and "If Needed" modes with different sets of rules defining options for the user. One of the new features, "EvaluateConnection," is similar to the "Always" mode. To operate "EvaluateConnection," a user puts into the "Domains" list websites for which the user desires a secure connection. Later, when the user enters a domain name in a standard web browser, VPN on Demand checks whether the name is on the "Domains" list. Whereas the "Always" mode would have established a VPN connection at this step, "EvaluateConnection" causes the redesigned version to go through additional steps. Before establishing a VPN, the redesigned version sends a domain name request to the local domain name server on the network to which the device is connected. If this request fails, and the user has enabled the "ConnectIfNeeded" option—one of the choices within the "EvaluateConnection" feature—VPN on Demand establishes a VPN. But if the request succeeds, VPN on Demand does not establish a VPN. Evidence at trial explained the logic: whether a VPN is necessary for a secure connection turns on the user device's "location" *vis-à-vis* a private network. In particular, a failed request for

the IP address of a server hosted on a private network indicates that the user device is outside that private network, so a VPN is required for secure, private communications; in contrast, a successful request for such a server's IP address indicates that the user device is inside the private network and thus does not need a VPN for secure, private communications.

The redesigned version of FaceTime operates in largely the same way as the earlier version already found to infringe, but with one change that Apple contends is significant to the question of infringement of the '504 and '211 patents. In the redesigned version, the final message from the FaceTime server to the calling device does not include the receiving device's IP address. Because the receiving device knows the address of the calling device but not vice versa, the receiving device must initiate the communication through what Apple calls the "ICE protocol." The receiving device sends encrypted data packets to the calling device, and those data packets include the receiving device's IP address. Once the calling device decrypts the data packets, the two devices can establish a secure communication.

In the 855 litigation before us, Apple again counterclaimed that the asserted patents are invalid under 35 U.S.C. §§ 101, 102, 103, and 112. In August 2014, the district court granted VirnetX's motion for summary judgment on Apple's invalidity counterclaims. J.A. 5–9. The district court held that issue preclusion prevented Apple from pursuing its invalidity challenges because Apple had already lost on the invalidity challenges in the 417 litigation. The only invalidity challenges Apple places in issue on appeal are obviousness and non-joinder of an alleged co-inventor. Brief for Appellant at 58; Reply Brief at 25.

In April 2018, a jury found that Apple's redesigned version of VPN on Demand infringed all asserted claims of the '135 and '151 patents and that Apple's redesigned version

of FaceTime infringed all asserted claims of the '504 and '211 patents. Based on VirnetX's evidence at trial, the jury awarded VirnetX \$502,567,709 as a reasonable royalty for Apple's use and sale of VirnetX's inventions. Apple filed a motion for judgment as a matter of law, and the district court denied the motion and entered judgment for VirnetX.

Apple timely appealed to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II

We review the district court's ruling on issue preclusion de novo, following the Fifth Circuit. *Wills v. Arizon Structures Worldwide, LLC*, 824 F.3d 541, 545 (5th Cir. 2016); *Voter Verified, Inc. v. Election Systems & Software LLC*, 887 F.3d 1376, 1382 (Fed. Cir. 2018) (applying regional circuit law). We review the grant of summary judgment de novo and apply the "same criteria employed by the district court." *Waste Mgmt. of Louisiana, L.L.C. v. River Birch, Inc.*, 920 F.3d 958, 964 (5th Cir. 2019); *Eli Lilly & Co. v. Hospira, Inc.*, 933 F.3d 1320, 1327 (Fed. Cir. 2019) (applying regional circuit law). We review the denial of a motion for judgment as a matter of law de novo and ask whether the underlying jury findings were supported by substantial evidence. *See Apache Deepwater, L.L.C. v. W&T Offshore, Inc.*, 930 F.3d 647, 652–53 (5th Cir. 2019); *Elbit Systems Land & C4I Ltd. v. Hughes Network Systems, LLC*, 927 F.3d 1292, 1296 (Fed. Cir. 2019) (following Fifth Circuit law). We review a claim construction de novo and any underlying factual findings based on extrinsic evidence for clear error. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

A

We begin with Apple's challenge to the district court's conclusion that, because of what transpired in the earlier 417 litigation, issue preclusion bars Apple from presenting the invalidity challenges it raised in this litigation—

specifically, an obviousness challenge and a non-joinder challenger. We agree with the district court. We follow regional circuit law on the non-patent-specific matter of whether issue preclusion's requirement of "actual litigation" is satisfied when, in an earlier case, the party has taken a vigorously contested claim through extensive discovery all the way to trial, then lost on the issue after choosing not to present evidence on it. *See Voter Verified*, 887 F.3d at 1382–83 (applying regional circuit's law to non-patent-specific aspect of preclusion law).

The doctrine of issue preclusion prevents "successive litigation of an issue of fact or law actually litigated and resolved in a valid court determination essential to the prior judgment, whether or not the issue arises on the same or a different claim." *New Hampshire v. Maine*, 532 U.S. 742, 748–49 (2001). Only the requirement of actual litigation and resolution is contested here. We conclude that each of the invalidity challenges Apple now asserts was actually litigated and resolved in the 417 litigation. We therefore affirm the district court's determination that Apple is precluded from raising these invalidity challenges in the present case.

In the 417 litigation, Apple asserted that VirnetX's four patents are invalid based on 35 U.S.C. §§ 101, 102, 103, and 112. *See, e.g.*, Apple's Answer, Affirmative Defenses, and Counterclaims to Plaintiff's Third Amended Complaint at 9, Dkt. # 257 (Apr. 16, 2012). Just a month before trial, moreover, after extensive discovery and the submission of expert reports, the parties jointly submitted a pretrial order. Apple there continued to assert invalidity challenges based on anticipation, obviousness, written description, enablement, double patenting, derivation, and non-joinder. J.A. 25452–53 (pretrial order).

The district court granted summary judgment rejecting Apple's non-joinder challenge (along with its derivation challenge). J.A. 25476, 25486. Although Apple then tried

to voluntarily dismiss the remaining invalidity challenges without prejudice on the eve of trial, the district court denied the request, telling Apple that it could dismiss those challenges only *with* prejudice. J.A. 25591–92. Apple declined to do so, and the invalidity challenges (besides non-joinder and derivation) were still alive when trial began. J.A. 25592. At trial, Apple informed the district court and VirnetX that it intended to present only an anticipation claim based on the Kiuchi reference. J.A. 25980. When the district court asked Apple if this decision meant that Apple was “dismissing” the rest of its invalidity claims, VirnetX interjected and reminded the district court that Apple’s decision not to pursue the other claims at trial did not mean that Apple could dismiss those claims. J.A. 25981. VirnetX informed the court that it would be “filing a JMOL on any theory that [Apple was] not going forward with.” J.A. 25981–82. At the close of trial and after VirnetX formally submitted a motion for judgment as a matter of law, the court entered “judgment as a matter of law on theories of invalidity, other than anticipation over the Kiuchi references as to the asserted claims of the VirnetX patents.” J.A. 26113.

The record just recited is one of actual litigation of the invalidity issues Apple now wants to raise. Apple contends otherwise, asserting that it did not “actually litigate” any invalidity challenge except anticipation by Kiuchi simply because it chose to present to the jury no evidence on any other invalidity issue. We disagree.

A leading treatise states that, as a general rule, “preclusion applies to any issue framed by the pleadings and not withdrawn, even though it has not been raised at trial in any way.” 18A CHARLES ALAN WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE § 4419 (3d ed.) (Wright and Miller). The Fifth Circuit has concluded that an issue is “actually litigated” when the “issue is raised and the party who has the burden fails in his proof and the issue is decided against him.” *Santopadre v. Pelican Homestead &*

Sav. Ass'n, 937 F.2d 268, 274 (5th Cir. 1991) (citing *United States v. Silliman*, 167 F.2d 607, 617 (3d Cir. 1948)). Here, in the 417 litigation, Apple asserted invalidity under 35 U.S.C. §§ 101, 102, 103, and 112 from the outset, and the issues were extensively developed in discovery. Apple expressly included a host of invalidity issues, as enumerated above, in the pretrial order, which “supersede[d] all prior pleadings” and governed the proceedings to come. *Meaux Surface Protection, Inc. v. Fogleman*, 607 F.3d 161, 167 (5th Cir. 2010); see *In re Pirani*, 824 F.3d 483, 493 n.1 (5th Cir. 2016). That framing of the issues in the trial-governing pleadings, together with full pretrial engagement on the issues and the eventual judicial rulings resolving the issues based on evidentiary insufficiency, is enough to constitute actual litigation.

Preclusion in this scenario serves important interests protected by preclusion principles. One is the judicial system’s interest in avoiding duplication caused by an earlier bypassing of a present and adequate opportunity for conclusive resolution after fully prepared development of the issue. Another is the related reliance interest of the opposing party: “once an issue has been framed, the opposing party has a right to rely on the expectation that it will be resolved conclusively in that action.” Wright and Miller § 4419. When the adversarial litigation of the issue has proceeded as far as it did in the 417 matter, preclusion serves the interests in “conserving judicial resources” and “avoiding oppression or harassment of the adverse party.” Restatement (Second) of Judgments § 27 comment e.

Here, VirnetX expended “considerable effort . . . in preparing to meet a case that [was] never made” when the time came for presentation of evidence. Wright and Miller § 4419. VirnetX prevailed by summary judgment on two of the invalidity issues, including non-joinder. Then, only one week before trial, Apple informed the district court and VirnetX, in an “Emergency Motion to Dismiss,” that it

would prefer not to pursue the remaining invalidity challenges, but it proposed to dismiss them only if it could save them, unimpaired, for future litigation. J.A. 25487. In response, VirnetX explained to the court:

VirnetX has spent well over a million dollars in this case defending the validity of the patents. There were more than 100 references asserted by Apple in this case in their invalidity contentions. We had to deal with all of those.

We have had extensive motion practice in this Court on invalidity issues. We filed expert reports in this Court. We have taken depositions in this Court directed to invalidity.

J.A. 25585–86. When the district court denied the motion to dismiss, Apple knew that the issues remained in the case. But Apple bypassed the opportunity to try the issues then and there, choosing to present no evidence on those issues. Judgment as a matter of law for failure of proof followed. Apple’s choice to present no evidence does not change the character of the judgment as a resolution of issues actually litigated.

Apple relies for its contrary position on our decision in *Voter Verified*, but that decision did not hold that there is no actual litigation in a situation involving adversarial engagement on an issue as extensive in scope and duration, in a costly course of litigation, as the validity dispute in the 417 matter. In *Voter Verified*, there had been an earlier case in which Voter Verified, Inc. sued Election Systems & Software LLC for patent infringement and Election Systems counterclaimed that the asserted claims were invalid under §§ 101, 102, 103, and 112. 887 F.3d at 1379. But that was all Election Systems did in pressing the § 101 counterclaim. Indeed, when Voter Verified moved for summary judgment, “Election Systems failed to present any arguments or evidence regarding invalidity of these claims.” *Id.* In that circumstance, when Voter Verified sued

Election Systems a second time, we applied Eleventh Circuit preclusion law to reject issue preclusion of a § 101 challenge. In addition to concluding that Voter Verified had not shown that the § 101 ruling in the first case was necessary to the judgment in that case, we concluded that invalidity under § 101 was not “actually litigated” in the first case because the “district court disposed of the § 101 issue when Election Systems chose not to respond.” *Id.* at 1383.

Voter Verified thus involved such a “feeble effort” at presenting an issue that the case could be characterized as not involving actual litigation of the issue. Wright and Miller § 4419 n.11; *see id.* (calling *Voter Verified* a “close call”). How much litigation is enough to constitute actual litigation for preclusion purposes requires some judgment calls, but *Voter Verified* occupies a place on the spectrum far from a true adversarial contest and only a step away from bare pleading followed by consensual resolution, which is distinguished from actual litigation. *See* Restatement (Second) of Judgments § 27 Comment e. In the circumstances of *Voter Verified*, moreover, preclusion was not meaningfully supported by the policies of protecting the judicial system and opposing parties that weigh so heavily here.

Apple also contends that the district court in the 417 litigation never actually entered judgment on the invalidity defenses that Apple did not present to the jury. We disagree. Apple relies on the fact that, after the verdict in the 417 litigation, VirnetX moved for “judgment against Apple on Apple’s late-abandoned counterclaims and defenses, including all of Apple’s alleged prior art references,” 417 litigation, Dkt. 625, and the district court, in denying the motion, said:

The Court cannot and will not enter judgment upon claims and defenses that were not presented for consideration to the jury. There is no basis to enter such a judgment, no more than there is a basis to

enter judgment of non-infringement for Apple as to VirnetX's unasserted claims.

J.A. 22396. Apple effectively reads “defenses” as independent from “claims” in relying on this passage to support its contention. We reject Apple's argument.

During the trial, as we have noted, the court had already formally granted judgment on the invalidity defenses other than anticipation based on Kiuchi. *See* J.A. 25523 (“Court granted” “Plaintiff's JMOL on invalidity other than anticipation regarding Kiuchi”). The court did so after VirnetX succeeded in persuading the district court not to permit Apple to dismiss its invalidity challenges voluntarily without prejudice, which would free Apple to reassert those challenges in future litigation. It is unreasonable to understand the district court as having suddenly reversed itself on those decisions. In any event, the mid-trial JMOL, together with the pretrial partial summary judgment, stand as judgments on the challenges now at issue. The refusal to enter a further judgment does not undo those already-entered judgments.

In context, the reference to “claims and defenses” must be understood as referring to the defenses Apple asserted against the patent claims that VirnetX ultimately excluded from its infringement assertions. Indeed, in responding to VirnetX's motion, Apple noted that it was “not requesting to dismiss its invalidity claim in its entirety,” stating: “Apple only seeks to dismiss those claims as to which VirnetX has not asserted infringement.” J.A. 25552 n.18. Moreover, during the trial, after the district court had entered JMOL, Apple pointed out that VirnetX had initially “only asserted a subset of the claims,” had subsequently “limited those asserted claims to 18 claims,” and then had finally narrowed those claims even further at trial. J.A. 26122. The district court, in response, noted that it “ha[d] already granted [VirnetX's] motion as to the asserted claims” but would “make note of [Apple's] motion as to the unasserted

claims and all of the patents” and would “take that under advisement.” J.A. 26122. The post-trial ruling that Apple now quotes is where the court addressed the unasserted claims.

For the foregoing reasons, we affirm the district court’s determination that Apple is precluded from pressing the invalidity challenges it proposed to press in this case.

B

We next address Apple’s appeal of the finding of infringement of the ’151 and ’135 patents based on the redesigned VPN on Demand software in the mobile devices Apple sold. The jury found that Apple infringed the method claims of the ’135 patent and the computer readable medium claim of the ’151 patent by developing, testing, and selling to its customers—with detailed instructions about how to perform the method—mobile devices with VPN on Demand installed. We reject Apple’s challenges, conclude that the jury had substantial evidence to support its verdict, and affirm the judgment of infringement.

1

We affirm the judgment of infringement of the asserted claims of the ’135 patent.

The record contains substantial evidence that the redesigned version of VPN on Demand performs every step of the methods claimed in the asserted claims of the ’135 patent. *See* J.A. 10079, 10114–21 (Apple’s guide for configuring VPN on Demand); J.A. 1328–52 (VirnetX’s expert testimony); J.A. 2343–47 (Apple’s expert testimony). VirnetX used Apple’s configuration guide to show that the “EvaluateConnection” mode begins to operate when a user enters a domain name and, in response, the Apple device requests an IP address corresponding to that domain name. J.A. 10118–19; J.A. 1335. VPN on Demand “compares the requested domain against the domains listed in the Domains array,” thereby determining whether the

request was for a secure website. J.A. 10118, 10120; *see also* J.A. 1335; J.A. 2345. If VPN on Demand finds that the requested domain is listed in the Domains array, it checks, by sending a request to a local DNS server, whether the user device is connected to the private network that hosts the requested website. J.A. 10121; J.A. 1335; J.A. 2344. If VPN on Demand determines that the user device is not connected to the private network, it automatically sets up a VPN between the user device and the website. J.A. 10121; J.A. 1335; J.A. 2344–45. Therefore, substantial evidence supports the jury’s determination that VPN on Demand practices each limitation of the asserted claims.

Apple argues that use of its VPN on Demand software does not infringe the asserted claims of the ’135 patent because the “location check”—the DNS request that determines whether the user device is connected to the private network—does not correspond to a step in the claimed method and sometimes prevents VPN on Demand from establishing a VPN. Apple does not dispute that, as a general matter, an additional step does not defeat an infringement finding for a “comprising” claim because “[i]nfringement arises when all of the steps of a claimed method are performed, whether or not the infringer also performs additional steps.” *Smith & Nephew, Inc. v. Ethicon, Inc.*, 276 F.3d 1304, 1311 (Fed. Cir. 2001). But Apple nevertheless argues that the claims at issue here exclude VPN on Demand.

In particular, Apple argues that the “automatically initiating” limitation adds the following two requirements: (1) that there are no intervening steps between the “determining” step and the “initiating” step and (2) that a VPN must be initiated every time the requested domain name corresponds to a secure website. The first requirement excludes VPN on Demand, Apple says, because after VPN on Demand determines whether the requested domain name is listed in the Domains array, it performs the “location check” before initiating a VPN connection. The second

requirement excludes VPN on Demand, Apple says, because the “location check” often prevents VPN on Demand from initiating a VPN, even when the requested domain name is listed in the Domains array: if VPN on Demand determines that the device is connected to the private network that hosts the website, it does not initiate a VPN.

We reject Apple’s argument in light of the agreed-on claim construction of “automatically initiating the VPN” as meaning, simply, “initiating the VPN without involvement of a user.” J.A. 15046. Under that construction, the “automatically initiating” limitation does not exclude a method just because, after determining that the domain request corresponds to a secure website, it performs extra steps before establishing a VPN and sometimes does not establish a VPN at all. The limitation precludes post-determination further *user action* to initiate the VPN, but the operation of VPN on Demand accused of infringing does not involve such action.

The presumption of claim differentiation and the specification’s description of a particular embodiment bolster this conclusion. Contrary to Apple’s suggestion that claim 1 forbids any steps between determining that a request is for a secure website and initiating the VPN, claims dependent on claim 1—which must be consistent with claim 1—involve such intermediate steps. For example, claim 4 adds the step of “prior to automatically initiating the VPN between the client computer and the target computer, determining whether the client computer is authorized to establish a VPN with the target computer.” *Id.*, col. 47, lines 42–45. Similarly, claim 5 adds the step of “prior to automatically initiating the VPN between the client computer and the target computer, determining whether the client computer is authorized to resolve addresses of non secure target computers.” ’135 patent, col. 47, lines 48–51. Furthermore, the specification provides that in one embodiment, “if access to a secure host was requested, then . . . a further check is made to determine whether the user is

authorized to connect to the secure host.” *Id.*, col. 39, lines 7–9. Apple has not provided any reason that we should read these claims or this embodiment out of the patent.

Having concluded that the devices at issue perform the claimed steps, we also conclude that substantial evidence supports a finding that Apple infringed the asserted method claims of the ’135 patent both directly through testing and indirectly by inducing users to perform the methods. As to the former, there was sufficient evidence of a test plan that the jury could infer was carried out. As to the latter, there was sufficient evidence for the jury to find, for example, that the method covered by those claims, as embodied in the redesigned VPN on Demand, was important to customers generally as a replacement for the earlier version’s Always mode, that Apple provided instructions to customers for how to use the functionality in the redesigned VPN on Demand, and that Apple intended such use.

2

We also affirm the judgment of infringement of the asserted claim of the ’151 patent.

The jury had sufficient evidence to conclude that Apple’s sale of mobile devices constituted direct infringement of claim 13 of the ’151 patent, which is directed to a computer readable medium capable of executing the steps required to set up a VPN. That claim includes the “automatically creating” language that Apple treats as indistinguishable from the “automatically initiating” language of the ’135 patent claims. Having rejected Apple argument for the ’135 patent’s language, we reject the argument for the ’151 patent’s language as well. But Apple has an additional challenge to the infringement finding for claim 13 of the ’151 patent. We also reject this separate challenge.

Claim 13 requires a computer readable medium, not the underlying process itself, so infringement “do[es] not require the performance of any method steps.” *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1204 (Fed. Cir. 2010). When it is “undisputed that software for performing the claimed functions existed in the products when sold,” infringement occurs when the party sells those products. *Id.* at 1205. Accordingly, VirnetX was not required to prove that Apple or its customers actually executed VPN on Demand, just that Apple sold devices with VPN on Demand installed. There is no dispute that Apple did so.

Apple nevertheless contends that the devices with VPN on Demand installed could not reasonably be found to come within claim 13—specifically, its requirement that the “computer readable instructions, when executed, cause a data processing device” to perform the specified steps—because too much alteration is needed for the instructions to run to perform those steps. We disagree.

The “when executed” language does not preclude the need for any activation action to enable the execution, any more than the language in *Finjan*—*i.e.*, “storage medium storing program code for causing” performance of specified steps—required that the relevant code be “active” without the need for any user action to activate it. *See Finjan*, 626 F.3d at 1205 (concluding that such language “does not require that the program code be ‘active,’ only that it be written ‘for causing’” a computer to “perform certain steps”). We have held, moreover, that “an accused device may be found to infringe if it is reasonably capable of satisfying the claim limitations, even though it may also be capable of noninfringing modes of operations,” *id.* at 1204–05, and that a device sold in a noninfringing mode of operation may still be found to infringe if the mode that infringes can be enabled “without significant alterations,” *Ericsson, Inc. v. D-Link Systems, Inc.*, 773 F.3d 1201, 1217 (Fed. Cir. 2014). More specifically, we have upheld a finding of infringement based on a company’s provision of instructions to users on

how to operate the company's product in the infringing mode. *See, e.g., Versata Software, Inc. v. SAP America, Inc.*, 717 F.3d 1255, 1262–63 (Fed. Cir. 2013) (“Versata’s expert did not alter or modify SAP’s code in order to achieve the claimed functionality. Rather, he followed SAP’s own directions on how to implement pricing functionality in its software and activated functions already present in the software.”); *Ericsson*, 773 F.3d at 1217 (“In *Versata*, we found that the patentee presented evidence that, if a user followed the accused infringer’s own instructions, the system would operate in an infringing manner.”).

The jury could find those standards met in this case. VirnetX used publicly available Apple documents—specifically, the “Configuration Profile Reference”—to show that a user could reasonably follow the directions contained in those documents to enable “EvaluateConnection.” J.A. 10118–21 (instructions); J.A. 1332–33 (VirnetX’s expert explaining instructions). There is no evidence that customers would need to “modify the underlying code to unlock” the infringing mode. *Finjan*, 626 F.3d at 1205. And the jury did not have to find it significant that an “IT person,” and not the user, would perform the configuration. J.A. 2218. In *Finjan*, we considered whether certain products infringed the asserted claims where the infringing software modules were “‘locked’ when the [products] [we]re sold, requiring a customer to purchase a separate key to activate each individual module.” *Finjan*, 626 F.3d at 1202. We explained that the “fact that users needed to ‘activate the functions programmed’ by purchasing keys does not detract from or somehow nullify the existence of the claimed structure in the accused software.” *Id.* at 1205. The need for help from an “IT person,” who did not need to rewrite underlying code, could reasonably be treated the same as the need to secure a key in *Finjan*.

C

We now address Apple’s appeals of the verdict of infringement of the system claims of the ’504 patent and the computer readable medium claims of the ’211 patent based on Apple’s sale of mobile devices with FaceTime installed. We agree with Apple that the claim term “domain name service system” in all the asserted claims at issue, when properly construed, requires that the system include what a “domain name service” requires under *its* construction (not challenged on appeal). That is, we conclude that the district court erred as a matter of law in ruling that “the construction of ‘domain name service system’ does not incorporate the construction of ‘domain name service.’” J.A. 26684. Because no reasonable jury could find infringement under the correct construction, we hold that Apple is entitled to judgment as a matter of law of non-infringement as to those two patents.¹

1

In the 417 litigation, the district court construed the term “domain name service” as “a lookup service that returns an IP address for a requested domain name to the

¹ For ease of reference, we again quote claim 1 of the ’504 patent, which is representative:

1. A system for providing a domain name service for establishing a secure communication link, the system comprising:

A domain name service system configured to be connected to a communication network, to store a plurality of domain names and corresponding network addresses, to receive a query for a network address, and to comprise an indication that the domain name service system supports establishing a secure communication link.

requester.” J.A. 22214. The parties “provided no reason to modify” that construction in the present litigation—they incorporated by reference their arguments from the 417 litigation. J.A. 15064. And the construction of “domain name service” is not in dispute before us.

For the claim phrase “domain name service system,” the district court ruled, in the 417 litigation, that the phrase required no construction because the “claim language itself provides a description of the domain name service system.” J.A. 22219. VirnetX had proposed that no construction was necessary but argued that if the court were inclined to construe it, the phrase should be construed as “a computer system that includes a domain name service (DNS).” J.A. 22218. For its part, Apple proposed that the phrase should be construed as “a *DNS* that is capable of differentiating between, and responding to, both standard and secure top-level domain names.” J.A. 21303 (emphasis added). Thus, both parties proposed that a “domain name service system” includes a “DNS.” The district court rejected Apple’s proposal for adding a specific capability of “handl[ing] both secure and non-secure domain names.” J.A. 22219. But the court left “domain name service system” without a claim construction.

Before trial in the present case, VirnetX filed an “Emergency Motion to Clarify” in response to a claim construction argument that Apple had made in a motion to exclude certain expert testimony. Specifically, VirnetX asked the court to confirm that “domain name service” and “domain name service system” are separate terms with separate definitions. At the pre-trial conference, the court agreed with VirnetX’s argument and determined that “domain name service” and “domain name service system” are “two different terms used in different context[s].” J.A. 26684. The district court explained that it is “not a tenet of patent law that similar terms necessarily incorporate the constructions of one another.” *Id.* On that basis the court concluded that “the construction of ‘domain name

service system’ does not incorporate the construction of ‘domain name service.’” *Id.*

That conclusion, we hold, is legally incorrect. The phrase “domain name service system” consists of a noun modified by the adjectival phrase, “domain name service.” The ordinary meaning of such a phrase is that the noun is characterized by the adjectival phrase—here, that the system includes a “domain name service” according to that term’s unchallenged meaning. *See, e.g., Shire Development, LLC v. Watson Pharms., Inc.*, 787 F.3d 1359, 1365 (Fed. Cir. 2015) (regarding the phrase “inner lipophilic matrix,” the court held: “lipophilic’ is an adjective that modifies matrix. The parties stipulated that ‘lipophilic’ means ‘poor affinity towards aqueous fluids.’” Thus, the *matrix*—not just an excipient within the matrix—must exhibit the stipulated-to lipophilic characteristic.”) (internal citations omitted). Indeed, as already noted, in the 417 litigation, VirnetX agreed that a domain name service system “includes a domain name service (DNS).” J.A. 22218; *see also* J.A. 20024.

Although a single claim term sometimes can bear different meanings when used in different contexts, we generally presume that a “word or phrase used consistently throughout a claim should be interpreted consistently.” *Phonometrics, Inc. v. N. Telecom Inc.*, 133 F.3d 1459, 1465 (Fed. Cir. 1998). Here, there is no inconsistency between the use of the phrase “domain name service” when standing alone (in the preamble of claim 1) and when embedded in the phrase “domain name service system” (in the body of claim 1). The strong inference, supported as well by the natural meaning of the language itself, is that “domain name service system” requires a “domain name service” as defined by its unchallenged claim construction.

VirnetX argues that incorporating the construction of “domain name service” would render the rest of the claim language surplusage. But VirnetX has not shown

surplusage. The term “domain name service” requires simply that the system return an IP address to a requester. It does not dictate how the system communicates with the requester, how the system obtains the IP address, or what the system sends to the requester other than an IP address. According to the district court’s construction of the “indicate” limitation, the indication must be something “other than the mere returning of requested DNS records, such as an IP address or key certificate.” J.A. 15052. The phrase “domain name service” specifies that the system must return an IP address, and the “indicate” limitation specifies that the system must return something more. That the claim provides additional specific requirements says nothing to negate the core requirement of the phrase “domain name service”: the return of an IP address to the requester.

To the extent that VirnetX’s argument is that “domain name service” has a different meaning as an adjective than as a noun, the argument is unpersuasive. While there are situations in which adjectives do not “reflect the meaning of corresponding nouns,” this situation is not one of them. *FCC v. AT&T Inc.*, 562 U.S. 397, 402 (2011). For example, “[t]he noun ‘crab’ refers variously to a crustacean and a type of apple, while the related adjective ‘crabbed’ can refer to handwriting that is ‘difficult to read.’” *Id.* (citing Webster’s Third New International dictionary 527 (2002)). Here, however, VirnetX does not point to *any* difference between the contexts in which “domain name service” is used as a noun and as an adjective, much less a difference pointing away from simple incorporation of the noun’s meaning when used to modify “system.” VirnetX in fact fails to provide any alternative definition for the adjectival version of “domain name service,” let alone one that removes the characteristic of “returning an IP address.”

VirnetX’s position goes beyond departing from the ordinary role of the adjectival phrase as meaning the same thing as when that phrase is used as a noun. VirnetX’s position reduces the adjectival version of “domain name

service” to a nullity. Under VirnetX’s approach, the phrase does not modify “system” in any meaningful way, because in VirnetX’s view the “system” is defined entirely by the subsequent listed functions. An interpretation that renders language superfluous is strongly disfavored. *See, e.g., Becton, Dickinson and Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010); *Elekta Instrument S.A. v. O.U.R. Scientific Int’l, Inc.*, 214 F.3d 1302, 1305–07 (Fed. Cir. 2000). Nothing about the particular phrase at issue here suggests an exception to that important principle—suggests, in other words, that the words that provide essentially all the substantive content of the phrase “domain name service system” should be treated as a nullity.

The specification provides no support for VirnetX’s nullifying construction. To the contrary, the specification describes the invention as a system that includes a “domain name service.” ’504 patent, col. 7, lines 27–29; *id.*, col. 49, lines 1–2. There is no indication of some special meaning of “domain name service” when that service is part of the system.

VirnetX points to portions of the specification that differentiate between a “secure domain name service” (an “SDNS”) and a “standard domain name service” (an “STD DNS”). ’504 patent, col. 50, lines 40–44; *id.*, col. 50, lines 48–51. One embodiment requires a “secure network” that “includes an internal router 3312, a secure domain name service (SDNS) 3313, a VPN gatekeeper 3314 and a secure proxy 3315.” *Id.*, col. 50, lines 45–48. The secure network can also include “other network services, such as e-mail 3316, a plurality of chatrooms . . . and a standard domain name service (STD DNS) 3318.” *Id.*, col. 50, lines 48–51. VirnetX contends that because the specification refers to an STD DNS as an optional feature, it is not automatically covered by claim 1’s “domain name service system.” But the STD DNS discussion does not suggest that the domain name service system of claim 1 fails to return an IP address. Nothing in the specification indicates that the

difference between an SDNS and a STD DNS is related to the IP address function; indeed, the specification describes the secure DNS as “built on top of the existing Internet protocol (IP).” *Id.*, col. 6, lines 21–24. The distinction on which VirnetX focuses therefore cannot support VirnetX’s position on the point at issue.

What remains is VirnetX’s brief claim-differentiation argument. VirnetX points to claims 14, 15, and 35 of the ’504 patent, which depend on claim 1, and argues that they suggest, by what they add to claim 1, that “domain name service system” in claim 1 cannot by itself require a “domain name service” according to that phrase’s unchallenged claim construction. VirnetX does not suggest that claim 14, 15, or 35 requires something inconsistent with the construction of “domain name service,” only that each adds requirements that already appear in that construction, suggesting a redundancy disfavored in claim construction. We are not persuaded. VirnetX, in its largely unelaborated argument on this point, has not established a clear redundancy, if a redundancy at all, in claim 14’s requirement of configuring the system to respond to an address inquiry, claim 15’s requirement of a certain source of the network address information, or claim 35’s requirement of a domain name database. In any event, in the circumstances of this case, we conclude, the bases for the claim construction we have set forth are so strong that the thin case for claim differentiation does not support a different result. *See, e.g., Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1391–92 (Fed. Cir. 2016); *American Calcar, Inc. v. American Honda Motor Co.*, 651 F.3d 1318, 1337 (Fed. Cir. 2011); *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991).

VirnetX does not dispute that the redesigned version of FaceTime does not return an IP address to the caller device. At trial, VirnetX’s expert, testifying about the

operation of FaceTime, agreed that when the FaceTime server creates the final message, it excludes the receiving phone's IP address from that message. J.A. 1362. The message contains a push token, a certificate, and a session token, but it does not include an IP address. *Id.*

Thus, under the proper claim construction, a reasonable jury could not conclude that redesigned FaceTime is a "domain name service system." We hold that Apple is entitled to judgment as a matter of law of noninfringement of the asserted claims of the '504 and '211 patents. We reverse the district court's contrary ruling.

D

The jury's verdict provided that VirnetX was entitled to a damages award of \$502,567,709.00 but did not indicate which portions of the award were allocated to which patents. We have affirmed the judgment of infringement by VPN on Demand but reversed the judgment of infringement by FaceTime. Those rulings raise the question of whether a new trial must or should be held because of the reduced basis of liability. We see no difficulty with limiting any such trial to damages, but there is a question whether a limited retrial need or should be held at all.

We will not decide that question. We have said that "where the jury rendered a single verdict on damages, without breaking down the damages attributable to each patent, the normal rule would require a new trial as to damages." *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1310 (Fed. Cir. 2007); *see also Memphis Cmty. Sch. Dist. v. Stachura*, 477 U.S. 299, 312 (1986) ("When damages instructions are faulty and the verdict does not reveal the means by which the jury calculated damages, the error in the charge is difficult, if not impossible, to correct without retrial, in light of the jury's general verdict."); *WesternGeco L.L.C. v. ION Geophysical Corp.*, 913 F.3d 1067, 1074 (Fed. Cir. 2019) (invalidating all but one asserted claim and determining that "the award can be

sustained if there was undisputed evidence that the technology covered by [the remaining claim] was necessary to perform the [infringing method]”). We have not received full briefing on the issue of whether, despite the normal rule, this is a case in which a new trial on damages is unnecessary.

It appears to be undisputed that the jury used a per-unit royalty of \$1.20 and adopted the calculation of VirnetX’s expert to reach its damages figure—\$1.20 per unit, with over 384 million units having both FaceTime and VPN on Demand and over 34 million units having only FaceTime. J.A. 1811–12; J.A. 1852–53; J.A. 2571–73. It appears, therefore, that the jury found that FaceTime by itself was worth \$1.20 per unit. But because the jury found infringement by FaceTime as well as VPN on Demand, and Facetime was installed on all units, the jury did not have to decide whether the \$1.20-per-unit figure would be correct if only VPN on Demand infringed. VirnetX’s expert did assert that the same figure would apply, J.A. 1854–55 (explaining calculation based on licensing), but the jury did not have to decide that issue. Apple’s expert, for his part, asserted that VPN on Demand was vastly more valuable than FaceTime, J.A. 2569–73 (testifying that VPN on Demand was worth about 6 cents per unit, FaceTime about 1 cent per unit), but neither Apple nor VirnetX has suggested to us that the jury accepted that testimony.

We do not go further in exploring the law, the facts, and any admissions that might be relevant to an inquiry into the need for a new damages trial. We remand for further proceedings in the district court. We leave it to the parties and the district court to consider in the first instance relevant aspects of whether to hold a limited damages-only retrial given the reduced basis of liability, including what discretion there might be to hold such a retrial without conclusively determining whether one is needed, especially if doubt remains as to the application of the above-quoted standards to this case. We do not prejudge these issues.

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III

We affirm the district court's judgments that Apple is precluded from making certain invalidity arguments and that Apple infringed the '135 and '151 patents. We reverse the district court's judgment that Apple infringed the '504 and '211 patents. We remand the case for proceedings on damages consistent with this opinion.

The parties shall bear their own costs.

**AFFIRMED IN PART, REVERSED IN PART, AND
REMANDED**

**United States Court of Appeals
for the Federal Circuit**

November 26, 2019

ERRATA

Appeal No. 2019-1050

**VIRNETX INC., LEIDOS, INC., FKA SCIENCE
APPLICATIONS INTERNATIONAL
CORPORATION,**
Plaintiffs-Appellees

v.

APPLE INC.,
Defendant-Appellant

VIRNETX INC.,
Plaintiff-Appellee

v.

APPLE INC.,
Defendant-Appellant

Decided: November 22, 2019
Non-Precedential Opinion

Please make the following changes:

On page 15, line 13, “How” is changed to “Deciding how”

On page 31, line 6, “We remand” is changed to “We vacate
the damages award and remand”

On page 31, line 9, after “REVERSED IN PART,”
“VACATED IN PART,” is added

CERTIFICATE OF SERVICE

I hereby certify that, on this 6th day of January, 2020, I filed the foregoing with the Clerk of the United States Court of Appeals for the Federal Circuit via the CM/ECF system, which will send notice of such filing to all registered CM/ECF users.

/s/ William F. Lee
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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(g), the undersigned hereby certifies that this petition complies with the type-volume limitation of Fed. R. App. P. 35(b)(2).

1. Exclusive of the exempted portions of the petition, as provided in Fed. Cir. Rule 35(c)(2), the petition contains 3,871 words.

2. The petition has been prepared in proportionally spaced typeface using Microsoft Word 2010 in 14 point Times New Roman font. As permitted by Fed. R. App. P. 32(g), the undersigned has relied upon the word count feature of this word processing system in preparing this certificate.

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January 6, 2020