

EXPOSING LATENT PATENT INFRINGEMENT

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I. INTRODUCTION

[1] Consider the following canonical patent infringement scenario. A plaintiff owns a patent with one or more claims to the patent's underlying technology. Under 35 U.S.C. § 271(a), this plaintiff has the rights to manufacture, sell, use, or import the technology delineated by those claims.¹ The defendant manufactures, sells, uses, or imports what appears to be the same technology. Because the claim language is not entirely clear, a judge construes the exact meaning of the claims in a preliminary hearing.² Assuming that the patent is upheld as valid, a jury then determines whether the defendant's device meets the limitations of those claims, either literally or equivalently.³

[2] Suppose a device is sold that possesses only the *potential* to

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¹ 35 U.S.C. § 271(a) (2006) ("Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore, infringes the patent.").

² See generally *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384-88 (1996).

³ *Id.* at 384.

practice some function of the claimed technology. Perhaps the manufacturer has disabled the function at the factory, or maybe sophisticated users can modify the device to practice the function. But the device as sold does not actively practice the function. Call this a “latent configuration” of the device, or more simply, a “latent device.”

[3] Common sense precludes an overly literal application of claim language. If a patent claims a “laundry washing apparatus,” a laundry machine manufacturer is not excused from liability simply because its product does not actually wash laundry until the user turns it on and follows the instructions. For direct infringement, it is enough that the infringer manufacture a laundry machine that will wash laundry when used—that is, that the laundry machine, as manufactured, have the potential to practice the claimed function of washing laundry.⁴

[4] Nobody seriously disputes that the manufacturer of this laundry machine is a direct infringer. Accused infringers who manufacture laundry machines cannot argue that “It wasn’t us, it was the user” any more than accused murderers can argue that “It wasn’t me, it was the bullets.” Conversely, if sophisticated users could re-engineer the laundry machine to post its activity status to an HTTP server, nobody would hold the laundry machine manufacturer directly liable for infringing a patent on HTTP communication; it would be contrary to patent law principles to assign liability to a use that falls so far outside the scope of a laundry-washing claim.⁵ Yet in both examples, the laundry machine has some

⁴ Alternatively, the doctrine of equivalents allows for infringement by devices that meet only an equivalent of the claim language. But the doctrine of equivalents need not even enter the analysis for inventions akin to the laundry machine example. A device that meets a claim element only with user input may fall within the literal scope of that element. *See, e.g., Dorel Juvenile Grp., Inc. v. Graco Children’s Prods., Inc.*, 429 F.3d 1043, 1047 (Fed. Cir. 2005).

⁵ The patent described herein is hypothetical, but the nonstandard usage of a laundry machine is not. *See* Piotr Mitros, *Bathroom and Laundry Servers FAQ*, MIT, <http://bathroom.mit.edu/FAQ.html> (last visited Apr. 29, 2012).

potential to practice both hypothetically patented functions: washing laundry and communicating via HTTP. It becomes necessary to draw a line, separating liability from non-liability, somewhere between these two extremes.

[5] To a large extent, that line is dictated not by any characteristic of either the patented or the accused technology, but instead by the language of the patent claim at issue. By virtue of using certain language, some claims are what the U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) has called “drawn to capability”—they read not only on devices that presently perform the claimed feature, but also on those that merely possess the capability to perform the claimed feature.^{6 7} As discussed *infra*, the Federal Circuit has held that when an accused invention does not perform a claimed feature, but can potentially perform that feature if modified or used in a certain way, that invention directly infringes if and only if the claim is a capability claim.⁸

[6] As this Article will demonstrate, capability claims are heavily advantaged over present ability claims in patent infringement suits. Recent Federal Circuit case law suggests that if the claim in suit is a

⁶ Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc., 555 F.3d 984, 994 (Fed. Cir. 2009) (highlighting that “reliance on cases that found infringement by accused products that were reasonably capable of operating in an infringing manner is misplaced, since that line of cases is relevant only to claim language that specifies that the claim is *drawn to capability*”) (emphasis added).

⁷ Claims that are “drawn to capability” are referred to here as “capability” claims. The opposite, claims that recite only a present ability, are referred to as “present ability” claims. This language is chosen for simplicity and for consistency with Federal Circuit case law. It is not limited to claims that recite some identifiable “ability”; it applies equally well to claims that recite structures or other characteristics, rather than abilities.

⁸ See *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1330 (Fed. Cir. 2001) (“Under the precedent of this circuit, however, that a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement.”); see also *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002).

capability claim, a latent configuration of a device will escape direct infringement of that claim only if a structural modification is required to perform the claimed functionality.⁹ Even if the functionality requires additional custom-designed physical components; occurs only under controlled or contrived circumstances; requires the user to take additional undocumented steps; or cannot even be shown to have ever occurred—all factors that preclude direct infringement of a present ability claim—the capability claim is still directly infringed. My research did not uncover a single Federal Circuit decision that has affirmed noninfringement, or reversed a finding of infringement, of a capability claim. Identifying a claim as a capability claim, then, strongly suggests infringement by even a latent configuration of a device. To state bluntly, if a device can be made to perform a patented function claimed with capability language by anything less than a physical structural modification, that device is on the patent law equivalent of death row.

[7] Of course, there exist other powerful predictors of infringement besides capability language. But these characteristics have earned their predictive value: through countless applications approved and rejected by patent examiners; through years of litigation and appellate case law; through formation and enforcement of USPTO policy; through federal legislation; through comment and criticism by members of the legal community; and through generations of feedback from the marketplace. What distinguishes capability language is the degree to which its ascent has seemingly escaped those usual checks. The law governing capability language sprung from a meager two sentences on the topic in *Intel Corporation v. U.S. International Trade Commission* in 1991.¹⁰ It has been shaped implicitly, typically addressed only in passing, by a Federal Circuit that likely did not recognize latent infringement as anything more

⁹ See *Finjan, Ltd. v. Secure Computing Corp.*, 626 F.3d 1197, 1204-05 (Fed. Cir. 2010); see also *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821, 832 (Fed. Cir. 1991).

¹⁰ See 946 F.2d at 832.

than a niche issue. Legal commentators have allowed that circuit's decisions on the subject to remain largely unscrutinized. The USPTO has been silent on the issue of latent infringement, and the subject is absent from both Chapter 37 of the Code of Federal Regulations ("37 C.F.R.") and the Manual of Patent Examining Procedure ("MPEP"). The 2011 revision of the patent statute, the Leahy-Smith America Invents Act, was all but silent on matters of infringement, let alone latent infringement.¹¹

[8] The inattention paid to latent infringement may not be due to any unimportance of the issue, but to the natural degree to which law and administration lag behind technology. Consider how modern software-driven devices test our notions of capability in ways un contemplated by analog and even digital devices of the last century. Until the advent of recent software innovations like quantum computing, self-modifying code, and large-scale distributed systems, it was not unreasonable to assume that a device did not possess any particular capabilities beyond those contemplated by the design team and installed at the factory. In other words, there was a time not terribly long ago when the Federal Circuit's 2010 mental model of software as an automobile engine, with preexisting capabilities that are simply turned on or off with an ignition key, was not too far off the mark.¹²

[9] Not only have software capabilities expanded in recent years, but the very notion of capability itself has expanded. Herein lies one danger of the current law. Modern software-driven devices are capable of acquiring functionality above and beyond the level at which they left the factory. With distributed systems, that new functionality may come not from the designers of the software, but from its users.¹³ With self-

¹¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

¹² See generally *Finjan, Ltd.*, 626 F.3d at 1205.

¹³ See generally ERIC VON HIPPEL, *DEMOCRATIZING INNOVATION* 121-31 (MIT Press 2005).

modifying systems, it may arise from the software itself.¹⁴ With quantum systems, it may be like Schrödinger’s cat: existent and non-existent at the same time.¹⁵

[10] The patent system is flexible and competent enough to grant, deny, enforce, and invalidate patents on these technologies. But by allowing patentees to patent capabilities, without recognizing that the very idea of “capability” itself is in flux, the USPTO and the courts have demonstrated a troubling lack of foresight. A patent on a present ability X is closed; it reads only on devices that perform function X, or are reasonably capable of performing X. But a patent on a capability to perform some function X is open-ended. It not only reads on all devices that perform X, and on all those presently capable of performing X, but also, alarmingly, on devices with expandable functionality. It reads on devices that may later acquire some ability to perform X. It reads on devices that are capable of performing an open-ended set of functions that may include X. It reads on devices that invite users to add functionality, where some user may add function X. It reads on devices that nobody knew could be made to perform X until litigation arose.

[11] If the technologies underlying the capability claims in the leading latent infringement cases—sunglasses, anti-virus software, fantasy football—seem mundane and trivial, it’s because they are.¹⁶ But capability claims on even the most underwhelming technologies can become dangerously open-ended as more devices become capable, perhaps accidentally, of

¹⁴ See generally JOHN KOZA, GENETIC PROGRAMMING: ON THE PROGRAMMING OF COMPUTERS BY MEANS OF NATURAL SELECTION 644 (MIT Press 1992).

¹⁵ See generally RICHARD P. FEYNMAN, FEYNMAN LECTURES ON COMPUTATION 191-203 (Anthony J.G. Hey & Robin W. Allen eds., Addison-Wesley Publ’g Co., Inc. 1996).

¹⁶ Cf. *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1369-70 (Fed Cir. 2009); *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002); *Hilgraave Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343-44 (Fed. Cir. 2001).

performing the patented functionality. Under current law, it does not matter if anyone actually used an accused device to perform a particular patented function. It does not matter if users would need additional hardware to do it. It does not matter if they would need doctorate degrees in physics. It does not matter if they would need to replicate specific conditions that the patentee's expert concocted for litigation. It does not matter if the only way to stop the device from infringing is to remove it from the marketplace. Without more, that device directly infringes the capability claim.

[12] In the author's view, capability claims have not been more aggressively pursued by patent applicants, and asserted in litigation by patentees, simply because their legal power is too new and unproven to have attracted the attention of opportunistic parties. This Article examines why those opportunists might want to take notice. Part II of this Article surveys the current law surrounding the treatment of potentially infringing claims. Part III explores the policy problems presented by that law, and Part IV discusses a possible solution.¹⁷

¹⁷ A note on terminology: Any writer on the subject of patent law faces the challenge of communicating clearly without unduly sacrificing the precision that is crucial to the subject – especially to the language of a patent's claims, where small linguistic differences can be of critical importance. When exact terms of art are required to accurately communicate the law, this paper endeavors to utilize those terms of art – even when doing so results in some awkward phrasing. For example, I have been careful to distinguish between “patented” and “claimed”; claimed “technology” and claimed “functionality”; and “abilities” and “capabilities.” But where a term has no overriding legal significance, in the interest of clarity, I have simplified the terminology in use. So this paper will refer to a patented “device”, even though that referent might equally well be a system, a computer program, an organism, etc. It will refer to the party accused of infringement as the “defendant,” even though that party might be more accurately be described as the claimant in a declaratory judgment proceeding; as the plaintiff in a counter-suit; or as the appellant or appellee in an appellate case. It will refer to that party as the device's “manufacturer” even though it might well be a seller, importer, or user. The reason is that the legal principles apply to devices and manufacturers exactly as they do to computer programs and users. This paper primarily concerns direct infringement, not infringement by a third party. Unless otherwise noted, all forms of the word

II. THE LAW

[13] In *Intel Corp. v. U.S. International Trade Commission*, the Federal Circuit premised liability for a latent configuration of Erasable Programmable Read-Only Memories (“EPROMs”) on the claim itself; the claim recited “programmable selection means” and “whereby *when* said alternate addressing mode is selected”¹⁸ and thus was drawn to the *capability* of a device to practice the patented page mode functionality.¹⁹ The device at issue directly infringed the claim because it physically possessed that capability—even though it was not sold to perform the patented functionality, and even though users were not told how to perform the functionality.²⁰

[14] Adapting the scant two sentences on the matter in *Intel*, Federal Circuit decisions since then have struggled to analyze direct infringement by latent devices in a predictable manner. This section distills those decisions into a coherent body of law.

“infringement” refer to direct infringement. Lastly, this paper centers on the discussion of the legal principles that govern “reasonable capability”, “unreasonable capability”, “present ability”, and “latent devices.” These are terms of art that have not enjoyed consistent use throughout the case law. I have adopted these terms as a way to refer to the underlying concepts consistently throughout the paper. Different sources may use different names for the same concepts.

¹⁸ 946 F.2d 821, 832 (Fed. Cir. 2001) (emphasis in original).

¹⁹ *Id.* (finding “the accused device . . . need only be capable of operating in the page mode” to be infringing) (emphasis added).

²⁰ *See id.*

A. If the claim recites a present ability, rather than a capability, to perform a function, then it can be directly infringed only by a device that presently has the ability to perform that function. It is not sufficient that the device has the capability to perform the function.

[15] *High Tech Medical Instrumentation v. New Image Industries, Inc.*, held that a claim of an endoscopic camera “rotatably coupled” to its housing did not read on an endoscopic camera that was prevented from rotating only by two set screws that could be removed by the user.²¹ Rejecting the district court’s analogy to *Intel*, the Federal Circuit noted that while the *Intel* device as sold literally met the “programmable” limitation of the patent claim, the endoscopic camera at issue was not “rotatably coupled” without some additional effort by the user:

The [district court] read *Intel* to mean that if a particular device can be altered without undue difficulty to operate in an infringing manner, the device, as sold, must be deemed to infringe. *Intel* does not support so broad a holding. All that was required by the limitation at issue in *Intel* was that the claimed invention, an integrated circuit memory device, was “programmable” to operate in a certain manner. The accused device, although not specifically designed or sold to operate in that manner, could be programmed to do so; that is, it was “programmable” to operate in the designated mode. The claim at issue in *Intel* therefore read on the accused device, as made and sold. The AcuCam camera, by contrast, is not rotatable within its housing unless the AcuCam is altered, at least to the extent of removing or loosening the set screws that secure the camera to the housing.²²

²¹ 49 F.3d 1551, 1556 (Fed. Cir. 1995).

²² *Id.* at 1555-56.

[16] In other words, whereas the claim in *Intel* only required that a device possess a capability—that it be “programmable”—the claim in *High Tech Medical* required that the device possess a present ability—to “rotat[e]” while coupled. The fact that the endoscopic camera at issue could be modified to rotate while coupled was irrelevant. As sold, it lacked that ability and therefore did not directly infringe the claim.²³

[17] The Federal Circuit has followed *High Tech Medical* to find noninfringement by latent devices.²⁴ *Stryker Corp. v. Davol, Inc.* held that the defendant’s hand-held surgical equipment did not infringe a claim requiring “simultaneous suction and irrigation”—a present ability—even though the device would perform simultaneous suction and irrigation if attached to a specially designed apparatus:

Davol argued that the Stryke-Flow could be modified to meet the simultaneous suction and irrigation limitation of the '145 patent, or could meet that limitation if it were attached to an appropriately designed, newly-fabricated probe or an easily modified existing probe. Stryker submitted an affidavit by its Director of Disposable Product Development that it does not manufacture, use, or sell any control valve assembly, which permits or has been used for simultaneous irrigation to and suction from a surgical site. In the absence of evidence that the accused hand piece is presently capable of permitting simultaneous suction and

²³ *See id.*

²⁴ *See Stryker Corp. v. Davol Inc.*, 234 F.3d 1252, 1256 (Fed. Cir. 2000) (granting summary judgment of non-infringement to Davol because Stryker’s Stryke-Flow adapter did not have the present capability for “simultaneous suction and irrigation” and the claimed “second groove” was not present, either literally or equivalently); *see also* *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1332 (Fed. Cir. 2001) (finding non-infringement because Plaintiff was “unable to point to any component of the accused device which corresponds to the claimed ‘communication means’”).

irrigation, the court properly granted summary judgment of noninfringement of the '145 patent.²⁵

[18] *Telemac Cellular Corp. v. Topp Telecom, Inc.* concerned a means-plus-function claim of an apparatus for debiting a pre-paid mobile phone credit account.²⁶ Extending the emergent rule of *High Tech Medical, Telemac Cellular* found noninfringement by a latent configuration even though performance of the claimed functionality did not require any physical modification of the device, which, as sold, contained all of the software necessary to perform the functionality.²⁷ The court wrote:

Telemac contends that, even though Topp has chosen not to permit direct dialing of international calls, the capability of billing for international rates is nonetheless present in the phone's source code. According to Telemac, because Topp's system is capable of being modified to place, and charge for, international calls, Topp's system infringes. Under the precedent of this circuit, however, that a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement. . . . In this case, due to a restriction built into the software program stored in the telephone's memory, a user of Topp's system is prevented from directly placing international calls. Therefore, international rates, and the calculation of charges for such calls, are not included in the billing algorithm of the accused device. The district court correctly concluded that Telemac's allegations of literal

²⁵ *Stryker Corp.*, 234 F.3d at 1256-57.

²⁶ *Telemac Cellular Corp.*, 247 F.3d at 1319-20, 1324.

²⁷ *Id.* at 1330.

infringement must fail.²⁸

[19] The Federal Circuit in *High Tech Medical* did not coin “capability” or “present ability” as terms of art; nor did it explicitly identify the claim in *Intel* as reciting a capability, or the claim in *High Tech Medical* as reciting a present ability. At the time, the court likely did not intend to draw any particular dichotomy between the two types of claims. However, the Federal Circuit now views *High Tech Medical* as standing for the rule that claims which do not recite capabilities are not infringed by latent devices, at least as long as those devices require structural adjustments to meet the claim limitations.²⁹ In *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, discussed *infra*, the Federal Circuit found direct infringement by distinguishing the case from *High Tech Medical* on the basis of claim language, contrasting the present ability claim in *High Tech Medical* with the capability claim in *Intel*:

The first factual distinction between *High Tech* and this case is clear from the claim language. The claim in *High Tech* requires a structure: a camera “rotatably coupled” to a body member. In contrast, claim 22 here only requires a capacity to perform a function: ‘capable of engaging’ magnetic members from the top. As such, we find this case similar to *Intel*. . . .

The second factual distinction between *High Tech* and this case is [that] the camera in *High Tech* has to be altered for it to be “rotatably coupled” to a body member, while *Revolution's* primary frame does not need to be altered in any way for it to be ‘capable of engaging’ magnetic

²⁸ *Id.*

²⁹ *Id.* at 1332.

members from the top.³⁰

[20] Conversely, in *Cross Medical Products v. Medtronic Sofamor Danek, Inc.*, the Federal Circuit found noninfringement by analogizing the facts to *High Tech Medical* and distinguishing them from *Intel*:

Nor does *Intel* support a finding of direct infringement. The claim at issue in *Intel* called for a “programmable selection means” and thus required only that an accused device be capable of operating in the enumerated mode. . . . Here, the claim does not require that the interface be merely “capable” of contacting bone; the claim has a structural limitation that the anchor seat be in contact with bone.³¹

B. If the claim recites a capability to perform a function, then it is directly infringed by a device that is reasonably capable of performing that function.

[21] In recent years, the Federal Circuit has expressly applied a more charitable direct infringement analysis to claims requiring only capabilities than to those requiring present abilities. While the court has built on its 1991 finding in *Intel* that a latent device configuration directly³² infringed

³⁰ *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1369-70 (Fed. Cir. 2009).

³¹ *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed. Cir. 2005).

³² Later cases affirm that direct infringement under 35 U.S.C. §271(a)—not third party infringement under § 271(b) or § 271(c)—is the appropriate framework for analyzing latent infringement of capability claims. *See, e.g., Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117 (Fed. Cir. 2002) (agreeing with patentee of capability claim that the accused product “must be analyzed under a direct infringement framework”); *see also* 37 U.S.C. § 271 (2006).

a claim requiring that the device be “programmable” rather than “programmed,” the court has by 2013 expanded *Intel* into a rule that capability claims are entitled to broad favorable treatment.³³

[22] In *Finjan Software, Ltd. v. Secure Computing Corp.*, the Federal Circuit spelled out this emergent rule:

As we have cautioned, ‘in every infringement analysis, the language of the claims, as well as the nature of the accused product, dictates whether an infringement has occurred.’ *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002). Accordingly, we have held that, to infringe a claim that recites capability and not actual operation, an accused device ‘need only be capable of operating’ in the described mode. *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 832 (Fed. Cir. 1991). Thus, depending on the claims, ‘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 operation.’ *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343 (Fed. Cir. 2001).³⁴

[23] In a single move, the *Finjan* Court thus subsumed three theories of latent infringement analysis: (1) the preliminary inquiry into whether the claim describes capability, (2) the lower standard for direct infringement of capability claims, and (3) the limitation that only devices *reasonably* capable of performing the claimed functionality will directly infringe in a

³³ See, e.g., *Fantasy Sports Props.*, 287 F.3d at 1117-18.

³⁴ *Finjan Software, Ltd. v. Secure Computing Corp.*, 626 F.3d 1197, 1204 (Fed. Cir. 2010).

latent configuration.³⁵ District courts facing the issue of latent direct infringement have since endorsed the *Finjan* approach.³⁶ And revisiting the issue in *Typhoon Touch Technologies, Inc. v. Dell, Inc.*, the Federal Circuit affirmed the lower court’s finding of noninfringement without changing or even elaborating on its instructions in *Finjan*.³⁷

[24] But if the *Finjan* decision was relatively clear about what to do with latent infringement cases—determine whether the claim is a capability claim, and if so, then determine whether the device is reasonably capable of satisfying the claim limitations—it was less clear about exactly how to do it. The court did not elaborate on what precisely constitutes a capability, rather than a present ability, or on what it means to be “reasonably capable” of satisfying claim limitations. The Federal Circuit has generally failed to provide consistent guidance on how to determine whether a claim recites capability or whether a device is “reasonably capable.” Nevertheless, one can draw some general observations from the Federal Circuit’s handling of the issue since *Intel*.

³⁵ See *id.* (citing *Fantasy Sports Props.*, 287 F.3d at 1118; *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 832 (Fed. Cir. 1991); *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343 (Fed. Cir. 2001)).

³⁶ See, e.g., *Eolas Techs., Inc. v. Adobe Sys., Inc.*, 810 F. Supp. 2d 795, 813 (E.D. Tex., 2011); *Versata Software Inc. v. SAP Am., Inc.*, No. 2:07-CV-153 CE, 2011 WL 4017952, at *3 (E.D. Tex. Sept. 9, 2011); *Mikkelsen Graphic Eng’g Inc. v. Zund Am., Inc.*, No. 07-C-0391, 2011 WL 1330782, at *9 (E.D. Wis. Apr. 7, 2011).

³⁷ *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1379 (Fed. Cir. 2011).

C. In determining whether a claim recites a capability or a present ability, courts may apply the claim construction methodology of *Phillips v. AWH*, interpreting claims first in light of the specification and prosecution history of the patent, and then in light of extrinsic evidence. But more commonly, courts do not explicitly construe these claim terms at all.

[25] The determination of whether a claim recites a capability is a question of claim construction to which the Federal Circuit has applied the general principles set out definitively in *Phillips v. AWH*.³⁸ In claim construction post-*Phillips*, ambiguous terms are resolved first in light of intrinsic sources—primarily the patent’s specification and prosecution history—and then by considering extrinsic evidence only if the intrinsic record does not resolve the ambiguity.³⁹

[26] Courts have generally adopted the Phillips methodology in determining whether a claim recites capability.⁴⁰ *Typhoon Touch Technologies, Inc. v. Dell, Inc.* (E.D. Tex 2009) is illustrative.⁴¹ The case concerned the claim terms “memory for storing”, “memory means for storing”, and “processing unit . . . for executing”; the parties disagreed

³⁸ See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-19 (Fed. Cir. 2005) (en banc).

³⁹ See *id.*

⁴⁰ See, e.g., *Abaxis, Inc. v. Cepheid*, No.10-CV-02840-LHK, 2011 WL 3298613, at *2-3 (N.D. Cal. July 22, 2011); *Acer, Inc. v. Tech. Props. Ltd.*, No. C 08-00877 JW, 2012 WL 2132408, at *1-3 (N.D. Cal. June 12, 2012); *Comtech EF Data Corp. v. Radyne Corp.* No. CV-06-1132-PHX-MHM, 2007 WL 5041159, at *3-4 (D. Ariz. Oct. 12, 2007); *Decisioning.com, Inc. v. Federated Dept. Stores, Inc.*, 527 F.3d 1300, 1308 (Fed. Cir. 2008).

⁴¹ *Typhoon Touch Techs., Inc. v. Dell, Inc.*, No. 6:07CV546, 2009 WL 2243126, at *1-2 (E.D. Tex. July 23, 2009).

over whether the word “for” in each of these claims spoke to present abilities, or merely capabilities, of “storing” and “executing”.⁴² Applying *Phillips*, the district court resolved the dispute based on the claim language itself.⁴³ In the court’s view, the claims at issue contained limitations expressed as functions: “storing” and “executing”.⁴⁴ Construing “for” to require only a capability, rather than a present ability, to perform those functions would have effectively read those functional limitations out of the claim: “[i]f the claim scope extending to merely a capability ‘to store’ or ‘to execute’ was sought by the inventor,” wrote the court, “then the claim would have recited only ‘a memory’ and ‘a runtime executor.’”⁴⁵ The court thereby construed the claims to require a present ability, not merely a capability, to perform the specified functions. In affirming this construction, the Federal Circuit noted that construing the claims to require present ability was “in accord with the patentee’s statements in the specification and during prosecution of the patent application.”⁴⁶

[27] *Typhoon Touch Technologies, Inc. v. Dell, Inc.* (Fed. Cir. 2011), the most recent appellate case on point, demonstrates that construing a claim for capability or present ability is subject to the *Phillips* methodology, which authorizes the use of both intrinsic and extrinsic evidence, if necessary, for claim construction.⁴⁷ But the inquiry rarely gets that far. More commonly, courts dispose of the capability

⁴² *Id.* at *6-7.

⁴³ *Id.* at *1, 18-19.

⁴⁴ *Id.* at *6-7.

⁴⁵ *Id.* at *7.

⁴⁶ *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381 (Fed Cir. 2011).

⁴⁷ *Id.*

construction outright based solely on the claim language used.⁴⁸ For instance, in *Ormco Corp. v. Align Technology, Inc.*, the district court’s construction of “wherein the appliances are provided in a single package” as a capability claim was overturned.⁴⁹ The Federal Circuit merely stated—without explanation, though not incorrectly—that “the claims are written to require that the devices actually be in a single ‘package.’”⁵⁰ *Cross Medical Products, Inc. v. Medtronic Sofamor Danek* overturned a similar capability construction, stating only that the claim language, “a lower bone interface operatively joined to said bone segment and an anchor seat portion spaced apart from said bone interface”, recited not a capability, but a “structural limitation that the anchor seat be in contact with bone.”⁵¹ *High Tech Medical Instrumentation, Inc. v. New Image Industries, Inc.* was even more opaque on the issue; the court did not review any construction of the claim limitation, “rotatably coupled”, but simply concluded without explanation that the limitation did not read on an accused device that as sold was “not rotatable”.⁵²

[28] The Federal Circuit’s lip service to the capability issue is not limited to narrowing capability constructions to require present abilities. *Finjan Software, Ltd. v. Secure Computing Corp.* is perhaps the most prominent illustration. Despite addressing claim language nearly identical to that in *Typhoon Touch*, decided a year later, the Federal Circuit came to

⁴⁸ See, e.g., *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1307 (Fed. Cir. 2006); *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek*, 424 F.3d 1293, 1311-12 (Fed. Cir. 2005).

⁴⁹ *Ormco Corp.*, 463 F.3d at 1307.

⁵⁰ *Id.*

⁵¹ *Cross Med. Prods.*, 424 F.3d at 1303, 1311.

⁵² *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1553, 1556 (Fed. Cir. 1995).

the opposite conclusion on whether those claims recited capability.⁵³ The claims in *Finjan*, like those in *Typhoon Touch*, expressed claim limitations in functional form, using the preposition “for”: “a logical engine for preventing execution”; “a communications engine for obtaining a Downloadable”; and “a linking engine . . . for forming a sandbox package”.⁵⁴ But where *Typhoon Touch* found that such claims must recite present abilities, since to do otherwise would effectively disregard the functional limitations, *Finjan* concluded that these claims “cover capability,” based on a conclusory finding that the claims do “not require that the program code be ‘active’” and that those claims read on technology that is “designed to perform an indicated operation, but is not necessarily unlocked or active.”⁵⁵ The court was so confident that this was the plain meaning of the claims that it willingly disregarded expert testimony—that the term “engine,” as used in the claims, requires present activity rather than mere capability—in favor of what it viewed, probably in light of *Phillips*, as the primacy of plain claim language over extrinsic evidence.⁵⁶

[29] In short, the Federal Circuit will apply the *Phillips v. AWH* claim construction methodology to capability inquiries when it explicitly considers whether claim limitations need to be construed for capability, as

⁵³ See *Finjan, Ltd. v. Secure Computing Corp.*, 626 F.3d 1197, 1204-05 (Fed. Cir. 2010).

⁵⁴ *Id.* at 1204-05. The *Finjan* patent drafter, indulging the Federal Circuit’s invitation to “act as his own lexicographer”, used the term “Downloadable” as a noun to refer to what the rest of the world might call a “downloadable software program.” See, e.g., *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999).

⁵⁵ *Finjan*, 626 F.3d at 1205.

⁵⁶ *Id.* at 1204. The *Finjan* court cited *Fantasy Sports Properties, Inc.* for the proposition that “in every infringement analysis, the language of the claims, as well as the nature of the accused product, dictates whether an infringement has occurred.” *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002).

it did recently in *Typhoon Touch*. But more typically, as in cases like *Ormco* and *Cross Medical Products*, discussed *supra* in Part II, whether a claim is drawn to capability or present ability is subject simply to the court's gut instincts.⁵⁷

D. In determining whether a device is “reasonably capable” of meeting claim limitations, courts consider whether any “structural” modification is required; whether additional physical components are required; whether the limitations can only be met under controlled circumstances; whether the user has to take additional steps beyond ordinary operation to meet the limitations; and whether actual infringing use by users can be shown.

[30] Once the meaning of claim terms is determined, the accused device is compared to those claims to determine whether it meets their limitations.⁵⁸ If a claim limitation only requires a capability, what exactly does it take to meet that limitation?

[31] Recall the laundry machine example: if we accept that a “capability” becomes a “present ability” with some expenditure of energy by the user, then a laundry machine is “capable” of washing laundry and it

⁵⁷ This Part and the cases discussed herein deal exclusively with apparatus claims. Method claims are exempt from the capability/present-ability analysis because method claims, by definition, cannot be directly infringed by latent configurations. Method claims are directly infringed only by performing each step of the method, and performance of a step by a device, by definition, demonstrates that the device is presently able to perform that step. Thus, if a device lacks present ability to perform all steps of a method claim, it does not infringe that claim, regardless of whether that claim purports to recite capability. *See generally* Sw. Software, Inc. v. Harlequin Inc., 226 F.3d 1280, 1291 (Fed. Cir. 2000). Of course, well-drafted patents generally feature both apparatus claims and method claims on the same subject matter.

⁵⁸ *Markman v. Westview Instruments*, 517 U.S. 370, 374 (1996).

is also “capable” of communicating with an HTTP server. Imagine these functions as the endpoints of a capability spectrum. At one end of this spectrum are capabilities that require such trivial user effort to become present abilities – such as inserting clothes into a laundry machine and flipping the on/off switch in order to wash laundry – that they are simply treated as present abilities. Near that end of the spectrum are “reasonable” capabilities, which become present abilities with some small degree of effort or input from the user, perhaps assisted by the supplier, and with minimal physical modification required. Toward the other end of the spectrum are “unreasonable” capabilities, which only become present abilities after substantial modification by the user—modification that may require special skills, additional hardware, or a significant amount of time and effort. By allowing latent devices to directly infringe capability claims, but only if those devices are “reasonably” capable, the Federal Circuit recognizes that it would be unfair to charge unreasonable capabilities with infringement or to charge reasonable capabilities with noninfringement.⁵⁹ The difficult question is where to draw the two lines on the spectrum: (1) the line separating present abilities (which can infringe present ability claims) from capabilities (which cannot); and (2) the line separating reasonable capabilities (which can infringe capability claims) from unreasonable capabilities (which cannot).

1. Identifying the Set of Reasonable Capability Devices

[32] Consider the set of all devices. All devices fall into exactly one of the previously defined, and mutually exclusive, claim categories: present ability, reasonable capability, or unreasonable capability.

[33] Present ability claims are infringed by present abilities, but not by

⁵⁹ See *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995) (“[A] device does not infringe simply because it is possible to alter it in a way that would satisfy all the limitations of a patent claim.” (citing *Hap Corp. v. Heyman Mfg. Co.*, 311 F.2d 839, 843 (1st Cir. 1962))).

reasonable capabilities or unreasonable capabilities. Therefore, a device infringes a present ability claim if and only if it has that present ability. Capability claims are infringed by present abilities and reasonable capabilities, but not by unreasonable capabilities. Therefore, a device does not infringe a capability claim if and only if it has unreasonable capability.

[34] The set of devices that concerns this Article—those that are of reasonable capability—is the set of those devices that have neither present ability nor unreasonable capability. Recall that devices that have present ability are those that infringe present ability claims, and devices that have unreasonable capability are those that do not infringe capability claims. Therefore our target set, devices with reasonable capability, is the set of those devices that infringe capability claims, but do not infringe present ability claims.

2. Ascertaining the Boundaries of the Set

[35] Recall that only devices with present abilities can infringe present ability claims; devices that do not infringe present ability claims presently lack those abilities, though they may possess those capabilities.⁶⁰ Latent devices with unreasonable capabilities are those that would directly infringe even the claims that are drawn to capability. Examples from the Federal Circuit are hard to come by; when the Federal Circuit identifies a claim as a capability claim, it nearly always allows a finding of infringement by a latent device.⁶¹ Thus, the rule is largely shown by

⁶⁰ Identifying these devices returns to a question posed earlier: at what point beyond flipping the on/off switch and following the instructions, an action that all agree constitutes present ability, does a present ability become a capability? The fine distinction at this end of the capability spectrum is beyond the scope of this paper because it does not clearly implicate the policy issues raised by the more salient question of when reasonable capabilities become unreasonable capabilities.

⁶¹ See, e.g., *Finjan, Ltd.*, 626 F.3d at 1205; *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed Cir. 2009); *Fantasy Sports Props., Inc.*, 287 F.3d at 1119.

negative example: where the Federal Circuit has described a hypothetical latent device that would not infringe a capability claim—in order to contrast with the actual device in suit found to have infringed that claim—the noninfringing device has generally required some *structural modification* in order to perform the claimed function.⁶² A device requires such structural modifications if the physical means to perform the function are not already present in the device as supplied by the manufacturer. Conversely, if the functionality is already physically present in the device, then the device is reasonably capable of the functionality and infringes a capability claim regardless of what steps the user must take to activate the functionality.⁶³

[36] *Fantasy Sports Properties, Inc. v. Sportsline.com, Inc.* illustrates this rule. That case involved fantasy football software that could be customized by users to alter its functionality—by adding, for instance, an ability to track “bonus points,” a feature recited by the claim in suit.⁶⁴ The Federal Circuit stated that the determination of infringement or noninfringement rested on whether enabling the ability required the user to

It appears that not even a single example exists where the Federal Circuit found noninfringement of a capability claim. The above cases, in finding infringement, did hypothesize such situations.

⁶² See *High Tech Med. Instrumentation, Inc.*, 49 F.3d at 1555-56 (noting that a manufacturer of a device “designed to be altered or assembled before operation,” unlike the accused device, could be liable if the device, when altered or modified, infringes a valid patent).

⁶³ See *Fantasy Sports Props., Inc.*, 287 F.3d at 1118 (finding infringement by the accused device because the functions already existed and did not require modification of the device’s software code, even if the user had to activate the functions); *Finjan, Ltd.*, 626 F.3d at 1205 (emphasizing that the fact that a user must take steps to activate the function “does not detract or somehow nullify the existence of the claimed structure in the accused software”).

⁶⁴ *Fantasy Sports Props., Inc.*, 287 F.3d at 1111-12.

“alter the code,” or to just “activat[e] means that are *already present in the underlying software*.”⁶⁵ The court conceptualized software generally as a fixed structure that could only activate functions in response to user input:

Software is a set of instructions, known as code, which directs a computer to perform specified functions or operations. Thus, the software underlying a computer program that presents a user with the ability to select among a number of different options must be written in such a way as to enable the computer to carry out the functions defined by those options when they are selected by the user. Therefore, although a user must activate the functions programmed into a piece of software by selecting those options, the user is only activating means that are *already present in the underlying software*. Otherwise, the user would be required to alter the code to enable the computer to carry out those functions.⁶⁶

[37] While this view of software may seem quaint, the court clearly conceived two general categories of activating a device’s latent abilities: (1) changing some element of the device’s physical structure (here, “code”), and (2) configuring or using the device as-is in order to utilize some functionality “already present” in the device.⁶⁷ The court viewed the

⁶⁵ *Id.* at 1118. As *Fantasy Sports* has been interpreted by later Federal Circuit decisions, the court here is saying that it considers the claim at issue to be drawn to capability. Otherwise, the distinction between altering the software and merely activating preexisting functions in the software would be moot, because neither behavior would result in directly infringing a present ability claim.

⁶⁶ *Id.*

⁶⁷ *Id.* Implicit here is the premise that if activating a function does not require physical modification, that function must have been somehow preexistent or “baked” into the device. This premise is demonstrably untrue for modern software. But for the purposes of describing the law, assume, as the Federal Circuit does, that the premise is true.

former category as precluding infringement in the present case, stating: “in order to infringe the [patent], the code . . . must be written in such a way as to enable a user . . . to utilize the [claimed] function . . . without having to modify that code.”⁶⁸ The court seemingly viewed structurally modifying usage by users as dispositive of the unreasonableness of a device’s capabilities: “In other words, an infringing software must include the ‘means for scoring . . . bonus points’ regardless whether that means is activated or utilized in any way.”⁶⁹ This squares with *Intel*, which stated tersely that the device at issue “need only be capable of operating in the page mode,” and that “actual page mode operation in the accused device is not required.”⁷⁰

[38] *Finjan, Ltd. v. Secure Computing Corp.*, which also involved software, invoked the logic of *Fantasy Sports*. The defendant’s software could perform the patented function only if the user unlocked the function by purchasing a software key from the defendant.⁷¹ The court held that the software was reasonably capable of performing that function—and thus able to infringe the capability claim in suit—because the relevant software module was “resident in the binary source code that is in the product,” even if turned off.⁷² An unreasonable capability, by negative inference, is one that would have required some modification of the source code or program structure. The court likened the situation to how “an automobile engine for propulsion exists in a car even when the car is turned off;” that is, physical or structural components—such as an automotive engine, or in the court’s view, computer code—possess

⁶⁸ *Id.*

⁶⁹ *Fantasy Sports Props., Inc.*, 287 F.3d at 1118.

⁷⁰ *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 832 (Fed. Cir. 1991).

⁷¹ *Finjan, Ltd. v. Secure Computing Corp.*, 626 F.3d 1197, 1205 (Fed. Cir. 2010).

⁷² *Id.*

reasonable capabilities regardless of whether or how a user engages them.⁷³ A capability is unreasonable only if it does not preexist in those structural components.

[39] *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.* adds the notion that functionality may preexist in a device—thereby making the device reasonably capable of that functionality—even if the user must combine the device with special equipment to activate the functionality.⁷⁴ The issue in *Revolution Eyewear* was whether eyeglass frames had magnetic parts that were “capable of engaging” auxiliary frames, such as top-mounted sunglasses.⁷⁵ The defendant manufactured eyeglass frames that could engage auxiliary frames only if those frames were specially made to fit the defendant’s frames.⁷⁶ The court nevertheless found reasonable capability because the capability to engage auxiliary frames was a characteristic of the accused device’s physical structure even though the frames could not be so engaged unless the user supplied additional—indeed, specially designed—components.⁷⁷

[40] Conversely, when a device requires even the smallest structural modification to exercise an ability, courts hesitate to find that the device is reasonably capable of that ability.⁷⁸ In *High Tech Medical*

⁷³ *Id.* The court’s analogy of computer code to an automotive engine lacks technical accuracy. But it is still illustrative of the court’s focus on whether functionality is present in preexisting structure.

⁷⁴ *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1368 (Fed Cir. 2009).

⁷⁵ *Id.* at 1363.

⁷⁶ *Id.* at 1368.

⁷⁷ *Id.* at 1369-70.

⁷⁸ *See, e.g.*, *High Tech Med. Instrumentation, Inc., v. New Image Indus.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995).

Instrumentation, Inc. v. New Image Industries, Inc., the endoscope became “rotatably coupled” if the user simply loosened two set screws, allowing the endoscope camera to rotate.⁷⁹ Because the claim was not a capability claim, the *High Tech Medical* Court did not hold that the device was not reasonably capable of being rotatably coupled.⁸⁰ However, *Revolution Eyewear* did involve a capability claim, and the court found that the device at issue was reasonably capable in part by contrasting it with the endoscope from *High Tech Medical*: “the camera in *High Tech* has to be altered for it to be ‘rotatably coupled’ to a body member, while *Revolution’s* primary frame does not need to be altered in any way for it to be ‘capable of engaging’ magnetic members from the top.”⁸¹ In the *Revolution Eyewear* Court’s view, designing and manufacturing a custom eyepiece and attaching it to a device constituted a reasonable capability of that device, because the device itself did not have to be structurally modified.⁸² But a capability that required loosening two screws of a device was not a reasonable capability, because loosening screws was a structural modification to the device, even if a trivial one.⁸³

⁷⁹ *Id.* at 1553-54.

⁸⁰ *Id.* at 1555-56.

⁸¹ *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed Cir. 2009) (citing *High Tech Med. Instrumentation, Inc.*, 49 F.3d 1551).

⁸² *Id.* at 1368-70.

⁸³ Formerly, in cases like *High Tech Medical*, the Federal Circuit considered subjective factors such as intent in determining whether capability was reasonable or not. In *High Tech Medical*, the Federal Circuit apparently felt empowered by a First Circuit case, *Hap Corp. v. Heyman Mfg. Co.*, to consider the manufacturer’s intent in determining infringement. *High Tech Med. Instrumentation, Inc.*, 49 F.3d at 1555 (“The question is not what [a device] might have been made to do, but what it was intended to do and did do. . . . [T]hat a device could have been made to do something else does not of itself establish infringement.” (quoting *Hap Corp. v. Heyman Mfg. Co.*, 311 F.2d 839, 843 (1st Cir. 1962))). Accordingly, it considered evidence of the defendant’s design process and advertising to determine its subjective intent:

[41] Rearranging or repositioning the parts of a device, rather than “reconfiguring” them, does not constitute a structural modification. In *Ball Aerosol*, the accused device, a candle tin, could perform the patented heat transfer functionality only if the device’s cover was placed under the candle tin.⁸⁴ The district court found that the candle tin was reasonably capable of this functionality, and that rearranging the parts of the candle tin was not a structural modification like loosening the set screws in *High Tech Medical*:

The alterations in question in *High Tech* involved actually removing screws from a camera and reconfiguring the product In contrast, in the instant action, the act of placing the Accused Candle Tin's removable cover under the holder as a base requires absolutely no physical alteration of any aspect of the Accused Candle Tin.⁸⁵

New Image did not design the AcuCam camera to rotate within its housing during operation; nor was there any reference to the rotation of the camera in the AcuCam promotional materials that were made part of the record. In addition, it does not appear from the record that removing the set screws would serve any functional purpose not already accomplished by other means

High Tech Med. Instrumentation, 49 F.3d at 1556. It may have derived its rule of law from *Intel*, but by considering the defendant’s intent in determining reasonable capability, the court in *High Tech Medical* seemingly overlooked *Intel*’s reminder that “there is no intent element to *direct* infringement.” *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 832 (Fed. Cir. 1991) (citing to 35 U.S.C. § 271(b)(c)). Cases since *High Tech Medical* have rectified the situation by properly excluding subjective factors from direct infringement analysis.

⁸⁴ *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 995 (Fed. Cir. 2009).

⁸⁵ *Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, No. 05-cv-3684, 2006 WL 6178978 (N.D. Ill. June 28, 2006).

[42] Recall that reasonable capabilities of a latent device are those that result in the infringement of a capability claim, but noninfringement of a present ability claim. In the four capability infringement cases discussed in the previous section—*Fantasy Sports*, *Finjan*, *Intel*, and *Revolution Eyewear*—infringing devices had characteristics that suggested noninfringement: (1) additional physical components were required to activate the claimed ability (*Revolution Eyewear*); (2) the claimed ability could only be activated under controlled circumstances (*Fantasy Sports*); (3) the user had to take specific additional steps to activate the claimed ability (*Finjan*); and (4) device users’ actual infringing use could not be shown (*Intel*).⁸⁶ Nonetheless, in other cases involving present ability claims, these same characteristics are found on the devices that were found to not infringe the claims.⁸⁷ These four characteristics therefore suggest that a device is reasonably capable of performing a particular function, but not presently able to perform that function. Each characteristic is examined in turn.

i. Additional Physical Components Required

[43] In *Revolution Eyewear*, the defendant’s eyeglass frames were “capable of engaging” auxiliary frames even though those auxiliary frames had to be specially designed for the task.⁸⁸ So long as the accused frames themselves did not have to be modified, the custom hardware required for practicing the ability did not constitute unreasonable capability.⁸⁹

⁸⁶ See *supra* text accompanying notes 20, 66, 71, 74.

⁸⁷ See, e.g., *High Tech Med. Instrumentation*, 49 F.3d at 1555-56; *Nat’l Instruments Corp., v. Mathworks, Inc.*, 113 Fed. App’x. 895, 898-99 (Fed. Cir. 2004).

⁸⁸ *Revolution Eyewear Inc. v. Aspek Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed. Cir. 2009).

⁸⁹ *Id.*

[44] *Stryker Corp. v. Davol Inc.* was a different story. The Federal Circuit held that the defendant’s hand-held surgical equipment did not infringe a claim requiring “simultaneous suction and irrigation”—a present ability—even though the device would perform simultaneous suction and irrigation if attached to a specially designed apparatus:

Davol argued that the Stryke Flow could be modified to meet the simultaneous suction and irrigation limitation of the 145 patent, or could meet that limitation if it were attached to an *appropriately designed, newly-fabricated* probe. . . . In the absence of evidence that the accused hand piece is presently capable of permitting simultaneous suction and irrigation, the court properly granted summary judgment of noninfringement of the '145 patent.⁹⁰

[45] *Revolution Eyewear* and *Stryker* involved accused devices that were similar because they could only exhibit the claimed functionality if attached to a specially designed piece of hardware.⁹¹ But where *Revolution Eyewear* involved a capability claim, the claim in *Stryker* was a present ability claim.⁹² Because this single salient difference was determinative, the requirement of additional physical components suggests a finding of reasonable capability.

ii. Controlled Circumstances Required

[46] The fantasy football program in *Fantasy Sports Properties, Inc.* provided a mechanism by which users could customize how the program

⁹⁰ *Stryker Corp. v. Davol Inc.*, 234 F.3d 1252, 1257 (2000) (emphasis added).

⁹¹ *Id.*; see also *supra* text accompanying notes 74.

⁹² Compare *Stryker Corp.*, 234 F.3d at 1258, with *Revolution Eyewear Inc.*, 563 F.3d at 1358.

would compute football scores.⁹³ The patentee’s expert was able to customize the program in such a way that it would award “bonus points,” thereby meeting the limitations of the claim in suit.⁹⁴ The court was not persuaded by the defendant’s appeal to the principle that “[t]hat a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement.”⁹⁵ Rather, the court asserted the primacy of the claim language: “the language of the claims, as well as the nature of the accused product, dictates whether an infringement has occurred.”⁹⁶ That is, if the claim language recites a capability, rather than a present ability, then evidence that a device is capable of operating in an infringing manner—even if only under controlled or non-standard circumstances—may be sufficient to show infringement. The court considered claim language, such as “means for scoring . . . bonus points”, to be drawn to capability; as long as the user was simply “activating means that are already present in the underlying software,” that could constitute a showing of reasonable capability.⁹⁷

[47] *Zygo Corp. v. Wyko Corp.* demonstrates the corollary: if the claim at issue is a present ability claim, then it is not sufficient to show infringement only under controlled or non-standard conditions.⁹⁸ The

⁹³ *Fantasy Sports Props., Inc. v. Sportslines.com, Inc.*, 287 F.3d 1108, 1111 (Fed. Cir. 2002).

⁹⁴ *Id.* at 1117.

⁹⁵ *Id.* at 1117-18 (quoting *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1330 (Fed. Cir. 2001)).

⁹⁶ *Id.* at 1118.

⁹⁷ *Id.* (internal quotations omitted).

⁹⁸ *See* 79 F.3d 1563, 1570 (Fed. Cir. 1996).

claim in *Zygo* involved a particular means of aligning interferometers.⁹⁹ The accused device could only meet a particular present ability claim limitation, “an alignment reticle integral with the screen,” if the device was misadjusted, resulting in a visible alignment reticle.¹⁰⁰ The court rejected the patentee’s argument, based on *Intel*, that “a device which is capable of infringing use does not escape infringement although not actually used in an infringing manner.”¹⁰¹ It clarified that this principle only applies to capability claims such as that at stake in *Intel*.¹⁰²

[48] The Federal Circuit’s stance in *Zygo* has been reiterated in other cases involving present ability claims.¹⁰³ Accordingly, that a device becomes able to perform a claimed function only under controlled circumstances correlates with a finding of reasonable capability.

⁹⁹ *See id.* at 1566. *See generally* R. W. DITCHBURN, LIGHT 321-58 (Academic Press Inc., 3d ed. 1976) (An interferometer is an optical device, requiring precise calibration, for making precision measurements using waves of light).

¹⁰⁰ *Zygo Corp.*, 79 F.3d at 1569-70 (internal quotation marks omitted).

¹⁰¹ *Id.* at 1570 (citing *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 832 (Fed. Cir. 1991)).

¹⁰² *Id.*

¹⁰³ *See, e.g.*, *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1307 (Fed. Cir. 2006) (“[O]ur cases have rejected claim constructions that would merely require that infringing devices be capable of being modified to conform to a specified claim limitation”); *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343-44 (Fed. Cir. 2001) (refusing to find a device would directly infringe a product claim simply because the device could be modified to render it infringing); *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed. Cir. 2005) (rejecting patentee’s argument that “to directly infringe, Medtronic need only make devices that are capable of being converted into infringing devices”).

iii. Additional Steps Required

[49] Some devices only exhibit claimed functionality if the user performs additional steps beyond those ordinarily required to operate the device, or performs some non-structural modification of the device.¹⁰⁴ In *Finjan*, the software module capable of exhibiting the claimed functionality was disabled by the manufacturer, and was unlocked only if the user purchased a software key from the manufacturer at an additional cost.¹⁰⁵ The defendant argued that locked or disabled features were noninfringing and pointed to *ACCO Brands, Inc. v. ABA Locks Manufacturer Co., Ltd.*, involving physical lock-and-key mechanisms, where the Federal Circuit overturned a finding of infringement because the accused device could “be used at any given time in a noninfringing manner.”¹⁰⁶ The accused locks in *ACCO* could perform the patented locking functionality only if the user operated the locks in a particular fashion.¹⁰⁷ Finding infringement, the Federal Circuit in *Finjan* expressly distinguished *ACCO* from the present case because *ACCO* involved present ability claims, while *Finjan* involved capability claims:

[I]n *ACCO Brands*, the claim language required the locking device's pin to extend through a slot in a specific configuration. Here, by contrast, *Finjan's* apparatus claims do not require that the proactive scanning software be configured in a particular way to infringe—only that it be programmed for performing the claimed steps The fact that users needed to ‘activate the functions programmed’ by

¹⁰⁴ This is so-called “soft” modification of the device.

¹⁰⁵ See *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1202 (Fed. Cir. 2010).

¹⁰⁶ *Id.* at 1203-04; see also *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007).

¹⁰⁷ See *ACCO Brands*, 501 F.3d at 1310-11.

purchasing keys does not detract from or somehow nullify the existence of the claimed structure in the accused software.¹⁰⁸

[50] *Telemac Cellular Corp. v. Topp Telecom, Inc.* provides another example of additional user steps rendering a device incapable of infringing a present ability claim.¹⁰⁹ Like *Finjan*, *Telemac Cellular* also required the user to undertake additional steps—again, to unlock a particular software module—to make the accused device, a prepaid mobile phone, perform the claimed functionality of billing for international telephone calls.¹¹⁰ The court did not contest that “the capability of billing for international rates is . . . present in the [accused] phone’s source code,” or that the accused phone was “capable of being modified to place, and charge for, international calls.”¹¹¹ Nevertheless, it affirmed the district court’s finding of noninfringement because in order to perform international billing, the user had to provide the phone with an international billing rate.¹¹² Providing the device with an international billing rate is not substantially different from purchasing a software key from the manufacturer in *Finjan*. Both merely provide means to activate functionality that already exists in the software. The salient difference between the two cases is that *Telemac Cellular* involved a present ability claim,¹¹³ whereas *Finjan* involved a capability claim.¹¹⁴ The

¹⁰⁸ *Finjan*, 626 F.3d at 1204-05 (internal citations omitted).

¹⁰⁹ 247 F.2d 1316, 1330 (Fed. Cir. 2001).

¹¹⁰ *See id.* at 1320-21.

¹¹¹ *Id.* at 1330.

¹¹² *Id.*

¹¹³ The court stated that “[u]nder the claim as properly construed, the accused device must *store* an international rate in its memory,” and that “[t]he accused device must also

cases thus suggest that if a device requires the performance of additional steps to exhibit a particular functionality, the device likely is reasonably capable of that functionality.

calculate charges to be debited from the account amount using that rate.” *Id.* at 1331 (emphasis added). The emphasized language clearly identifies this claim as a present ability claim.

¹¹⁴ See *supra* text accompanying note 53. The Federal Circuit also seemingly found noninfringement of the *Telemac Cellular* claim on other grounds: that because modifying the phone to bill for international calls required supplying the phone with an international billing rate which did not preexist in the phone’s firmware, the modification of the device was a structural one. Recall that structural modifications render devices noninfringing of even a capability claim. *Telemac Cellular*, 247 F.3d at 1332. But after *Fantasy Sports*, this reasoning is no longer good law. The current view, under *Fantasy Sports*, *Finjan*, and *Revolution Eyewear*—all of which post-date *Telemac Cellular*—is that structural modifications are those that supply the device with new functionality it did not ship with. See *supra* Part II.D.1. Supplying the *Telemac Cellular* device with a billing rate is not adding functionality; it is merely providing the device with a data value that the preexisting billing functionality needs to operate. This is no different than the user customization of football scoring methods in the *Fantasy Sports* software, where the user merely had to input data to set the desired scoring parameters, and the software would translate that data into scoring methods. See *Fantasy Sports Props. Inc., v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002). By ruling that that customization was merely “activating means already present in the underlying software,” rather than structurally modifying the software, *Fantasy Sports* supersedes the inconsistent finding in the earlier *Telemac Cellular*. *Id.* at 1118. In any case, the *Telemac Cellular* court’s view, that simply supplying a device with any data that does not already exist in its firmware constitutes a structural modification, is flatly unworkable because it would create a loophole for any computer program that takes user input. All user input to a computer program supplies that program with data that did not already exist in the program’s code. Ordinary operation of any interactive software involves some degree of user input; classifying any such operation as structural modification would categorically allow the underlying software to evade direct infringement of capability claims.

iv. No Evidence of Actual Infringing Use

[51] In many accusations of direct infringement by a latent device, actual infringing use by any user cannot be demonstrated. *Intel* was the first to say that for capability claims, actual infringing use is irrelevant. Rejecting the accused manufacturer's defense that the patentee could not show that even a single user had used its device in the infringing page mode—or, indeed, was even aware that the device could be made to operate in that mode—the court stated that because the claim is a capability claim, “the accused device, to be infringing, need only be capable of operating in the page mode. Contrary to [defendant's] argument, actual page mode operation in the accused device is not required.”¹¹⁵ Later cases involving capability claims have been consistent with *Intel*.¹¹⁶

[52] But cases involving present ability claims, rather than capability claims, are treated differently. These cases require that patentees demonstrate users' actual infringing behavior.¹¹⁷ *ACCO Brands* provides a ready example; the accused lock in that case was found noninfringing because there was no evidence of actual infringing use.¹¹⁸ The accused

¹¹⁵ *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821, 832 (Fed. Cir. 1991).

¹¹⁶ See, e.g., *Fantasy Sports*, 287 F.3d at 1118 (noting “an infringing software must include the ‘means for scoring . . . bonus points’ regardless whether that means is activated or utilized in any way”); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1204 (Fed. Cir. 2010) (“Finjan's apparatus claims do not require that the proactive scanning software be configured in a particular way to infringe”); *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed. Cir. 2009) (“It is irrelevant that [the auxiliary frames made available to users] are not actually used in a top-mounting configuration or cannot be so used”).

¹¹⁷ See *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1312 (Fed. Cir. 2007).

¹¹⁸ *Id.*

lock was capable of operating in infringing and noninfringing modes, but the patentee did not put forth evidence that anyone other than its own expert had actually used the lock in the infringing mode.¹¹⁹ And unlike in *Intel*, the court thought it relevant that instructions on operating the device in the infringing mode were not provided to users.¹²⁰ *Ball Aerosol & Specialty Container*—involving a candle holder, as discussed above—came out similarly. Citing *ACCO*, the Federal Circuit explained:

BASC concedes that it has *no proof that the Travel Candle was ever placed in the infringing configuration*, and it is clear that the Travel Candle does not necessarily have to be placed in the infringing configuration. We thus reverse the district court's finding of infringement, and we remand to the court with instructions to issue a summary judgment of noninfringement.¹²¹

[53] Because evidence of actual infringing use of a device is required for infringement of a present ability claim, yet irrelevant to infringement of a capability claim, such evidence suggests the device's reasonable capability to perform a claimed function.

III. THE PROBLEM

A. The Patent Office Problem

[54] USPTO examiners, tasked with granting or denying patent

¹¹⁹ *Id.* at 1313. The court suggested that witness testimony of actual device users, or surveys of the defendant's customers, would have been persuasive. *See id.*

¹²⁰ *See id.* at 1311.

¹²¹ *Ball Aerosol & Specialty Container*, 555 F.3d 984, 995 (Fed. Cir. 2009) (emphasis added).

applications in accordance with the requirements of Title 35 of the U.S. Code, act as gatekeepers to the patent system. They are subject to limited review outside of the USPTO's own internal appeals process; under the 2011 ruling of the U.S. Supreme Court in *Microsoft Corp. v. i4i Ltd. Partnership*, Article III judges can invalidate the USPTO's decision to grant a patent only when error is shown by clear and convincing evidence.¹²² Gatekeepers fail when they let unwelcome visitors through the gate—or in the patent context, when they grant patents to inventors who do not fully comply with the Title 35 requirements.

[55] With the understanding that the Federal Circuit has given broad scope to capability claims, the USPTO gatekeepers have failed by allowing at least some of those claims into the patent system. Under current law, capability claims are potentially infinite in scope, encompassing any device that can perform the claimed function without structural modification. Title 35 has checks against claims of such scope; 35 U.S.C. § 112 requires that the patent specification contain a written description sufficient to enable persons of ordinary skill in the relevant art to practice the claimed invention.¹²³ When the claimed invention is actually a class of invention—as with capability claims, which effectively claim all such devices capable of performing a function—the enablement and written description requirements apply to the entire class.¹²⁴ That is, it is not enough under § 112 to enable and describe some subset of the class. The patent specification must teach the entire set. To illustrate, imagine a patent that claimed “vehicles comprising four wheels.” To obtain exclusive rights to all vehicles with four wheels, it would be insufficient for the patent specification to teach just cars; just cars, trucks, and buses;

¹²² 131 S. Ct. 2238, 2242 (2011).

¹²³ 35 U.S.C. § 112 (2006). *See generally In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993).

¹²⁴ *See* 35 U.S.C. § 112.

or perhaps even all presently known vehicles that possess four wheels. The patent must enable those skilled in the art to practice the entire set of vehicles with four wheels, even if the boundaries of that set are not fixed.¹²⁵ The patent's teachings must be drawn to the four-wheeled nature of four-wheeled vehicles, not simply to individual vehicles that possess four wheels.¹²⁶

[56] Consider the scope of capability claims in light of this principle. If a patent claims a device with a capability, it is not sufficient under § 112 that the patent teach individual devices with that capability—regardless of how many such devices it teaches. Section 112 requires that the specification enable those skilled in the art to practice all such devices with that capability, and thus that it teach the capability itself.¹²⁷ Evidence that the USPTO has violated this principle in granting capability claims

¹²⁵ See *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1346 (Fed. Cir. 2005) (holding that “the description of one method for creating a seamless DWT [did] not entitle the inventor of the [patent] to claim any and all means for achieving that objective”).

¹²⁶ This is not to be confused with the argument, roundly rejected by the Federal Circuit, that a patent ought to be invalidated for not enabling technology that was not yet discovered at the time of filing. See, e.g., *Ajinomoto Co., Inc. v. Archer-Daniels-Midland Co.*, 228 F.3d 1338, 1345 (Fed. Cir. 2000), *cert. denied*, 532 U.S. 1019 (2001) (“Enablement is determined from the viewpoint of persons of skill in the field of the invention at the time the patent application was filed.”). Patents that claim a category while only enabling a subset of that category are not non-enabling only when some later development enlarges the scope of that category; they are non-enabling because they do not enable persons skilled in the art to practice the category even as of the time of filing.

¹²⁷ See 35 U.S.C. § 112; *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983) (noting when a claim “covers every conceivable means for achieving the stated result, while the specification discloses at most only those means known to the inventor . . . the claim is properly rejected . . . on the first paragraph of § 112”).

can be found right in the seminal Federal Circuit cases on the subject.¹²⁸ For instance, claim 22 of U.S. patent RE37,545, asserted in *Revolution Eyewear*, claimed eyeglass frames with a pair of “first magnetic members capable of engaging second magnetic members of an auxiliary spectacle frame.”¹²⁹ This claim is an easy target because the word “capable” appears right in the claim language, so the patent examiner cannot be accused of mistaking this for a present ability claim. Predictably, the patent specification describes the inventor’s eyeglass frames, which include a pair of magnetic members.¹³⁰ Those particular magnetic members are presently able to engage “second magnetic members of an auxiliary spectacle frame.”¹³¹ That is, the patent claims the set of eyeglass frames that contain a pair of magnets and are capable of engaging a second pair of frames. However, the specification only teaches one member of that set: eyeglass frames that contain a pair of magnets that are presently able to engage the second pair of frames. The specification does not teach any sort of magnetic arrangement that is capable of engaging a second pair of frames, but is not presently able to do so. To the extent that such an arrangement exists, this claim fails the enablement and written description requirements because it reads on a capability, yet only teaches a present ability.

[57] The novelty requirements of 35 U.S.C. § 102—which bar patentability if, among other things, the subject matter was previously “known or used by others in this country”—also provide a check against

¹²⁸ See generally *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197 (Fed. Cir. 2010); *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed. Cir. 2009); *Typhoon Touch Tech., Inc. v. Dell, Inc.*, 659 F.3d 1376 (Fed. Cir. 2011).

¹²⁹ U.S. Patent No. RE37,545 col. 6 l. 56-58 (filed Nov. 7, 1995).

¹³⁰ *Id.* at col. 1 l. 45-55.

¹³¹ *Id.* at col. 6 l. 57-58.

overbroad capability claims.¹³² A principle of novelty is symmetry between infringement and anticipation under § 102; if a patent would read on an invention for infringement purposes, that invention anticipates the patent if it pre-dates its invention.¹³³ Under current law, a patent that claims a capability to perform a function reads on any device that can be made to perform that function without structural modification.¹³⁴ Any such device, then, should be invalidating prior art under the symmetry principle if it existed before the invention underlying the patent.¹³⁵

[58] Consider the possibility of Section 102 error by the USPTO in granting claim 65 of U.S. Patent 6,092,194, which was successfully asserted against a latent device in *Finjan*.¹³⁶ Claim 65 recites a “computer-readable storage medium storing program code for causing a server that serves as a gateway to a client to perform the steps of: receiving . . . ; comparing . . . ; and preventing execution”.¹³⁷ The Federal Circuit held in *Finjan* that the “receiving,” “comparing,” and “preventing execution” steps were drawn to capability and that the claim thus read on

¹³² 35 U.S.C. § 102(a) (2006).

¹³³ See *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1573 (Fed. Cir. 1986) (“[T]hat which infringes if later anticipates if earlier.”) (quoting *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889) (internal quotation marks omitted)).

¹³⁴ 35 U.S.C. § 102; *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001) (“When a claim covers several structures or compositions, . . . the claims is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.”).

¹³⁵ Or, once the Leahy-Smith legislation takes effect, if it merely pre-dates the filing date of the patent application. Leahy-Smith is not discussed in detail here. As applied to latent devices, it does not significantly change the principles of novelty, only its timing. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified as 35 U.S.C. § 102(a)(1) (2012)).

¹³⁶ See generally *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1204, 1205 (Fed. Cir. 2010).

¹³⁷ U.S. Patent No. 6,092,194 col. 13 l. 13-21 (filed Nov. 6, 1997) [hereinafter ‘194 patent].

any device with software that had the potential to perform those steps—even if the software was not presently able to do so.¹³⁸ This broad definition encompasses any device that can be non-structurally modified to perform those functions. But such devices pre-date the patentee’s invention, and were even cited as references in the ‘194 patent application.¹³⁹ Consider, for example, U.S. Patent 5,832,208, covering an anti-virus system for use with databases and mail servers.¹⁴⁰ Unlike the anti-virus system in ‘194, the system in the ‘208 patent lacks the present ability to “receive,” “compare,” and “prevent execution” of “Downloadables”. But the ‘208 system could be trivially modified to perform these functions without any structural modification of the code itself. Because the Federal Circuit held that ‘194 claim 65 reads on systems like that in the ‘208 patent, it follows that ‘208 should have been prior art invalidating ‘194 claim 65.¹⁴¹

[59] Overbroad patents claiming capabilities of eyeglass frames or anti-virus software may not be particularly alarming. But the problem is that the USPTO’s errors in the *Revolution Eyewear* and *Finjan* patents are commonplace. In a search of recent patents containing capability claims, the author was unable to locate even a single patent that appeared to genuinely enable a capability rather than merely a present ability, or that

¹³⁸ See *Finjan*, 626 F.3d at 1205.

¹³⁹ See ‘194 Patent (citing U.S. Patent No. 5,832,208 (filed Sept. 5, 1996) [hereinafter ‘208 Patent]).

¹⁴⁰ See ‘208 abstract. The ‘208 patent issuance date pre-dates the ‘194 date by nearly two years; the ‘194 application cited ‘208 as a reference; and the ‘194 applicant did not attempt to swear behind the ‘208 patent. There is no evidence suggesting that the ‘194 invention may have been invented before the ‘208 invention. Compare ‘208 Patent (issued Nov. 3, 1998), with ‘194 Patent (issued July 18, 2000).

¹⁴¹ *Finjan*, 626 F. 3d at 1205.

carved out an exception for prior art that also possesses that capability.¹⁴² In capability claims that do not use a form of the word “capable”—for example, the “engine for preventing execution” capability claim in *Finjan*—the risk of this error is even higher because the examiner may or may not recognize the claim as a capability claim. Further, with no mention of capability claims in the Code of Federal Regulations or in the Manual of Patent Examining Procedure, the USPTO has not indicated any awareness of the issue, let alone made an attempt to bring it to the attention of its examination staff or of the patent bar. Compounding the problem is that after *i4i*, courts cannot invalidate USPTO errors that cannot be shown by clear and convincing evidence—an evidentiary burden that may be impossible to meet in the case of claim language that the Federal Circuit has not specifically identified as being either capability language or present ability language.¹⁴³

B. The District Court Problem

[60] District courts have the ability to invalidate wrongfully granted patent claims and to construe ambiguous claim terms,¹⁴⁴ but must of course do so in accordance with mandates from the Federal Circuit and the Supreme Court. The Federal Circuit’s instructions for claim construction limit the flexibility that district courts have in narrowing overbroad claim terms, and its determinations of claim capability in cases such as *Finjan*, *Typhoon Touch*, and *Revolution Eyewear* may bind district courts facing claim language that cannot be distinguished from the claims in those

¹⁴² Admittedly this was a rather cursory search, due to the time-intensive nature of scrutinizing patents for §112 violations. But a large sample size is not needed to demonstrate that the risk of the USPTO granting overbroad capability claims is not hypothetical.

¹⁴³ See *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2250 (2011).

¹⁴⁴ Cf. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1990) (noting the district judge’s role in construing the claim terms in issue).

cases. For its part, the Supreme Court has enhanced the level of deference that the courts must give to determinations of the USPTO, allowing courts to invalidate patents only on clear and convincing evidence of error.¹⁴⁵ Thus, even if a court recognizes that a claim in suit may be overbroad due to capability, that court may be unable to meaningfully address that overbreadth.

[61] Construction of patent claims is a question of law under *Markman*, and *Phillips v. AWH* is the standard by which district courts engage in claim construction.¹⁴⁶ *Phillips* instructs courts to construe claims in context: first by examining intrinsic sources, such as the patent specification and prosecution history, and then by admitting extrinsic evidence only if intrinsic evidence is insufficient.¹⁴⁷ But the Federal Circuit also instructs not to import limitations from the patent specification into the claims.¹⁴⁸ If claim terms are unambiguous or undisputed, courts frequently apply the plain meaning of those terms without using the specification or prosecution history to divine the meaning that the patentee intended for those terms.¹⁴⁹ As an example, the court in *Revolution Eyewear* found the claim language “capable of engaging” to be unambiguously drawn to capability and did not attempt to construe the claim in light of the specification.¹⁵⁰ If a court faces a claim of “devices

¹⁴⁵ See *Microsoft Corp.*, 131 S. Ct. at 2250.

¹⁴⁶ See *Markman*, 517 U.S. at 391; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1333 (Fed. Cir. 2005) (en banc) (Lourie, J., concurring).

¹⁴⁷ See generally *Phillips*, 415 F.3d at 1314-17.

¹⁴⁸ See, e.g., *Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

¹⁴⁹ *Id.*; *Phillips*, 415 F.3d at 1312-13.

¹⁵⁰ *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1369-70 (Fed. Cir. 2009).

capable of performing X”, then, that claim plausibly lacks ambiguity under *Revolution Eyewear*. Thus, courts may simply construe such a claim as an unambiguous capability claim—even if the specification and prosecution history, if considered, would demonstrate that a capability construction does not accurately reflect the patentee’s invention.

[62] District courts more freely apply the *Phillips* methodology when construing claims that do not contain some form of the word “capability.” These claims are more ambiguous as to whether they describe capabilities or merely present abilities, so courts more readily interpret the claim language in light of the intrinsic record. To illustrate, *Finjan* and *Typhoon Touch* both involved disputed claims with similar language: a claim in *Finjan* recites a “logical engine for preventing execution”, and a claim in *Typhoon Touch* recites “memory for storing”.¹⁵¹ However, the Federal Circuit found in *Finjan* that “for preventing” recited capability.¹⁵² And *Typhoon Touch*, acknowledging the ambiguity of the claim language, examined the specification and prosecution history of the patent-in-suit to conclude that “for storing” recited a present ability.¹⁵³ After *Typhoon Touch*, similar functionally-drawn claims can fairly make a case for the ambiguity of their terms, encouraging district courts to apply the *Phillips* methodology to determine capability or present ability in light of the intrinsic record. Nonetheless, the problem remains: district courts that grant capability constructions without scrutiny, and without considering the intrinsic record, create a risk of unduly enforcing overbroad claims.

¹⁵¹ *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1205 (Fed. Cir. 2010) (internal quotations omitted); *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (emphasis added). The Federal Circuit has referred to claim language of this type as “functional language.” *Typhoon Touch*, 659 F.3d at 1380.

¹⁵² *Finjan*, 626 F.3d at 1204-05.

¹⁵³ *Typhoon Touch*, 659 F.3d at 1381.

C. The Infringers' Problem

[63] Infringers of capability claims may find themselves in a bind because they have no efficient way to stop infringing. Ordinarily, if a software-driven device infringes a patent solely by virtue of its software, a firmware update can deactivate the relevant software module and render the device noninfringing. This is an efficient means of redress because it minimizes compliance costs that are unrelated to the infringement. As an example, the infringer in *Tivo v. Echostar* attempted to deactivate the offending software module in its set-top receivers rather than physically confiscate the millions of devices that had entered the marketplace.¹⁵⁴

[64] But devices that infringe capability claims lack a clean and economical workaround. Under *Fantasy Sports*, a firmware update is a non-structural modification because it does not add functionality that the device did not ship with.¹⁵⁵ Any device that has been deactivated with a firmware update can be reactivated, and made infringing, by another firmware update. Thus, even a device that has been deactivated by the manufacturer is still capable of infringing a capability claim. The manufacturer then has to resort to less an efficient means of deactivation, up to and including physical confiscation from users, at its own potentially prohibitive expense.

[65] To the extent that the potentially enormous costs of complying with capability claims outweigh any actual economic harm to the patentee, the patentee reaps a windfall, manifested as increased bargaining power in

¹⁵⁴ See 646 F.3d 869, 878-79 (Fed. Cir. 2011). The court affirmed a finding that the infringer, Echostar, was in contempt of a permanent injunction. *Id.* at 890. But the facts illustrate the technical and economic feasibility of remote firmware updates as a workaround for infringing software.

¹⁵⁵ See *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002).

licensing negotiations. The economic threat of being forced into such a “hostage situation” will discourage rational potential market entrants, to the detriment of all participants in affected markets.

D. The Public Problem

[66] Unsettled law is itself problematic just by virtue of being unsettled. This is not unique to patent law; throughout all areas of the law, affected parties make rational decisions based on the likely legal consequences of those decisions. This is a calculus that demands that those legal consequences be predictable. However, in patent law, where strong and reliable patent rights are a prerequisite of long-term, billion-dollar, industrial investments, the stakes are perhaps uniquely high. Infringement of another’s exclusive patent rights can be remedied by permanent injunction—shutting down not only the infringing widget, but the infrastructure responsible for manufacturing, transporting, selling, and supporting that widget and ancillary products and services.¹⁵⁶ An industrial actor’s confidence in manufacturing or selling a device is only as strong as its certainty that the device is not infringing another’s patent. Clear delineation of the scope of patent rights is essential to encouraging industrial action and investment, and to discouraging it from relocating beyond the jurisdiction of American patent laws. To the extent that the law governing latent infringement renders patent claims of indeterminate scope, subject to the whims of district courts acting without clear guidance, the law must change to provide certainty.

¹⁵⁶ This conversation is familiar from commentary surrounding the Supreme Court’s landmark decision on permanent injunctive relief for patentees in *eBay, Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006). See, e.g., Matthew Sag & Kurt W. Rohde, *Patent Reform and Differential Impact*, 8 MINN. J. L. SCI. & TECH. 1, 63-64 (2007).

IV. THE SOLUTION

[67] In the author's opinion, that the latent infringement problem, unlike some other problems with the patent system, is not intractable. The problem persists not because of irreconcilable policy goals, but because the key players in the patent system—the USPTO, the district courts, the Federal Circuit, the patentees, the accused infringers—have yet to devote sufficient attention to it. If the bad news is that the present state of the law surrounding latent infringement subjects the patent system to random exogenous shocks, the good news is that the system already has tools in place to right the course.

[68] If overbroad patent claims exist and wield economic power, responsibility falls on two institutions: the USPTO, which issues those claims; and the federal court system, which enforces the claims judicially. A solution to claim overbreadth must involve both the USPTO and the courts. It would be insufficient just for the USPTO to stop issuing overbroad capability claims. Since patents remain valid for twenty years following the date of issuance, overbroad capability claims that have already been issued will be enforceable until as late as 2033 unless the courts can narrow or invalidate those claims.¹⁵⁷

[69] Similarly, it would not suffice just for the court system to curtail overbroad capability claims, because only a small fraction of patent claims ever appear before a federal court.¹⁵⁸ Patents convey economic power simply by existing. If a patentee threatens to assert a claim against a putative infringer, the mere existence of that patent—representing the stamp of approval by the USPTO, and carrying a presumption of

¹⁵⁷ 35 U.S.C. § 154(a)(2) (2006).

¹⁵⁸ *Cf.* ADMINISTRATIVE OFFICE OF THE UNITED STATES, 2011 ANNUAL REPORT OF THE DIRECTOR: JUDICIAL BUSINESS OF THE UNITED STATES COURTS (2012), *available at* <http://www.uscourts.gov/uscourts/Statistics/JudicialBusiness/2011/appendices/C07Sep11.pdf>.

validity—may substantiate the threat.¹⁵⁹ This is particularly true for small or unsophisticated accusees, who may lack the ability to investigate the merits of infringement accusations or to gamble on vindication in court. Even absent any specific threat of litigation, the existence of a patent signals to the public that the patentee possesses exclusive rights to its subject matter. Rational parties may simply elect to not enter a market space in which they face a threat, legitimate or not, of being litigated out of existence. Even if the courts reform the treatment of overbroad capability claims in litigation, the USPTO must carry its burden of denying those claims entry into the patent system in the first place.

A. Front-End Solutions: Stop the USPTO From Granting Overbroad Capability Claims

[70] The USPTO already has powerful and established tools for keeping overbroad claims out of the patent system: the enablement and written description requirements of 35 U.S.C. § 112, and the novelty requirements of § 102. Examiners need to invoke these statutes consistently with respect to capability claims. The challenge is twofold: (1) examiners need to recognize capability claims when they are proposed by applicants, and to acknowledge the potential scope of those claims under current law; and (2) examiners need to apply the statutes correctly to those claims.

1. Recognize and Acknowledge Capability Claims

[71] With regard to the first prong, recognition and acknowledgement of capability claims, the USPTO administration has a role to play in educating examiners about capability language. The USPTO is tasked with maintaining Title 37, Chapter 1 of the Code of Federal Regulations (“37 C.F.R”), which is the subset of the C.F.R. that governs the patent

¹⁵⁹ 35 U.S.C. § 282 (2006); *see also* Microsoft Corp. v. i4i Ltd. P’ship, 131 S. Ct. 2238, 2242-43 (2011).

prosecution process.¹⁶⁰ Additionally, the USPTO publishes the Manual of Patent Examining Procedure (“MPEP”), which details patent examination procedures.¹⁶¹ The USPTO administers the process by which patent attorneys, patent agents, and patent examiners are admitted to practice before the USPTO; this process charges all admittees with knowledge of the contents of the MPEP.¹⁶² Amending 37 C.F.R., the MPEP, or both to address the treatment of capability claim language would put all USPTO practitioners on notice. Additionally, it would promote consistent treatment of similar claims, rather than subject the admissibility of a claim reciting capability to the whims of the randomly assigned patent examiner.

[72] Exactly what such an update should say is another matter. The law is thin on precisely what constitutes a capability claim, short of some form of the word “capability” in the claim itself. In situations like this, where no single rule can cover all possible factual scenarios, introducing a presumption may be helpful. I would propose that a claim that does not explicitly contain the word “capability,” or some close variation, presumptively does not claim a capability. The onus is then on the claim drafter, should he or she intend to claim a capability rather than a present ability, to make that intention explicit in the claim language itself.

[73] This would not be the first time that the USPTO has seen the introduction of a claim language presumption. It has been done successfully in the past, albeit at the Federal Circuit’s initiative, with the adoption of so-called “transitional phrases”—language that identifies the

¹⁶⁰ See 35 U.S.C. § 2(b)(2) (2006).

¹⁶¹ See generally UNITED STATES PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE (8th ed. 2001) [hereinafter MPEP].

¹⁶² See 37 C.F.R. § 11.7 (2012).

elements of a claim as a closed set or an open set.¹⁶³ Unless the patentee demonstrates otherwise, elements of a claim are presumptively a closed set; the claim reads on devices that contain only those elements. Claim drafters can elect to make this explicit by using the transitional phrase “consisting of” to separate the claim preamble from the claim elements. Claims of an open set are broader, because they read on all devices that contain those elements, even if additional elements are also present. To presumptively claim an open set, the claim must introduce its elements with the transitional phrase “comprising”, or a close equivalent.¹⁶⁴

[74] The subtlety with which capability claim language can present itself merits a stronger presumption than that encapsulated by the transitional phrases. In determining whether the enablement and written description requirements are met, the examiner compares the technology taught by the specification with the technology claimed by the patent. Similarly, in determining novelty, a prior art device must be compared with the claims to determine whether the device anticipates those claims.¹⁶⁵ For comparison purposes, a prior art device is essentially a set of elements to be compared against a claimed set of elements. It is impossible to compare two sets without considering whether the sets are open or closed.¹⁶⁶ Thus, even without a presumption against claims

¹⁶³ See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (discussing “comprising”, for example, as a term of art). See generally MPEP § 2111.03 (discussing the types of transitional phrases).

¹⁶⁴ While other transitional language is allowed, only the term “comprising,” or a close synonym, will enjoy the presumption that the claim recites an open set of elements. See, e.g., *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001) (finding that the term “having” in the transitional phrase “does not create a presumption that the body of the claim is open”).

¹⁶⁵ *Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1332 (7th Cir. 1983); see also 35 U.S.C. § 102 (2006).

¹⁶⁶ Cf. ROBERT R. STOLL, SET THEORY AND LOGIC 29-33 (Dover Publications 1979) (requiring a bounded set to determine equivalence).

reciting an open set of elements, the patent examiner is forced to consider whether the claim recites an open set or a closed set, so the risk of the examiner accidentally treating a claim as an open set of elements is low. However, as the leading cases on capability claims demonstrate, whether a claim recites a capability or a present ability frequently goes overlooked. Examiners automatically treat claims as capabilities or present abilities without analyzing the issue. The *ex parte* nature of the examination process, which lacks an interested party to argue for non-issuance of a claim, does not help matters any.¹⁶⁷ A strong presumption against capability, such as one that applies to all claims that do not use a form of the actual word “capability,” would promote the vital function of insuring these claims against overbreadth.

2. Apply the Statutes Correctly to Those Claims

[75] Regarding the second capability challenge facing the USPTO – properly rejecting capability claims that fail the statutory requirement—the law is all but silent on when Section 112 or 102 bars patentability of capability claims. While the patentability of capability claims is of course fact-specific and must be evaluated on a case-by-case basis, patent examiners could benefit from some rules of thumb informed by the nature of certain categories of technology. The scientific and legal communities are urged to evaluate for the USPTO whether some technologies categorically cannot be patented with capability language. Software, for example, may have such expansive functionality that any capability claim on software is presumptively not enabled.

¹⁶⁷ See, e.g., Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 55-56 (2007).

B. Back-end solutions: Allow district courts to invalidate or correct overbroad capability claims, or at least to protect putative infringers of those claims. Utilize the new administrative review procedures of the Leahy-Smith Act.

[76] Like the USPTO, district courts also have tools at their disposal to curb overbroad capability claims. Compared to the USPTO, district courts are better situated to recognize capability claims and acknowledge their potential overbreadth. Unlike the patent examiner who examines patent claims *a priori*, *ex parte*, in bulk, and on a compressed schedule, the district courts generally have the luxuries of hindsight, with which the overbreadth of a capability claim may have become apparent, and the adversarial process, by which accused infringers may conduct discovery and meaningfully argue against claim validity or infringement.¹⁶⁸ But district courts must of course comply with Supreme Court and Federal Circuit precedent. With this in mind, district courts that recognize overbroad capability claims have several options, as discussed below.

1. Invalidate the Claims on § 112 or § 102 Grounds

[77] The USPTO can deny a claim on the grounds that the claim is not enabled under § 112 or anticipated under § 102; district courts can invalidate issued claims on those same grounds.¹⁶⁹ Non-enablement and anticipation can probably be argued, as in the *Revolution Eyewear* and *Finjan* examples discussed *supra*, in opposition to many capability claims.¹⁷⁰ Capability claims that are of potentially infinite scope are

¹⁶⁸ *Id.* at 68.

¹⁶⁹ Compare MPEP §§ 706.02, 706.03, with *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1269-70 (Fed. Cir. 2012) (holding a claim invalid as anticipated by prior art), and *MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1384 (Fed. Cir. 2012) (holding a claim invalid for lack of enablement).

¹⁷⁰ See *supra* ¶ 57.

unlikely to be enabled by the patents containing those claims. Additionally, many capability claims, due to their breadth, will probably encompass some prior art reference, and thus potentially be invalidated on § 102 grounds. The difficulty is in the evidentiary standard imposed by *i4i*; the USPTO is now afforded such deference that only on a showing of clear and convincing evidence can the court invalidate a claim that the USPTO has issued.¹⁷¹ But while the burden of proof is high, it is not insurmountable; the USPTO is still accountable for plain error in issuing patent claims.¹⁷² The dust has yet to settle on *i4i*, and it is unclear what the new evidentiary standard will mean in practice for patent validity. However, district court judges are urged to be aggressive in finding non-enablement or anticipation of capability claims.¹⁷³

2. Construe Even Seemingly Unambiguous Capability Language in Light of Intrinsic Evidence

[78] District courts have only a limited ability to narrow claims based on the patent specification; in particular, the Federal Circuit instructs that limitations must not be imported from the specification to the claim.¹⁷⁴ Yet as demonstrated by *Typhoon Touch*, courts are authorized by *Phillips v. AWH* to examine sources beyond the literal claim language—most importantly, the patent specification and prosecution history—in order to construe claims in accordance with what the patentee actually invented.¹⁷⁵

¹⁷¹ *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2242 (2011).

¹⁷² *Cf. id.* at 2246-47 (citing *Radio Corp. of Am. v. Radio Eng’g Labs.*, 293 U.S. 1, 7 (1934)).

¹⁷³ *See supra* Part III.B.

¹⁷⁴ *Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1326 (Fed. Cir. 2002).

¹⁷⁵ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005); *see, e.g.*, *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380-86 (Fed. Cir. 2011).

District courts are urged to look beyond the claim language, even when claims may superficially appear to have clear plain meaning. For example, a claim of a device “capable of performing X” can be fairly seen as ambiguous. Did the inventor mean “capable” in the Federal Circuit sense, where any device that can perform X without structural modification is “capable”? Or did the inventor mean “capable” in a more colloquial sense, where the device is only conditionally, or in some specific way, able to perform X? Rather than foreclose on this sort of claim language, as in *Revolution Eyewear*,¹⁷⁶ courts are urged to find ambiguity in capability language and to construe that language in light of whether the record indicates that the inventor really intended the capability language to have the broad scope afforded it by the Federal Circuit.¹⁷⁷

3. Reverse Doctrine of Equivalents

[79] District courts have a rarely-invoked tool for finding noninfringement even though an accused device literally meets the claim limitations. The so-called “reverse doctrine of equivalents” may have a role to play in rescuing devices that unfairly fall within the scope of a capability claim.¹⁷⁸ In 1985, the Federal Circuit laid out the reverse doctrine of equivalents in *SRI International v. Matsushita Electric Corporation of America*:

The law also acknowledges that one may only appear to have appropriated the patented contribution, when a product precisely described in a patent claim is in *fact* 'so far changed in principle' that it performs in a '*substantially*

¹⁷⁶ *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1368 (Fed. Cir. 2009).

¹⁷⁷ *See Phillips*, 415 F.3d at 1316.

¹⁷⁸ *See SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1123 (Fed. Cir. 1985).

different way' and is not therefore an appropriation (reverse doctrine of equivalents).¹⁷⁹

[80] The “so far changed in principle” standard would likely be difficult to meet in situations where a device meets the claim limitations with merely a non-structural modification; in most cases, such devices will likely bear a substantial resemblance to the patented device and not perform “substantially different[ly].”¹⁸⁰ For instance, consider the two fantasy football software programs in *Fantasy Sports*. The two programs, which behaved similarly except for the particulars of their scoring mechanisms, differed in a way that went to the heart of the disputed “bonus points” limitation.¹⁸¹ However, a court would probably be hard-pressed to find that the fantasy football program that lacks the “bonus points” scoring mechanism is “so far changed in principle” from the other program that the reverse doctrine of equivalents is appropriate—especially given the Federal Circuit’s apparent distaste for the doctrine.¹⁸² Nevertheless, it is not impossible to imagine a capability claim asserted against a device that, while literally capable of performing the claimed functionality, behaves so fundamentally differently from the claimed device that application of the doctrine may be appropriate. District courts and defense counsel are urged to keep the doctrine in mind as device capabilities continue to evolve.

¹⁷⁹ *Id.*

¹⁸⁰ *See id.*

¹⁸¹ *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1114 (Fed. Cir. 2002).

¹⁸² *See, e.g., Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1368 (Fed. Cir. 2002) (describing the reverse doctrine of equivalents as an “anachronistic exception, long mentioned but rarely applied”).

4. New Administrative Review Procedures

[81] Though beyond the scope of this Article, it bears mentioning that the Leahy-Smith America Invents Act provides for new avenues of *inter partes* review of issued patents.¹⁸³ Interested parties are urged to be vigilant in raising issues of capability in these proceedings.

C. Long-term Solutions: Implement Reform at the Appellate or Legislative Level

[82] It is not clear that the patent system actually benefits from extending special treatment to capability claims. Special treatment for capability claims overlaps with third party infringement provisions and the doctrine of equivalents while adding nothing other than judicial confusion, uncertainty of industrial actors, and the risk of undue claim overbreadth. Legislation or judicial interpretation should force latent infringement to be handled under the current framework.

[83] Patent law already has specific provisions for third party infringement, under which courts can properly take into account subjective factors, such as the third party's intent.¹⁸⁴ These subjective factors can meaningfully distinguish between those capabilities that should be treated as infringing present abilities and those that should not. Cases such as *High Tech Medical* show the Federal Circuit struggling to shoehorn designers' intent and other subjective factors into its §271(a) direct infringement analysis.¹⁸⁵ Rather than engage in legal fiction, courts

¹⁸³ See Leahy-Smith Am. Invents Act, Pub. L. No. 112-29, § 6, 125 Stat. 284, 299 (2011) (to be codified as 35 U.S.C. § 311 (2012)).

¹⁸⁴ See 35 U.S.C. § 271(b)-(c) (2006).

¹⁸⁵ See *High Tech Med. Instruments v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995) (finding noninfringement by a latent configuration because “[i]n the AcuCam, as designed, sold, and intended for use, the camera is rigidly coupled to its housing”) (emphasis added); see also *supra* discussion in Part II.

should analyze latent infringement of capability claims under the third party infringement framework, with manufacturers of latent devices the potentially infringing third party rather than the direct infringer.

[84] Additionally, a policy concern behind latent infringement doctrine is that present ability claims, if unable to read on latent configurations, are at risk of being underinclusive in scope. However, such claims are already subject to literal broadening via the doctrine of equivalents. The doctrine of equivalents extends the scope of a claim to subject matter that “performs substantially the same function in substantially the same way to obtain the same result” as the claimed subject matter.¹⁸⁶ Moreover, as resolved by the Supreme Court in *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, the question of equivalence is resolved at the time of infringement, not at the time the patent was issued.¹⁸⁷ This ensures that the ability of a present ability claim to equivalently read on a latent configuration is not limited by the fact that the latent configuration may not have been known or foreseeable at the time of filing.

IV. CONCLUSION

[85] As technology increasingly challenges traditional notions of “capability,” the onus is on the patent system to adapt in ways that incentivize such technology while respecting the rights already extended to patentees. The Federal Circuit has had recent opportunities to shape the law surrounding capability claims in cases like *Finjan Software, Ltd. v. Secure Computing Corp.*, *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, and *Typhoon Touch Technologies, Inc. v. Dell, Inc.*, but each time it has blinked. Congress’ long-awaited revision of the patent law, the Leahy-Smith America Invents Act, is silent on infringement and claim interpretation. If the C.F.R. and the MPEP are any indication, the USPTO

¹⁸⁶ DONALD CHISUM, CHISUM ON PATENTS, § 18.04 (Matthew Bender & Co. 2012).

¹⁸⁷ 520 U.S. 17, 19 (1997).

and its corps of examiners remain oblivious to capability claim issues. When reform arrives, it may not be until after market forces have rendered the current law unsustainable.

[86] The players in the patent system have an opportunity to get ahead of the curve and curb the scope of overbroad capability claims before opportunists—“trolls”—move in. As discussed in this Article, under Title 35, the USPTO and the Federal Courts have scoping tools at their disposal; they can and should begin using them today. Should appellate or lawmaking bodies address the issue, they would perhaps be wise to clarify current doctrinal ambiguity by removing special treatment for capability claims in light of the existing framework for holding third parties liable for a user’s infringement, and for broadening literal claim scope via the doctrine of equivalents.