

Patents in the New Media

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Finjan, Inc. v. Blue Coat Sys.

United States Court of Appeals for the Federal Circuit

January 10, 2018, Decided

2016-2520

Reporter

879 F.3d 1299 *; 2018 U.S. App. LEXIS 601 **; 125 U.S.P.Q.2D (BNA) 1282 ***; 2018 WL 341882

FINJAN, INC., Plaintiff-Appellee v. BLUE COAT SYSTEMS, INC., Defendant-Appellant

Prior History: [****1**] Appeal from the United States District Court for the Northern District of California in No. 5:13-cv-03999-BLF, Judge Beth Labson Freeman.

[Finjan, Inc. v. Blue Coat Sys., 2016 U.S. Dist. LEXIS 93267 \(N.D. Cal., July 18, 2016\)](#)

Disposition: AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED.

Core Terms

patent, infringement, Downloadable, profile, users, royalty, damages, policies, cache, scans, web, Computing, district court, functionality, identifies, commands, gateway, Proxy, apportionment, suspicious, files, argues, royalty rate, non-infringement, categories, patentee, linking, virus, substantial evidence, abstract idea

Case Summary

Overview

HOLDINGS: [1]-In a patent infringement case involving four computer security patents, the district court did not err in its subject matter eligibility determination under 35 U.S.C.S. § 101 because the claims did not recite a mere result, but instead recited specific steps that accomplished the desired result; [2]-While substantial evidence supported the jury's finding of infringement of two patents, the accused infringer was entitled to JMOL of non-infringement for a third patent because the accused products did not perform the claimed "policy index" limitation; [3]-With respect to damages, award was supported with respect to two of the infringed patents, reversed for the non-infringed patent, and

remanded for the fourth patent because patentee failed to apportion damages to the infringing functionality and the \$8-per-user royalty rate was unsupported by substantial evidence.

Outcome

Decision affirmed-in-part, reversed-in-part, and remanded to the district court for further consideration of the damages issue as to one patent.

LexisNexis® Headnotes

Patent Law > Jurisdiction & Review > Standards of Review > De Novo Review

Patent Law > Subject Matter

[HN1](#) **Standards of Review, De Novo Review**

District court decisions regarding patent subject matter eligibility are reviewed de novo.

Patent Law > Subject Matter

[HN2](#) **Patent Law, Subject Matter**

35 U.S.C.S. § 101 provides that a patent may be obtained for any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. 35 U.S.C.S. § 101. The Supreme Court has long recognized, however, that § 101 implicitly excludes laws of nature, natural phenomena, and abstract ideas from the realm of patent-eligible subject matter, as monopolization of these basic tools of scientific and technological work would stifle the very innovation that the patent system

aims to promote.

Patent Law > ... > Utility Patents > Process
Patents > Computer Software & Mental Steps

Patent Law > Subject Matter

[HN3](#) **Process Patents, Computer Software & Mental Steps**

The Supreme Court has instructed us to use a two-step framework to distinguish patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. At the first step, the court determines whether the claims at issue are "directed to" a patent-ineligible concept. If they are, the court then considers the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. This is the search for an "inventive concept"—something sufficient to ensure that the claim amounts to significantly more than the abstract idea itself. In cases involving software innovations, the step one inquiry often turns on whether the claims focus on the specific asserted improvement in computer capabilities or, instead, on a process that qualifies as an abstract idea for which computers are invoked merely as a tool.

Patent Law > ... > Utility Patents > Process
Patents > Computer Software & Mental Steps

[HN4](#) **Process Patents, Computer Software & Mental Steps**

For purposes of a subject matter eligibility analysis under 35 U.S.C.S. § 101, the United States Court of Appeals for the Federal Circuit has concluded that, by itself, virus screening is well-known and constitutes an abstract idea. The Federal Circuit has also found that performing the virus scan on an intermediary computer—so as to ensure that files are scanned before they can reach a user's computer—is a perfectly conventional approach and is also abstract.

Patent Law > ... > Utility Patents > Process
Patents > Computer Software & Mental Steps

[HN5](#) **Process Patents, Computer Software & Mental Steps**

For purposes of a subject matter eligibility analysis under 35 U.S.C.S. § 101, software-based innovations can make non-abstract improvements to computer technology and be deemed patent-eligible subject matter at step one of the Alice framework.

Patent Law > Subject Matter

[HN6](#) **Patent Law, Subject Matter**

It is a foundational patent law principle that a result, even an innovative result, is not itself patentable. That is, patents are granted for the discovery or invention of some practicable method or means of producing a beneficial result or effect, and not for the result or effect itself.

Civil Procedure > Trials > Judgment as Matter of Law

Patent Law > Jurisdiction & Review > Standards of Review > Abuse of Discretion

Patent Law > Jurisdiction & Review > Standards of Review > De Novo Review

Civil Procedure > Judgments > Relief From Judgments > Motions for New Trials

[HN7](#) **Trials, Judgment as Matter of Law**

In patent cases, the United States Court of Appeals for the Federal Circuit reviews denials of motions for judgment as a matter of law (JMOL) de novo and motions for new trial for abuse of discretion.

Civil Procedure > Trials > Judgment as Matter of Law > Postverdict Judgment

Patent Law > Infringement Actions > Claim Interpretation

Patent Law > Jurisdiction & Review > Standards of Review > Substantial Evidence

[HN8](#) **Judgment as Matter of Law, Postverdict**

Judgment

In a patent infringement case, it is too late at the judgment as a matter of law (JMOL) post-verdict stage to argue for or adopt a new and more detailed interpretation of patent claim language and test the jury verdict by that new and more detailed interpretation. Under such circumstances, the question for the trial court is limited to whether substantial evidence supports the jury's verdict under the issued construction.

Patent Law > Remedies > Damages > Measure of Damages

Patent Law > ... > Damages > Patentholder Losses > Reasonable Royalties

[HN9](#) Damages, Measure of Damages

In a patent infringement case, [35 U.S.C.S. § 284](#) limits damages to those adequate to compensate for the infringement. Two categories of compensation for infringement are the patentee's lost profits and the reasonable royalty he would have received through arms-length bargaining. A reasonable royalty seeks to compensate the patentee for its lost opportunity to obtain a reasonable royalty that the infringer would have been willing to pay if it had been barred from infringing.

Patent Law > Remedies > Damages > Measure of Damages

Patent Law > ... > Damages > Patentholder Losses > Reasonable Royalties

[HN10](#) Damages, Measure of Damages

With respect to patent infringement damages, when the accused technology does not make up the whole of the accused product, apportionment is required. The ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more. That is, no matter what the form of the royalty, a patentee must take care to seek only those damages attributable to the infringing features. In such cases, the patentee must give evidence tending to separate or apportion the infringer's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not

conjectural or speculative. The patent holder has the burden of proving damages by a preponderance of the evidence.

Patent Law > Remedies > Damages > Measure of Damages

Patent Law > ... > Damages > Patentholder Losses > Reasonable Royalties

[HN11](#) Damages, Measure of Damages

With respect to patent infringement damages, the smallest salable unit principle directs that in any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest salable patent-practicing unit, without showing that the demand for the entire product is attributable to the patented feature. With respect to reasonable royalty awards, the essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product. If the smallest salable unit—or smallest identifiable technical component—contains non-infringing features, additional apportionment is still required. Whether viewed as valuable, important, or even essential, the patented feature must be separated.

Patent Law > ... > Damages > Patentholder Losses > Reasonable Royalties

[HN12](#) Patentholder Losses, Reasonable Royalties

With respect to patent infringement damages, while any reasonable royalty analysis necessarily involves an element of approximation and uncertainty, a trier of fact must have some factual basis for a determination of a reasonable royalty. Alleging a loose or vague comparability between different technologies or licenses does not suffice. Also, there must be a basis in fact to associate the royalty rates used in prior licenses to a particular hypothetical negotiation at issue in the case.

Patent Law > ... > Damages > Patentholder Losses > Reasonable Royalties

[HN13](#) Patentholder Losses, Reasonable

Royalties

Ordinarily, the district court must award damages in an amount no less than a reasonable royalty when patent infringement is found, unless the patent holder has waived the right to damages based on alternate theories.

Patent Law > ... > Damages > Patentholder
Losses > Reasonable Royalties

HN14  **Patentholder Losses, Reasonable Royalties**

The direction in [35 U.S.C. § 284](#) to award damages "in no event less than a reasonable royalty" does not mean that the patentee need not support the award with reliable evidence. A jury may not award more than is supported by the record.

Counsel: PAUL J. ANDRE, Kramer Levin Naftalis & Frankel LLP, Menlo Park, CA, argued for plaintiff-appellee. Also represented by JAMES R. HANNAH, LISA KOBIALKA.

MARK A. LEMLEY, Durie Tangri LLP, San Francisco, CA, argued for defendant-appellant. Also represented by SONALI DEEKSHA MAITRA, SONAL NARESH MEHTA, CLEMENT ROBERTS; OLIVIA M. KIM, EDWARD POPLAWSKI, Wilson, Sonsini, Goodrich & Rosati, P.C., Los Angeles, CA.

Judges: Before DYK, LINN, and HUGHES, Circuit Judges..

Opinion by: DYK

Opinion

[*1284] [*1302]** DYK, *Circuit Judge*.

A jury found Blue Coat Systems, Inc. ("Blue Coat") liable for infringement of four patents owned by Finjan, Inc. ("Finjan") and awarded approximately \$39.5 million in reasonable royalty damages. After trial, the district court concluded that the '844 patent was patent-eligible under [35 U.S.C. § 101](#) and denied Blue Coat's post-trial motions for judgment as a matter of law ("JMOL") and a new trial. Blue Coat appeals.

We find no error in the district court's subject matter

eligibility determination as to the '844 patent and agree that substantial evidence supports the jury's **[**2]** finding of infringement of the '844 and '731 patents. However, we conclude that Blue Coat was entitled to JMOL of non-infringement for the '968 patent because the accused products do not perform the claimed "policy index" limitation. On appeal, Blue Coat does not challenge the verdict of infringement for the '633 patent.

With respect to damages, we affirm the award with respect to the '731 and '633 patents. We vacate the damages award for the '968 patent, as there was no infringement. With respect to the '844 patent, we agree with Blue Coat that Finjan failed to apportion damages to the infringing functionality and that the \$8-per-user royalty rate was unsupported by substantial evidence.

We therefore affirm-in-part, reverse-in-part, and remand to the district court for further consideration of the damages issue as to the '844 patent.

BACKGROUND

On August 28, 2013, Finjan brought suit against Blue Coat in the Northern District of California for infringement of patents owned by Finjan and directed to identifying and protecting against malware. Four of those patents are at issue on appeal. Claims 1, 7, 11, 14, and 41 of U.S. Patent No. 6,154,844 ("the '844 patent") recite a system and method for providing computer security by attaching a security profile to a downloadable. Claims 1 and 17 of U.S. Patent No. 7,418,731 ("the '731 patent") recite a system and method **[**3]** for providing computer security at a network gateway by comparing security profiles associated with requested files to the security policies of requesting users. Claim 1 of U.S. Patent No. 6,965,968 ("the '968 patent") recites a "policy-based cache manager" that indicates the allowability of cached files under a plurality of user security policies. Claim 14 of U.S. Patent No. 7,647,633 ("the '633 patent") relates to a system and method for using "mobile **[***1285]** code runtime monitoring" to protect against malicious downloadables.

After a trial, the jury found that Blue Coat infringed these four patents and awarded Finjan approximately \$39.5 million for Blue Coat's infringement: \$24 million for the '844 patent, \$6 million for the '731 patent, \$7.75 million for the '968 patent, and \$1,666,700 for the '633 patent. After a bench trial, the district court concluded that the '844 patent is directed to patent-eligible subject matter under [35 U.S.C. § 101](#).

Thereafter, the district court denied Blue Coat's motions for judgment as a matter of law and a new trial, concluding that Finjan had provided substantial evidence to support each finding of infringement and the damages award. Blue Coat appeals the district court's rulings on subject matter eligibility of the '844 patent; infringement of the '844, '731, and '968 patents; and damages for the '844, '731, '968, and '633 patents. We have jurisdiction pursuant to **[**4]** [28 U.S.C. § 1295\(a\)\(1\)](#).

[*1303] DISCUSSION

I. Subject Matter Eligibility of the '844 Patent

We first address subject matter eligibility with respect to the '844 patent. [HN1](#)[↑] We review the district court's decision de novo. [McRO, Inc. v. Bandai Namco Games Am. Inc.](#), 837 F.3d 1299, 1311 (Fed. Cir. 2016).

[HN2](#)[↑] Section 101 provides that a patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. The Supreme Court has long recognized, however, that § 101 implicitly excludes "laws of nature, natural phenomena, and abstract ideas" from the realm of patent-eligible subject matter, as monopolization of these "basic tools of scientific and technological work" would stifle the very innovation that the patent system aims to promote. [Alice Corp. v. CLS Bank Int'l](#), 134 S. Ct. 2347, 2354, 82 L. Ed. 2d 296, 189 L. Ed. 2d 296 (2014) (quoting [Ass'n for Molecular Pathology v. Myriad Genetics, Inc.](#), 569 U.S. 576, 133 S. Ct. 2107, 2116, 186 L. Ed. 2d 124 (2013)); see also [Mayo Collaborative Servs. v. Prometheus Labs., Inc.](#), 566 U.S. 66, 132 S. Ct. 1289, 1294-97, 182 L. Ed. 2d 321 (2012); [Diamond v. Diehr](#), 450 U.S. 175, 185, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981).

[HN3](#)[↑] The Supreme Court has instructed us to use a two-step framework to "distinguish[] patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." [Alice](#), 134 S. Ct. at 2355. At the first step, we determine whether the claims at issue are "directed to" a patent-ineligible concept. *Id.* If they are, we then "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature **[**5]** of the claim' into a patent-eligible application." *Id.* (quoting [Mayo](#), 132 S. Ct. at 1298). This

is the search for an "inventive concept"—something sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself. *Id.* (quoting [Mayo](#), 132 S.Ct. at 1294).

Starting at step one, we must first examine the '844 patent's "claimed advance" to determine whether the claims are directed to an abstract idea. [Affinity Labs of Tex., LLC v. DIRECTV, LLC](#), 838 F.3d 1253, 1257 (Fed. Cir. 2016). In cases involving software innovations, this inquiry often turns on whether the claims focus on "the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." [Enfish, LLC v. Microsoft Corp.](#), 822 F.3d 1327, 1335-36 (Fed. Cir. 2016).

The '844 patent is directed to a method of providing computer security by scanning a downloadable and attaching the results of that scan to the downloadable itself in the form of a "security profile." Claim 1 of the '844 patent, which the district court found representative for § 101 purposes, reads:

1. A method comprising:
 - receiving by an inspector a Downloadable;
 - generating by the inspector a first Downloadable security profile that identifies suspicious code in the received Downloadable; and
 - linking by the inspector the first Downloadable security profile to the Downloadable **[**6]** before a web server makes the Downloadable available to web clients.

[*1286]** '844 patent, col. 11 ll. 11-21. At claim construction, the parties agreed that "Downloadable" should be construed to mean "an executable application program, which is downloaded from a source computer and run on the destination computer." **[*1304]** Additionally, the district court construed "Downloadable security profile that identifies suspicious code in the received Downloadable" to mean "a profile that identifies code in the received Downloadable that performs hostile or potentially hostile operations."

We determined in [Intellectual Ventures I LLC v. Symantec Corp.](#), 838 F.3d 1307, 1319 (Fed. Cir. 2016), that [HN4](#)[↑] "[b]y itself, virus screening is well-known and constitutes an abstract idea." We also found that performing the virus scan on an intermediary computer—so as to ensure that files are scanned before they can reach a user's computer—is a "perfectly conventional" approach and is also abstract. [Id.](#) at 1321.

Here the claimed method does a good deal more.

Claim 1 of the '844 patent scans a downloadable and attaches the virus scan results to the downloadable in the form of a newly generated file: a "security profile that identifies suspicious code in the received Downloadable." The district court's claim construction decision emphasizes that this **[**7]** "identif[y] suspicious code" limitation can only be satisfied if the security profile includes "details about the suspicious code in the received downloadable, such as . . . 'all potentially hostile or suspicious code operations that may be attempted by the Downloadable.'" *Finjan, Inc. v. Blue Coat Sys., Inc.*, No. 13-CV-03999-BLF, 2014 U.S. Dist. LEXIS 149077, 2014 WL 5361976, at *9 (N.D. Cal. Oct. 20, 2014). The security profile must include the information about *potentially* hostile operations produced by a "behavior-based" virus scan. This operation is distinguished from traditional, "code-matching" virus scans that are limited to recognizing the presence of previously-identified viruses, typically by comparing the code in a downloadable to a database of known suspicious code. The question, then, is whether this behavior-based virus scan in the '844 patent constitutes an improvement in computer functionality. We think it does.

The "behavior-based" approach to virus scanning was pioneered by Finjan and is disclosed in the '844 patent's specification. In contrast to traditional "code-matching" systems, which simply look for the presence of known viruses, "behavior-based" scans can analyze a downloadable's code and determine whether it performs potentially dangerous or unwanted operations—such as **[**8]** renaming or deleting files. Because security profiles communicate the granular information about potentially suspicious code made available by behavior-based scans, they can be used to protect against previously unknown viruses as well as "obfuscated code"—known viruses that have been cosmetically modified to avoid detection by code-matching virus scans.

The security profile approach also enables more flexible and nuanced virus filtering. After an inspector generates a security profile for a downloadable, a user's computer can determine whether to access that downloadable by reviewing its security profile according to the rules in whatever "security policy" is associated with the user. Administrators can easily tailor access by applying different security policies to different users or types of users. And having the security profile include information about particular potential threats enables

administrators to craft security policies with highly granular rules and to alter those security policies in response to evolving threats.

Our cases confirm that [HN5](#) software-based innovations can make "non-abstract improvements to computer technology" and be deemed patent-eligible subject matter **[**9]** at step 1. *Enfish*, 822 F.3d at 1335-36. In *Enfish*, for instance, the court determined that claims related to a database architecture that used a new, self-referential logical **[*1305]** table were non-abstract because they focused on "an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity." *Id.* at 1336. Indeed, the self-referential database found patent eligible in *Enfish* did more than allow computers to perform familiar tasks with greater speed and efficiency; it actually permitted users to launch and construct databases in a new way. While deployment of a traditional relational database involved "extensive modeling and configuration of the various tables and relationships in advance of launching the database," *Enfish*'s self-referential database could be launched "with no or only minimal column definitions" and **[***1287]** configured and adapted "on-the-fly." *Id.* at 1333.

Similarly, the method of claim 1 employs a new kind of file that enables a computer security system to do things it could not do before. The security profile approach allows access to be tailored for different users and ensures that threats are identified before a file reaches a user's computer. The fact that **[**10]** the security profile "identifies suspicious code" allows the system to accumulate and utilize newly available, behavior-based information about potential threats. The asserted claims are therefore directed to a non-abstract improvement in computer functionality, rather than the abstract idea of computer security writ large.

Even accepting that the claims are directed to a new idea, Blue Coat argues that they remain abstract because they do not sufficiently describe how to implement that idea. To support this argument, Blue Coat points to *Apple, Inc. v. Ameranth, Inc.*, where we invalidated claims related to a computer system that can generate a second menu from a first menu based on a selection of items on the first menu. 842 F.3d 1229, 1240-41 (Fed. Cir. 2016). In that case, we held that the patents were directed to an abstract idea because they "d[id] not claim a particular way of programming or designing the software . . . but instead merely claim the resulting systems." *Id.* at 1241. Blue Coat also relies on

Affinity Labs, where we held that a claim related to wirelessly communicating regional broadcast content to an out-of-region recipient was abstract and patent ineligible because there was nothing in the claim "directed to *how* to implement [**11] [the idea]. Rather, the claim is drawn to the idea itself." [838 F.3d at 1258](#). And Blue Coat also notes that, in *Intellectual Ventures*, we found claims directed to email filtering to be abstract and patent ineligible when there is "no restriction on how the result is accomplished . . . [and] [t]he mechanism . . . is not described." [838 F.3d 1307, 1316 \(Fed. Cir. 2016\)](#) (quoting *Internet Patents Corp. v. Active Network, Inc.*, [790 F.3d 1343, 1348 \(Fed. Cir. 2015\)](#)).

Apple, *Affinity Labs*, and other similar cases hearken back to [HN6](#) [↑] a foundational patent law principle: that a result, even an innovative result, is not itself patentable. See *Corning v. Burden*, [56 U.S. 252, 268, 14 L. Ed. 683 \(1853\)](#) (explaining that patents are granted "for the discovery or invention of some practicable method or means of producing a beneficial result or effect . . . and not for the result or effect itself"); *O'Reilly v. Morse*, [56 U.S. 62, 112-113, 14 L. Ed. 601 \(1853\)](#) (invalidating a claim that purported to cover all uses of electromagnetism for which "the result is the making or printing intelligible characters, signs, or letters at a distance" as "too broad, and not warranted by law").

Here, the claims recite more than a mere result. Instead, they recite specific steps—generating a security profile that identifies suspicious code and linking it to a downloadable—that accomplish the desired result. Moreover, there is no contention that the only thing disclosed is the [**12] [**1306] result and not an inventive arrangement for accomplishing the result. There is no need to set forth a further inventive concept for implementing the invention. The idea is non-abstract and there is no need to proceed to step two of *Alice*.

II. Infringement

At trial, the jury found that Blue Coat's products infringed the '844, '731, and '968 patents. The district court denied Blue Coat's post-trial motions for judgment as a matter of law and a new trial, finding that Finjan had provided substantial evidence to support each finding of infringement and that the jury verdict was not against the weight of the evidence. [HNT](#) [↑] We review denials of motions for JMOL de novo and motions for new trial for abuse of discretion. *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, [563 F.3d 1358, 1370-71 \(Fed. Cir. 2009\)](#).

A. '844 Patent

Blue Coat first argues that the district court should have granted JMOL of non-infringement as to the asserted claims in the '844 patent because substantial evidence did not support the jury verdict. Specifically, Blue Coat contends that the asserted claims, requiring linking a security profile to a downloadable "before a web server makes the Downloadable available to web clients," can only be infringed by a server-side product that evaluates content before it is published to the Internet in the first place. [**13] Blue Coat's product, WebPulse, is a cloud-based service that provides information about downloadables to a customer's network gateway in order to help the network gateway determine whether a particular [***1288] downloadable can be accessed by a specific end user. Because WebPulse only evaluates downloadables that are already publicly available on the Internet, Blue Coat argues that it does not infringe.

Blue Coat made no request for a claim construction that would require linking the security profile to the downloadable before the downloadable is placed on the Internet. Blue Coat cannot raise the claim construction issue for the first time in post-trial motions: [HN8](#) [↑] "it is too late at the JMOL stage to argue for or adopt a new and more detailed interpretation of the claim language and test the jury verdict by that new and more detailed interpretation." *Hewlett-Packard Co. v. Mustek Sys., Inc.*, [340 F.3d 1314, 1321 \(Fed. Cir. 2003\)](#). Under such circumstances, "the question for the trial court is limited to whether substantial evidence supports the jury's verdict under the issued construction." *Wi-Lan, Inc. v. Apple, Inc.*, [811 F.3d 455, 465 \(Fed. Cir. 2016\)](#). Here, the claim, as construed by the district court, requires "linking by the inspector the first Downloadable security profile to the Downloadable before [a/the] non-network gateway [**14] web server make[s] the Downloadable available to web clients." '844 patent, col. 11 ll. 18-20; J.A. 25. The jury was instructed to apply this construction.

It was reasonable for the jury to interpret "web clients" in this context to refer to the specific web clients protected by the claimed system. Likewise, the limitation requiring that linking occur before a downloadable is "ma[de] . . . available to web clients" could reasonably be understood to require that linking occur at some point before users are *permitted to access* that downloadable—but not necessarily before the downloadable is made available on the Internet. Blue Coat concedes that, at the time a security profile is linked, the "particular web client cannot yet *receive* the downloadable—but the *web server* has made it available" Reply Br. 9. Given the undisputed

evidence that WebPulse links security profiles to downloadables before downloadables can be received by [*1307] users of the service, we find that the '844 infringement verdict was supported by substantial evidence.

B. '731 Patent

We next consider Blue Coat's claim that it was entitled to JMOL of non-infringement as to the asserted claims of the '731 patent. The '731 patent is directed to a computer gateway that protects a [**15] private intranet from malicious software embedded in webpages on the public Internet.¹ The claimed gateway operates by scanning potentially malicious files and creating "security profiles" that each comprise "a list of computer commands that the file is programmed to perform." '731 patent, col. 4 ll. 47-48. Claim 17 further specifies that the security profile include "a list of at least one computer command that the retrieved file is programmed to perform." '731 patent, col. 13 ll. 7-8. Once these security profiles have been generated, they can be compared with the security policy associated with a given user in order to decide whether the file should be provided to that user.

Blue Coat argues that the '731 patent was not infringed as a matter of law because the "security profiles"

created by the accused product do not contain the requisite "list of computer commands." Because Blue Coat did not request a construction of the "list of commands" term, we apply the ordinary meaning. We find that substantial evidence supports the jury's finding of infringement.

At trial, Finjan presented evidence demonstrating that the accused product creates a new file called "cookie2" each time it scans an incoming file for potential malware. Cookie2 comprises a set of fields, each field representing various characteristics about the downloadable file. Fields 78-80 of Cookie2 represent [***1289] certain commands and show whether those commands—such as eval(), [**17] unescape(), and document.write()—appear in the incoming file. In fields 78-80, an integer represents the number of times each command appears. Finjan's expert, Dr. Mitzenmacher, testified that the data contained in fields 78-80 "is clearly a list of computer commands." J.A. 40383.

Blue Coat argues that this is not enough and that the "list of commands" limitation cannot be satisfied by "an *identifier* of a *type* of command the system should watch for." Appellant Br. 34. But the claim language simply requires that the security profile contain "a list of computer commands that a corresponding one of the incoming files is programmed to perform." It does not mandate any particular representation of that information—much less require that the commands be listed in the form of executable code. Dr. Mitzenmacher [**1308] testified at trial that the integers in fields 78-80 are "clearly a list of computer commands" because "those numbers determine whether or not those commands are in the security profile." J.A. 40383-84. He also notes that "there are many ways of representing a list [of computer commands], including the way it is represented here." J.A. 40384. Substantial evidence supports the jury's implied [**18] finding that the "list of commands" limitation is satisfied by the integers in Fields 78-80 of Cookie2, and the patent is infringed.

C. '968 Patent

Blue Coat also argues that it was entitled to JMOL of non-infringement with respect to the '968 patent because Finjan failed to introduce substantial evidence that the accused products implement the claimed "policy index." We agree.

The '968 patent is directed to a "policy-based" cache manager that can efficiently manage cached content according to a plurality of security policies. The patentee agrees that a "policy" is a rule or set of rules that

¹ Claim 1 of the '731 patent reads:

1. A computer gateway for an intranet of comput-ers, comprising:

a scanner for scanning incoming files from the Internet and deriving security profiles for the incoming files, wherein each of the security profiles comprises a list of computer commands that a corresponding one of the incoming files is programmed to perform;

a file cache for storing files that have been scanned by the scanner for future access, wherein each of the stored files is indexed by a file identifier; and

a security profile cache for storing the security profiles [**16] derived by the scanner, wherein each of the security profiles is indexed in the security profile cache by a file identifier associated with a corresponding file stored in the file cache; and

a security policy cache for storing security policies for intranet computers within the intranet, the security policies each including a list of restrictions for files that are transmitted to a corresponding subset of the intranet computers.

'731 patent, col. 11 ll. 35-55.

determines whether a piece of content can be accessed by a user. Different policies can apply to different users, and the decision of whether to let a user access content is made by comparing the content's security profile with the policy governing the user's access. Thus, the policy based cache manager in the '968 patent is a data structure that keeps track of whether content is permitted under various policies. Claim 1, the sole asserted claim, is reproduced below, with key language underlined:

1. A policy-based cache manager, comprising:

a memory storing a cache of digital content, a plurality of policies, and a policy index to the cache **[**19]** contents, the policy index including entries that relate cache content and policies by indicating cache content that is known to be allowable relative to a given policy, for each of a plurality of policies;

a content scanner, communicatively coupled with said memory, for scanning a digital content received, to derive a corresponding content profile; and

a content evaluator, communicatively coupled with said memory, for determining whether a given digital content is allowable relative to a given policy, based on the content profile, the results of which are saved as entries in the policy index.

'968 patent col. 9 ll. 47-62. At claim construction, the parties stipulated that "policy index" means "a data structure indicating allowability of cached content relative to a plurality of policies." The jury was instructed to apply this construction. Once again, we test the jury's infringement verdict based on this claim language and claim construction. [Hewlett-Packard Co., 340 F.3d at 1320-21.](#)

Trial testimony demonstrated that the accused product, Proxy SG, is a gateway between an intranet of computers and the Internet at large. Every time a user requests a file, Proxy SG will analyze that file and determine whether access is permitted under the **[**20]** user's security policy. As Proxy SG evaluates a file, it can cache the results of individual rules *within* a policy and use that information to speed up the process of making an ultimate policy decision. Early in its analysis, for instance, Proxy SG can check the "category" of the file and then determine whether the user's policy has any rules related to the "category" field. Proxy SG can then store "the evaluations of the parts of the rules that deal with this category field So you don't have to

reevaluate those conditions again." J.A. 40327-28. As Finjan's expert expressly acknowledged, however, Proxy **[*1309]** SG does not save final decisions about whether content can be accessed by users subject to a given policy. It simply stores the evaluation of each individual **[***1290]** rule that goes into making an ultimate policy decision. This is not what the claim language requires. The policy index claimed in the '968 patent must store the "results" of a content evaluator's determination of "whether a given digital content is allowable relative to a given policy."

At summary judgment, the district court agreed that this claim language requires the policy index to store final allowability determinations and noted **[**21]** that "Defendant's argument would likely prevail if all policies consist of multiple rules or conditions." [Finjan, Inc. v. Blue Coat Sys., Inc., No. 13-CV-03999-BLF, 2015 U.S. Dist. LEXIS 74566, 2015 WL 3630000, at *9 \(N.D. Cal. June 2, 2015\).](#) The court nevertheless declined to grant summary judgement because "the '968 patent specifically provides that a policy can be just one rule." *Id.* If Proxy SG saved the results of applying each rule that makes up a one-rule policy, it would be saving final allowability determinations for a plurality of policies and thus infringing. The district court therefore gave Finjan the opportunity to prove at trial that "the Proxy SG policy cache contains a number of condition evaluations, each of which is determinative of whether a file is allowable relative to one of a plurality of single condition policies." *Id.*

At trial, Finjan made no such showing. There was no evidence indicating that the condition determinations stored by Proxy SG are final allowability decisions for users governed by single-rule policies. Indeed, Finjan's expert acknowledged that Proxy SG never saves final allowability determinations and must instead re-evaluate the allowability of content each time it is requested. It is therefore clear that the jury's infringement verdict **[**22]** was not supported by substantial evidence.

Because Finjan failed to present evidence that the accused product ever stores final allowability determinations, Blue Coat was entitled to JMOL of non-infringement.

III. Damages

We now turn to Blue Coat's damages arguments with respect to the '844, '731, and '633 patents. The starting point is [HNS¹ 35 U.S.C. § 284](#), which limits damages to those "adequate to compensate for the infringement." Two categories of compensation for infringement are

the patentee's lost profits and the "reasonable royalty he would have received through arms-length bargaining." [*Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 \(Fed. Cir. 2009\)](#).

The only measure of damages at issue in this case is a reasonable royalty, which "seeks to compensate the patentee . . . for its lost opportunity to obtain a reasonable royalty that the infringer would have been willing to pay if it had been barred from infringing." [*AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1334 \(Fed. Cir. 2015\)](#) (citing [*Lucent Techs.*, 580 F.3d at 1325](#)).

A. '844 Patent

Blue Coat first argues that, in calculating a royalty base, Finjan failed to apportion damages to the infringing functionality. We agree.

[HN10](#) [↑] When the accused technology does not make up the whole of the accused product, apportionment is required. "[T]he ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features [****23**] of the product, and no more." [*Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 \(Fed. Cir. 2014\)](#); see also [*Mentor Graphics v. EVE-USA*, 870 F.3d 1298, 1299 \(Fed. \[***1310**\] Cir. 2017\)](#) (order denying rehearing en banc) ("[W]here an infringing product is a multi-component product with patented and unpatented components, apportionment is required."); [*VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 \(Fed. Cir. 2014\)](#) ("No matter what the form of the royalty, a patentee must take care to seek only those damages attributable to the infringing features."). In such cases, the patentee must "give evidence tending to separate or apportion the [infringer]'s profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative." [*Garretson v. Clark*, 111 U.S. 120, 121, 4 S. Ct. 291, 28 L. Ed. 371, 1884 Dec. Comm'r Pat. 206 \(1884\)](#). Finjan, as the present patent holder, had the burden of proving damages by a preponderance of the evidence.

WebPulse, the infringing product, is a cloud-based system that associates URLs with over eighty different categories, including pornography, gambling, shopping, social networking, and "suspicious"—which is a category meant to identify potential malware. WebPulse is not sold by itself. Rather, other [*****1291**] Blue Coat products, like Proxy SG, use WebPulse's category information to make allowability determinations about

URLs that end users are trying to access.

DRTR, which stands [****24**] for "dynamic real-time rating engine," is the part of WebPulse responsible for analyzing URLs that have not already been categorized. DRTR performs both infringing and non-infringing functions. When a user requests access to a URL that is not already in the WebPulse database—a brand new website, for instance—DRTR will analyze the content, assign a category or categories, and collect metadata about the site for further use. As part of that analysis, DRTR will examine the URL for malicious or suspicious code, create a kind of "security profile" highlighting that information, and then "attach" the security profile to the given URL. This infringes the '844 patent. But the DRTR analysis also evaluates whether the URL fits into categories ranging from pornography to news. These additional categories are unrelated to DRTR's malware identification function but are still valuable for companies trying to, say, prevent employees from using social media while on the job. DRTR also collects metadata about the URL for Blue Coat's later use. In other words, all of the infringing functionality occurs in DRTR, but some DRTR functions infringe and some do not.

At trial, Finjan attempted to tie the royalty base [****25**] to the incremental value of the infringement by multiplying WebPulse's total number of users by the percentage of web traffic that passes through DRTR, the WebPulse component that performs the infringing method. DRTR processes roughly 4% of WebPulse's total web requests, so Finjan established a royalty base by multiplying the 75 million worldwide WebPulse users by 4%. Although DRTR also performs the non-infringing functions described above, Finjan did not perform any further apportionment on the royalty base.

Finjan argues that apportionment to DRTR is adequate because DRTR is the "smallest, identifiable technical component" tied to the footprint of the invention. Appellee Br. 49-50. This argument, which draws from this court's precedent regarding apportionment to the "smallest salable patent-practicing unit" of an infringing product, does not help Finjan. [HN11](#) [↑] The smallest salable unit principle directs that "in any case involving multi-component products, patentees may not calculate damages based on sales of the entire product, as opposed to the smallest salable patent-practicing unit, without showing that the [***1311**] demand for the entire product is attributable to the patented feature." [*LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 67-68 \(Fed. Cir. 2012\)](#). The [****26**] entire market


value rule is not at issue in this case, however, and the fact that Finjan has established a royalty base based on the "smallest, identifiable technical component" does not insulate them from the "essential requirement" that the "ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product." [Ericsson, 773 F.3d at 1226](#). As we noted in *VirnetX*, if the smallest salable unit—or smallest identifiable technical component—contains non-infringing features, additional apportionment is still required. [VirnetX, 767 F.3d at 1327](#) (rejecting a jury instruction that "mistakenly suggest[ed] that when the smallest salable unit is used as the royalty base, there is necessarily no further constraint on the selection of the base").

Finjan further defends its apportionment methodology by asserting that it demonstrated that "many of these other categories were unimportant." Appellee Br. 51. But the claimed unimportance of particular categories (e.g. "Macy's and shopping") does not speak to the overall importance of identifying categories unrelated to malware. Malware detection is undoubtedly an important driver of DRTR's (and WebPulse's) value. At trial, for instance, Dr. Layne-Farrar pointed **[**27]** to an internal Blue Coat email stating that "[t]oday the main value of [Web-Filter and WebPulse] centers around zero-day malware protection." J.A. 40571. She also referenced a 2012 public-facing document entitled "Five reasons to choose Blue Coat," which gave "negative-day defense: stop malware at the source" as reason number two. J.A. 40572-73. But it is evident that Blue Coat's customers also value WebPulse's ability to identify and filter other categories of content. A Blue Coat whitepaper discussed at trial prominently advertises the fact that WebPulse provides "the granular category control that businesses need to implement acceptable Internet use policies." J.A. 53136. And Finjan's expert used an example about a company that wanted to bar access to certain sites categorized as "gambling." "Whether 'viewed as valuable, important, or **[***1292]** even essential,' the patented feature must be separated." [VirnetX, 767 F.3d at 1329](#) (quoting [LaserDynamics, 694 F.3d at 68](#)).

Because DRTR is itself a multi-component software engine that includes non-infringing features, the percent-age of web traffic handled by DRTR is not a proxy for the incremental value of the patented technology to WebPulse as a whole. Further apportionment was required to reflect the value **[**28]** of the patented technology compared to the value of the unpatented elements.

Blue Coat also identifies a second error in Finjan's reasonable royalty calculation. To arrive at a lump sum reasonable royalty payment for infringement of the '844 patent, Finjan simply multiplied the royalty base by an \$8-per-user royalty rate. Blue Coat contends that there is no basis for the \$8-per-user rate.

We agree with Blue Coat that the \$8-per-user royalty rate employed in Finjan's analysis was unsupported by substantial evidence. There is no evidence that Finjan ever actually used or proposed an \$8-per-user fee in any comparable license or negotiation. Rather, the \$8-per-user fee is based on testimony from Finjan's Vice President of IP Licensing, Ivan Chaperot, that the current "starting point" in licensing negotiations is an "8 to 16 percent royalty rate or something that is consistent with that . . . like \$8 per user fee." J.A. 40409. Mr. Chaperot further testified that the 8-16% figure was based on a 2008 **[*1312]** verdict obtained by Finjan against Secure Computing. On this basis, Finjan's counsel urged the jury to use an \$8-per-user royalty rate for the hypothetical negotiation because "that's what Finjan would have **[**29]** asked for at the time." J.A. 41654.

[HN12](#) While any reasonable royalty analysis "necessarily involves an element of approximation and uncertainty, a trier of fact must have some factual basis for a determination of a reasonable royalty." [Unisplay, S.A. v. Am. Elec. Sign Co., 69 F.3d 512, 517 \(Fed. Cir. 1995\)](#). Mr. Chaperot's testimony that an \$8-per-user fee is "consistent with" the 8-16% royalty rate established in *Secure Computing* is insufficient. There is no evidence to support Mr. Chaperot's conclusory statement that an 8-16% royalty rate would correspond to an \$8-per-user fee, and Finjan fails to adequately tie the facts of *Secure Computing* to the facts in this case. See [LaserDynamics, 694 F.3d at 79](#) ("[A]lleging a loose or vague comparability between different technologies or licenses does not suffice.").

Secure Computing did not involve the '844 patent, and there is no evidence showing that the patents that were at issue are economically or technologically comparable. Finjan's evidence on this point is limited to the fact that the infringing products in *Secure Computing* were also in the computer security field and that Secure Computing was a competitor of Blue Coat in 2008. This surface similarity is far too general to be the basis for a reasonable royalty calculation. In any case, Mr. Chaperot's **[**30]** testimony that an 8-16% royalty rate would be the *current starting point* in licensing negotiations says little about what the parties would

have proposed or agreed to in a hypothetical arm's length negotiation in 2008. And Finjan's evidence of a \$14-34 *software* user fee is not indicative of how much the parties would have paid to license a patent. See [*Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1317 \(Fed. Cir. 2011\)](#) ("[T]here must be a basis in fact to associate the royalty rates used in prior licenses to the particular hypothetical negotiation at issue in the case."). In short, the \$8-per-user fee appears to have been plucked from thin air and, as such, cannot be the basis for a reasonable royalty calculation.

While it is clear that Finjan failed to present a damages case that can support the jury's verdict, reversal of JMOL could result in a situation in which Finjan receives no compensation for Blue Coat's infringement of the '844 patent. [HN13](#) [↑] Ordinarily, "the district court must award damages in an amount no less than a reasonable royalty" when infringement is found, [*Dow Chem. Co. v. Mee Indus., Inc.*, 341 F.3d 1370, 1381 \(Fed. Cir. 2003\)](#); see [*Riles v. Shell Expl. & Prod. Co.*, 298 F.3d 1302, 1313 \(Fed. Cir. 2002\)](#), unless the patent holder has waived the right to damages based on alternate theories, [*Promega Corp. v. Life Tech. Corp.*, 875 F.3d 651, 660 \(Fed. Cir. 2017\)](#). We therefore remand to the district court to determine [**31](#) whether Finjan has waived the right to establish reasonable royalty damages under a new theory and whether to order a new trial on damages.

B. '731 and '633 Patents

For the '731 and '633 patents, Finjan's expert did apportion the revenues comprising the royalty base between infringing and non- [***1293](#) infringing functionality of Proxy SG. Blue Coat argues that the apportionment was insufficient. We disagree.

Finjan's expert, Dr. Layne-Farrar, based her apportionment analysis for the '731 and '633 patents on an architectural diagram prepared by Blue Coat. The diagram is entitled "Secure Web Gateway: Functions" and shows twenty-four boxes representing different parts of the Secure [*1313](#) Web Gateway system. Dr. Layne-Farrar assumed that each box represented one top level function and that each function was equally valuable. Thus, because one function infringed the '633 patent, and three infringed the '731 patent, she used a 1/24th apportionment for the '633 patent and a 3/24th apportionment for the '731 patent.

Blue Coat argues that there was no evidence to support Dr. Layne-Farrar's assumption that each box represents a "function" and that each function should be treated as

equally valuable. But at trial, Dr. Layne-Farrar testified that her assumption was based on Blue Coat's own diagram, which [**32](#) is entitled "Secure Web Gateway: Functions", as well as her discussions with Mr. Medovic, a Finjan technical expert who explained the use of architectural diagrams and identified certain components within the diagram that did and did not infringe. Dr. Layne-Farrar also testified that she relied on the deposition of a Blue Coat engineer, in which the engineer stated that the diagram in question represents the full scope of Secure Web Gateway functionality. Based on this evidence, Dr. Layne-Farrar based her analysis on the twenty-four "functions" identified in the Blue Coat diagram and considered each function equally valuable.

Blue Coat notes that Dr. Layne-Farrar's conclusions conflict with testimony from Mr. Shoenfeld, Blue Coat's Senior VP of Products, stating that each box in the diagram can "have many, many things behind [it] . . . so there's no equal weighing of these [boxes]" See J.A. 40756. But the existence of conflicting testimony does not mean the damages award is unsupported by substantial evidence. The jury was entitled to believe the patentee's expert. The jury's damages awards for infringement of the '731 and '633 patents were based on substantial evidence.²

CONCLUSION

For the foregoing [**33](#) reasons, we reverse the denial of JMOL of non-infringement with respect to the '968 patent and remand to the district court to determine the issue of damages with respect to the '844 patent. We affirm in all other respects.

² Blue Coat also argues that the damages award was flawed because the jury awarded damages in excess of the estimates offered by Finjan's damages expert. Indeed, Finjan's damages expert gave a range of \$2,979,805 to \$3,973,073 for infringement of the '731 patent and a range of \$833,350 to \$1,111,133 for infringement of the '633 patent, JA 40623, but the jury awarded \$6,000,000 for the '731 patent and \$1,666,700 for the '633 patent, J.A. 125. We agree with Blue Coat that [HN14](#) [↑] the statute's direction to award damages "in no event less than a reasonable royalty" does not mean that the patentee need not support the award with reliable evidence. [35 U.S.C. § 284](#). A jury may not award more than is supported by the record, but here the record contains evidence that the expert's estimates were conservative and that the underlying evidence could support a higher award. J.A. 40619-20, 40656.

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

COSTS

Each party shall bear its own costs.

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Caution

As of: January 7, 2019 1:52 PM Z

Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.

United States Court of Appeals for the Federal Circuit

January 25, 2018, Decided

2016-2684, 2017-1922

Reporter

880 F.3d 1356 *; 2018 U.S. App. LEXIS 1931 **; 125 U.S.P.Q.2D (BNA) 1436 ***; 2018 WL 542672

CORE WIRELESS LICENSING S.A.R.L., Plaintiff-Appellee v. LG ELECTRONICS, INC., LG ELECTRONICS MOBILECOMM U.S.A., INC., Defendants-Appellants

Subsequent History: As Amended January 25, 2018.

Prior History: **[**1]** Appeals from the United States District Court for the Eastern District of Texas in Nos. 2:14-cv-00911-JRG-RSP, 2:14-cv-00912-JRG-SP, Judge J. Rodney Gilstrap.

[Core Wireless Licensing S.a.r.l. v. LG Elecs., Inc., 2016 U.S. Dist. LEXIS 122745 \(E.D. Tex., Sept. 12, 2016\)](#)
[Core Wireless Licensing S.a.r.l. v. LG Elecs., Inc., 2016 U.S. Dist. LEXIS 35663 \(E.D. Tex., Mar. 20, 2016\)](#)
[Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc., 2016 U.S. Dist. LEXIS 112425 \(E.D. Tex., Aug. 23, 2016\)](#)

Disposition: AFFIRMED.

Core Terms

display, patent, user, window, unlaunched, launch, menu, applications, screen, specification, functionality, invention, infringement, district court, devices, computing, anticipation, navigation, terms, asserted claim, abstract idea, matter of law, eligible, selectable, embodiment, improved, prior art, interfaces, invalidity, patentee

Case Summary

Overview

HOLDINGS: [1]-The record supported the district court's decision denying summary judgment to a patent holder's competitor on its claims that claims 8 and 9 of U.S.

Patent No. 8,713,476 and claims 11 and 13 of U.S. Patent No. 8,434,020, which disclosed improved display interfaces, particularly for electronic devices with small screens like mobile telephones, were invalid under 35 U.S.C.S. § 101 because they were directed to an abstract idea; [2]-The district court did not err when it denied the competitor's motion for judgment as a matter of law on its claim that the claims in question were invalid under [35 U.S.C.S. § 102](#) because they were anticipated by prior art, or when it entered judgment confirming a jury's verdict that products the competitor sold infringed both patents; [3]-The claims in question were patentable because they recited a specific improvement over prior systems.

Outcome

Judgment affirmed.

LexisNexis® Headnotes

Patent Law > Claims &
 Specifications > Claims > Claim Language

Patent Law > Infringement Actions > Claim
 Interpretation > Scope of Claim

[HN1](#) [Download Icon] Claims, Claim Language

When parties present a fundamental dispute regarding the scope of a term in a patent's claim, it is the court's duty to resolve it.

Civil Procedure > ... > Summary
 Judgment > Entitlement as Matter of
 Law > Appropriateness

Patent Law > Jurisdiction & Review > Standards of Review

Civil Procedure > Trials > Judgment as Matter of Law

Civil Procedure > Appeals > Standards of Review > De Novo Review

Civil Procedure > Appeals > Summary Judgment Review > Standards of Review

[HN2](#) **Entitlement as Matter of Law, Appropriateness**

For patent appeals, the United States Court of Appeals for the Federal Circuit applies the law of the regional circuit to issues not specific to patent law. The United States Court of Appeals for the Fifth Circuit reviews motions for summary judgment and motions for judgment as matter of law de novo. The Fifth Circuit views all evidence in a light most favorable to the verdict and will reverse a jury's verdict only if the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion.

Business & Corporate Compliance > ... > Patent Law > Infringement Actions > Infringing Acts

Patent Law > Jurisdiction & Review > Standards of Review > De Novo Review

Patent Law > Utility Requirement > Fact & Law Issues

Patent Law > Anticipation & Novelty > Fact & Law Issues

Patent Law > Jurisdiction & Review > Standards of Review > Substantial Evidence

[HN3](#) **Infringement Actions, Infringing Acts**

The ultimate determination of patent eligibility under 35 U.S.C.S. § 101 is an issue of law the United States Court of Appeals for the Federal Circuit reviews de novo. Anticipation and infringement are both questions of fact that are reviewed for substantial evidence when tried to a jury.

Patent Law > Utility Requirement > Proof of Utility

Patent Law > Jurisdiction & Review > Standards of Review

[HN4](#) **Utility Requirement, Proof of Utility**

Anyone who invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent. 35 U.S.C.S. § 101. Because patent protection does not extend to claims that monopolize the building blocks of human ingenuity, claims directed to laws of nature, natural phenomena, and abstract ideas are not patent eligible. The United States Supreme Court instructs courts to distinguish between claims that claim patent ineligible subject matter and those that integrate the building blocks into something more. First, the United States Court of Appeals for the Federal Circuit determines whether the claims at issue are directed to a patent-ineligible concept. If so, the Federal Circuit examines the elements of the claim to determine whether it contains an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. If claims are directed to a patent-eligible concept, they satisfy § 101 and the Federal Circuit need not proceed to the second step.

Patent Law > ... > Utility Patents > Process Patents > Computer Software & Mental Steps

Patent Law > Utility Requirement > Proof of Utility

Patent Law > Jurisdiction & Review > Standards of Review

[HN5](#) **Process Patents, Computer Software & Mental Steps**

At step one of an analysis under 35 U.S.C.S. § 101 to determine if a product or process is patentable, the United States Court of Appeals for the Federal Circuit must articulate what the claims are directed to with enough specificity to ensure the step-one inquiry is meaningful. Although there is difficulty inherent in delineating the contours of an abstract idea, the court must be mindful that all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas. The Federal Circuit also asks whether the claims are directed to a specific improvement in the capabilities of computing devices, or, instead, a process that qualifies as an

abstract idea for which computers are invoked merely as a tool.

Evidence > Burdens of Proof > Burden Shifting

Patent Law > Infringement Actions > Burdens of Proof

Patent Law > ... > Defenses > Patent Invalidity > Presumption of Validity

Evidence > Burdens of Proof > Clear & Convincing Proof

[HN6](#) **Burdens of Proof, Burden Shifting**

A patent is presumed valid, and the burden of establishing invalidity of a claim rests on the party asserting invalidity by clear and convincing evidence. [35 U.S.C.S. § 282](#). An alleged infringer asserting a defense of invalidity also has the initial burden of going forward with evidence to support its invalidity allegation. Once that evidence has been presented, the burden of going forward shifts to the patentee to present contrary evidence and argument. Ultimately, however, the outcome of an alleged infringer's invalidity defense at trial depends on whether the alleged infringer has carried its burden of persuasion to prove by clear and convincing evidence that the patent is invalid. Because the burden rests with the alleged infringer to present clear and convincing evidence supporting a finding of invalidity, granting judgment as a matter of law for the party carrying the burden of proof is generally reserved for extreme cases, such as when the opposing party's witness makes a key admission.

Patent Law > Jurisdiction & Review > Standards of Review > Clearly Erroneous Review

Patent Law > Infringement Actions > Claim Interpretation > Fact & Law Issues

Patent Law > Jurisdiction & Review > Standards of Review > De Novo Review

[HN7](#) **Standards of Review, Clearly Erroneous Review**

The ultimate issue of the proper construction of a patent's claim should be treated as a question of law,

which the United States Court of Appeals for the Federal Circuit reviews de novo. Any subsidiary factual findings related to claim construction are reviewed under the clearly erroneous standard. In construing a patent's claims, the Federal Circuit considers the words of the claims themselves, the specification, the prosecution history, and if necessary, any relevant extrinsic evidence. When a district court reviews only evidence intrinsic to a patent (the patent's claims and specifications, along with the patent's prosecution history), the judge's determination will amount solely to a determination of law.

Patent Law > Infringement Actions > Prosecution History Estoppel > Abandonment & Amendment

Patent Law > Jurisdiction & Review > Standards of Review

[HN8](#) **Prosecution History Estoppel, Abandonment & Amendment**

The doctrine of prosecution disclaimer precludes patentees from recapturing the full scope of a claim term only when the patentee clearly and unmistakably disavows a certain meaning in order to obtain the patent. When an alleged disclaimer is ambiguous or amenable to multiple reasonable interpretations, the United States Court of Appeals for the Federal Circuit declines to find prosecution disclaimer.

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CARTER GLASGOW PHILLIPS, Sidley Austin LLP, Washington, DC, argued for defendants-appellants. Also represented by DANIEL HAY, RYAN C. MORRIS, ANNA MAYERGOYZ WEINBERG; PETER H. KANG, Palo Alto, CA; JAMES SUH, LG Electronics Inc., Seoul, Korea.

Judges: Before MOORE, O'MALLEY, and WALLACH, Circuit Judges. Opinion for the court filed by Circuit Judge MOORE. Opinion concurring-in-part and dissenting-in-part filed by Circuit Judge WALLACH.

Opinion by: MOORE

Opinion

[***1438] [*1359] MOORE, *Circuit Judge*.

LG Electronics, Inc. ("LG") appeals the United States District Court for the Eastern District of Texas' decisions (1) denying summary judgment that claims 8 and 9 of U.S. Patent No. 8,713,476 ("476 patent") and claims 11 and 13 of U.S. Patent No. 8,434,020 ("020 patent") are directed to patent ineligible subject matter under 35 U.S.C. § 101; (2) denying judgment as matter of law that U.S. Patent No. 6,415,164 ("Blanchard") anticipates the asserted claims under 35 U.S.C. § 102; and (3) denying judgment as [*2] a matter of law that the claims are not infringed. For the reasons discussed below, we affirm.

BACKGROUND

The '476 and '020 patents disclose improved display interfaces, particularly for electronic devices with small screens like mobile telephones. '020 patent¹ at 1:14-24. The improved interfaces allow a user to more quickly access desired data stored in, and functions of applications included in, the electronic devices. *Id.* at 2:20-44. An application summary window displays "a limited list of common functions and commonly accessed stored data which itself can be reached directly from the main menu listing some or all applications." *Id.* at 2:55-59. The application summary window can be reached in two steps: "first, launch a main view which shows various applications; then, launch the appropriate summary window for the application of interest." *Id.* at 2:61-64. The patents explain that the disclosed application summary window "is far faster and easier than conventional navigation approaches," particularly for devices with small screens. *Id.* at 2:64-65.

Core Wireless Licensing S.A.R.L. ("Core Wireless") sued LG, alleging LG infringed dependent claims 8 and 9 of the '476 patent and dependent claims 11 and 13 of the '020 patent. Claims 8 [*3] and 9 of the '476 patent depend from claim 1, which recites (emphases added):

1. A computing device comprising a display screen, the computing device being configured to display on the screen a menu listing one or more applications, and additionally being configured to

display on the screen an application summary that can be *reached directly* from the menu, wherein the application summary displays a limited list of data offered within the one or more applications, each of the data in the list being selectable to launch the respective application and enable the selected data to be seen within the respective application, and wherein the application summary is displayed while the one or more applications are in an *unlaunched state*.

[*1360] Claims 11 and 13 of the '020 patent depend from claim 1, which recites (emphases added):

1. A computing device comprising a display screen, the computing device being configured to display on the screen a main menu listing at least a first application, and additionally being configured to display on the screen an application summary window that can be *reached directly* from the main menu, wherein the application summary window displays a limited list of at least one function offered [*4] within the first application, each function in the list being selectable to launch the first application and initiate the selected function, and wherein the application summary window is displayed [***1439] while the application is in an *unlaunched state*.

LG moved for summary judgment of invalidity of the asserted claims under 35 U.S.C. § 101, which the court denied. The district court found claim 1 of the '476 patent representative for the purposes of evaluating patent eligibility. It held that the claims are not directed to an abstract idea because, even crediting LG's characterization of the claims as directed to "displaying an application summary window while the application is in an unlaunched state," the concepts of "application," "summary window," and "unlaunched state" are specific to devices like computers and cell phones. J.A. 9561. The court explained "LG identifie[d] no analog to these concepts outside the context of such devices." *Id.* It further noted even "if claim 1 were directed to an abstract idea, it would still be patent eligible at least because it passes the machine-or-transformation test." J.A. 9562.

The case proceeded to trial, and the district court, after hearing initial testimony, determined [*5] "an O2 Micro situation" existed with respect to the claim terms "unlaunched state" and "reached directly," and afforded both sides an opportunity to argue constructions of these terms. J.A. 10277-78; see *O2 Micro Int'l Ltd. v.*

¹The '476 and '020 patent specifications are effectively identical. Unless otherwise specified, citations to the '020 patent refer to disclosures in both patents.

[Beyond Innovation Tech. Co.](#), 521 F.3d 1351, 1362 (Fed. Cir. 2008) (HN1[↑]) "When the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it."). The district court ruled that "unlaunched state" means "not displayed" and "reached directly" means "reached without an intervening step."

The jury found all asserted claims infringed and not invalid. LG moved for judgment as matter of law of noninfringement, arguing in part that a correct construction of "unlaunched state" means "not running" and that under this construction, no reasonable jury could have found infringement. LG also argued that the "reached directly" limitation required user interaction with the main menu, and no reasonable jury could have found infringement under such a construction. The district court declined to revisit claim construction, noting LG did not preserve its claim construction arguments in a [Rule 50\(a\)](#) motion. The district court further denied LG's motion for judgment as a matter of law of noninfringement based on the court's adopted [**6] constructions because evidence was presented at trial from which the jury reasonably could have found that the application summary window in the accused devices could be reached directly from the main menu.

The district court also denied LG's motion for judgment of a matter of law of anticipation by Blanchard. Although Core Wireless elected not to call an expert to testify in rebuttal to LG's validity expert, the district court noted that the jury was not required to credit LG's expert testimony and concluded "LG failed to overcome the presumption of validity accorded to the '476 and '020 Patents by clear and convincing evidence." J.A. 18.

[*1361] LG timely appeals. We have jurisdiction under [28 U.S.C. § 1295\(a\)\(1\)](#).²

DISCUSSION

² Concern remains regarding whether we have jurisdiction to review the appeal of validity and infringement determinations while damages remains unresolved and will be the subject of a future jury trial. This is particularly true where, as here, no judgment under [Rule 54\(b\)](#) or otherwise has ever been entered. This panel, however, is bound by the determination in [Robert Bosch, LLC v. Pylon Manufacturing Corp.](#), 719 F.3d 1305, 1320 (Fed. Cir. 2013) (en banc) (holding that we retain jurisdiction "to entertain appeals from patent infringement liability determinations when a trial on damages has not yet occurred").

HN2[↑] For patent appeals, we apply the law of the regional circuit, here the Fifth Circuit, to issues not specific to patent law. [LaserDynamics, Inc. v. Quanta Comput., Inc.](#), 694 F.3d 51, 66 (Fed. Cir. 2012). The Fifth Circuit reviews motions for summary judgment and motions for judgment as matter of law de novo. *Id.* The Fifth Circuit views all evidence in a light most favorable to the verdict and will reverse a jury's verdict only if the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion. [Bagby Elevator Co. v. Schindler Elevator Corp.](#), 609 F.3d 768, 773 (5th Cir. 2010). HN3[↑] The ultimate determination [**7] of patent eligibility under 35 U.S.C. § 101 is an issue of law we review de novo. [Intellectual Ventures I LLC v. Capital One Fin. Corp.](#), 850 F.3d 1332, 1338 (Fed. Cir. 2017). Anticipation and infringement are both questions of fact reviewed for substantial evidence when tried to a jury. [Wi-Lan, Inc. v. Apple Inc.](#), 811 F.3d 455, 461 (Fed. Cir. 2016).

[**1440] I. Patent Eligibility

HN4[↑] Anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" may obtain a patent. 35 U.S.C. § 101. Because patent protection does not extend to claims that monopolize the "building blocks of human ingenuity," claims directed to laws of nature, natural phenomena, and abstract ideas are not patent eligible. [Alice Corp. Pty. v. CLS Bank Int'l](#), 134 S. Ct. 2347, 2354, 82 L. Ed. 2d 296, 189 L. Ed. 2d 296 (2014). The Supreme Court instructs courts to distinguish between claims that claim patent ineligible subject matter and those that "integrate the building blocks into something more." *Id.* First, we "determine whether the claims at issue are directed to a patent-ineligible concept." *Id.* at 2355. If so, we "examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Id.* at 2357 (quoting [Mayo Collaborative Servs. v. Prometheus Labs., Inc.](#), 566 U.S. 66, 72, 79, 132 S. Ct. 1289, 182 L. Ed. 2d 321 (2012)). If the claims are directed to a patent-eligible concept, the claims satisfy § 101 and we need not proceed to the second step. [Visual Memory LLC v. NVIDIA Corp.](#), 867 F.3d 1253, 1262 (Fed. Cir. 2017).

HN5[↑] At step one, [**8] we must "articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful." [Thales Visionix Inc. v. United States](#), 850 F.3d 1343, 1347 (Fed. Cir. 2017).

Although there is "difficulty inherent in delineating the contours of an abstract idea," [Visual Memory](#), 867 F.3d at 1259, we must be mindful that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." [Mayo](#), 566 U.S. at 71. We also ask whether the claims are directed to a specific improvement in the capabilities of computing devices, or, instead, "a process [*1362] that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." [Enfish, LLC v. Microsoft Corp.](#), 822 F.3d 1327, 1336 (Fed. Cir. 2016).

We previously have held claims focused on various improvements of systems directed to patent eligible subject matter under § 101. For example, in *Enfish*, we held claims reciting a self-referential table for a computer database eligible under step one because the claims were directed to a particular improvement in the computer's functionality. 822 F.3d at 1336. That the invention ran on a general-purpose computer did not doom the claims because unlike claims that merely "add[] conventional computer components to well-known business practices," the claimed self-referential table was "a specific type of data structure designed [*9] to improve the way a computer stores and retrieves data in memory." *Id.* at 1338-39. In *Thales*, we held claims reciting an improved method of utilizing inertial sensors to determine position and orientation of an object on a moving platform not directed to an abstract idea or law of nature. 850 F.3d at 1349. We noted that even though the system used conventional sensors and a mathematical equation, the claims specified a particular configuration of the sensors and a particular method of utilizing the raw data that eliminated many of the complications inherent in conventional methods. *Id.* at 1348-49. In *Visual Memory*, we held claims directed to an improved computer memory system with programmable operational characteristics defined by the processor directed to patent-eligible subject matter. 867 F.3d at 1259. The claimed invention provided flexibility that prior art processors did not possess, and obviated the need to design a separate memory system for each type of processor. *Id.* And most recently, in *Finjan, Inc. v. Blue Coat Systems, Inc.*, we held claims directed to a behavior-based virus scanning method directed to patent eligible subject matter because they "employ[] a new kind of file that enables a computer security system to do things [*10] it could not do before," including "accumulat[ing] and utiliz[ing] newly available, behavior-based information about potential threats." 879 F.3d 1299, 2018 U.S. App. LEXIS 601, 2018 WL 341882 (Fed. Cir. Jan. 10, 2018). The claimed behavior-based scans, in contrast to prior art systems which searched

for matching code, enabled more "nuanced virus filtering" in analyzing whether "a downloadable's code . . . performs potentially dangerous or unwanted operations." 2018 U.S. App. LEXIS 601, [WL] at *3. We held the claims "therefore directed to a non-abstract improvement in functionality, rather than the abstract idea of computer security writ large." 2018 U.S. App. LEXIS 601, [WL] at *4.

The asserted claims in this case are directed to an improved user interface for computing [*1441] devices, not to the abstract idea of an index, as argued by LG on appeal.³ Although the generic idea of summarizing information certainly existed prior to the invention, these claims are directed to a particular manner of summarizing and presenting information in electronic devices. Claim 1 of the '476 patent requires "an application summary that can be reached directly from the menu," specifying a particular manner by which the summary window must be accessed. The claim further requires the application summary window list a limited set of data, "each of the data in the list being [*11] selectable to launch the respective application and enable the selected data to be seen within the respective application." This claim limitation [*1363] restrains the type of data that can be displayed in the summary window. Finally, the claim recites that the summary window "is displayed while the one or more applications are in an unlaunched state," a requirement that the device applications exist in a particular state. These limitations disclose a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods to display a generic index on a computer. Like the improved systems claimed in *Enfish*, *Thales*, *Visual Memory*, and *Finjan*, these claims recite a specific improvement over prior systems, resulting in an improved user interface for electronic devices.

The specification confirms that these claims disclose an improved user interface for electronic devices, particularly those with small screens. It teaches that the prior art interfaces had many deficits relating to the efficient functioning of the computer, requiring a user "to scroll around and switch views many times to find the right data/functionality." '020 patent at 1:47-49. Because [*12] small screens "tend to need data and functionality divided into many layers or views," *id.* at

³ This articulation of the purported abstract idea was advanced for the first time on appeal. Because we do not find this theory or the theory offered below to be well-taken, we do not decide whether the argument was waived, as Core Wireless argues.

1:29-30, prior art interfaces required users to drill down through many layers to get to desired data or functionality. *Id.* at 1:29-37. That process could "seem slow, complex and difficult to learn, particularly to novice users." *Id.* at 1:45-46.

The disclosed invention improves the efficiency of using the electronic device by bringing together "a limited list of common functions and commonly accessed stored data," which can be accessed directly from the main menu. *Id.* at 2:55-59. Displaying selected data or functions of interest in the summary window allows the user to see the most relevant data or functions "without actually opening the application up." *Id.* at 3:53-55. The speed of a user's navigation through various views and windows can be improved because it "saves the user from navigating to the required application, opening it up, and then navigating within that application to enable the data of interest to be seen or a function of interest to be activated." *Id.* at 2:35-39. Rather than paging through multiple screens of options, "only three steps may be needed from start up to reaching **[**13]** the required data/functionality." *Id.* at 3:2-3. This language clearly indicates that the claims are directed to an improvement in the functioning of computers, particularly those with small screens.


Because we hold that the asserted claims are not directed to an abstract idea, we do not proceed to the second step of the inquiry. The claims are patent eligible under § 101.

II. Anticipation

The Blanchard reference teaches a display screen for mobile phones that "provides an arrangement for dynamically varying how space on a small display is allocated for presentation of various types of user information." J.A. 13097 at 1:53-57. It discloses hierarchical menu screens displaying a series of selectable sub-level menu choices through which a user can cycle. The display changes dynamically as the user makes selections; for example, selecting a function, such as "phone book," will display options related to that function, such as "add entry."

LG argues it established by clear and convincing evidence that Blanchard discloses each element of the asserted claims. It first submits that Core Wireless based its arguments distinguishing the asserted claims from Blanchard during closing argument and post-trial **[**14]** briefing on elements not recited by the asserted claims. It further submits that, because it presented a prima facie case of anticipation and Core

Wireless failed to present any affirmative **[*1364]** evidence in rebuttal, it is entitled to judgment as a matter of law that Blanchard anticipates the asserted claims. We disagree.

[*1442]** [HN6](#)  A patent is presumed valid, and the burden of establishing invalidity of a claim rests on the party asserting invalidity by clear and convincing evidence. [35 U.S.C. § 282](#); [Microsoft Corp. v. i4i Ltd. P'ship](#), 564 U.S. 91, 95, 131 S. Ct. 2238, 180 L. Ed. 2d 131 (2011). An alleged infringer asserting a defense of invalidity also has "the initial burden of going forward with evidence to support its invalidity allegation." [Titan Tire Corp. v. Case New Holland, Inc.](#), 566 F.3d 1372, 1376 (Fed. Cir. 2009). Once that evidence has been presented, the "burden of going forward shifts to the patentee to present contrary evidence and argument." *Id.* at 1376-77. Ultimately, however, the outcome of an alleged infringer's invalidity defense at trial depends on whether the alleged infringer "has carried its burden of persuasion to prove by clear and convincing evidence that the patent is invalid." *Id.* at 1377. Because the burden rests with the alleged infringer to present clear and convincing evidence supporting a finding of invalidity, granting judgment as a matter of law for **[**15]** the party carrying the burden of proof is generally "reserved for extreme cases," such as when the opposing party's witness makes a key admission. 9B Fed. Prac. & Proc. Civ. § 2535 (3d ed.); see [Grey v. First Nat'l Bank in Dall.](#), 393 F.2d 371, 380 (5th Cir. 1968) ("[W]hen the party moving for a directed verdict has such a burden, the evidence to support the granting of the motion must be so one-sided as to be of overwhelming effect.").


This is not one such extreme case. While LG presented the testimony of Dr. Rhyne, the only expert who testified regarding anticipation, Core Wireless cross-examined Dr. Rhyne, illuminating for the jury reasons why Dr. Rhyne's opinion was incorrect. For example, Dr. Rhyne testified that Blanchard discloses the "limited list" of data and functions recited in the asserted claims because Blanchard Figure 3 displays only three of the five functions of the phone book application. But on cross-examination, when asked if all five functions were "available through this menu," Dr. Rhyne admitted that all five functions of the phone book application were available through Blanchard's disclosed menus: "You can reach all of them—you can bring them all to the face of the screen, if that's what you mean." J.A. 10741. Viewing the evidence **[**16]** in the light most favorable to the verdict, we cannot say that this is a case in which the evidence points so strongly and overwhelming in

favor of LG that reasonable jurors could not arrive at any contrary conclusion. A reasonable jury could have heard the cross-examination of Dr. Rhyne and concluded Blanchard did not disclose the "limited list" limitation in the claims because a user could access the additional functions in Blanchard by keying down within the summary display window. Core Wireless had the right to choose to use its limited trial clock for other purposes where it believed—perhaps at its own risk—that LG's evidence had been adequately impeached. And the jury was entitled to evaluate Dr. Rhyne's testimony and determine whether LG clearly and convincingly established that Blanchard anticipates the claims.

The district court, in denying LG's motion for judgment as a matter of law, did not hold that the presumption of validity "saved" the claims in the face of un rebutted evidence. The court merely made the unremarkable observation that the jury was not required "to give full credit and acceptance to the testimony of Dr. Rhyne." J.A. 17. We agree with the district court and **[**17]** affirm its denial of LG's motion for judgment as a matter of law of anticipation.

[*1365] III. Infringement

LG presents two noninfringement arguments on appeal. First, LG argues the correct construction of "unlaunched state" is "not running," rather than "not displayed" as the district court held, and the accused devices do not infringe under its proposed construction.⁴ Second, LG argues that no reasonable jury could find that the accused devices satisfy the "reached directly from the [main] menu" limitations in the claims because the accused application summary window is reached from the status bar, which is not part of the menu. We reject both arguments.

HNT  "[T]he ultimate issue of the proper construction of a claim should be treated as a question of law," which we review de novo. [*Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838, 190 L. Ed. 2d 719 \(2015\)](#). Any subsidiary factual findings **[***1443]** related to claim construction are reviewed under the clearly erroneous standard. *Id.* In construing the claims, we consider "the words of the claims themselves, the specification, the

prosecution history, and if necessary, any relevant extrinsic evidence." [*Advanced Steel Recovery, LLC v. X-Body Equip., Inc.*, 808 F.3d 1313, 1317 \(Fed. Cir. 2015\)](#). "[W]hen the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's **[**18]** prosecution history), the judge's determination will amount solely to a determination of law." [*Teva Pharms. USA, Inc.*, 135 S. Ct. at 841](#).

First, we consider the construction of "unlaunched state." While this is a close case for which the intrinsic evidence could plausibly be read to support either party, we see no error in the district court's construction of "unlaunched state" to mean "not displayed." Such a construction encompasses both applications that are not running at all and applications that are running, at least to some extent, in the background of the electronic device. See J.A. 10283 (Core Wireless' expert testifying that an unlaunched application is "either not executing code or not visible to the user").

The stated focus of the invention is to "allow the user to navigate quickly and efficiently to access data and activate a desired function" on devices with small screens. '020 patent at 1:26-29. The invention identifies as problematic the conventional user interfaces in which "a user may need to scroll around and switch views many times to find the right data/functionality." *Id.* at 1:47-49. For instance, the specification does not identify the memory drain that running applications may have on the system as a problem it **[**19]** aims to solve—it only concerns itself with maximizing the benefit of the "common functions and commonly accessed data" actually displayed to the user. *Id.* at 2:26-30; see *id.* at 4:36-39 ("The mobile telephone may be able to learn what functionality and/or stored data types are most likely to be of interest to a given user and which should therefore be included in a summary view to any given user.").

The terms "display" and "launch" are used throughout the specification to convey that a particular view is displayed to the user. The specification states the following when describing the advantages in user navigation achieved by the invention:

[A] user can get to the summary window in just two steps—first, *launch a main view* which shows various applications; then, *launch the appropriate summary window* for the application of interest. This is far faster and easier than conventional **[*1366]** navigation approaches. Once *the*

⁴On appeal, LG does not dispute that under the court's construction of "unlaunched state," substantial evidence supports the jury's verdict that the accused devices meet this limitation.

summary window is launched, core data/functionality is displayed and can be accessed in more detail can typically be reached simply by selecting that data/functionality.

Id. at 2:59-3:2 (emphases added). In this passage, "launch" is used to describe what is displayed to the user **[**20]** when they select various menu options, not to indicate that an application is running.

This understanding is confirmed by the patents' use of the word "running." While the specification uses the term "display" throughout, it only uses the term "running" (or any modification of the term) one time: "there is a computer program which when running on a computing device (such as a mobile telephone), enables the device to operate in accordance with the above aspects of the invention. The program may be an operating system." *Id.* at 2:40-44. Therefore, when the patent teaches that a user "launch[es] a main view" or "launch[es] the appropriate summary window," the computer program or operating system implementing the summary program is already running. *Id.* at 2:59-3:2. Similarly, each patent only has one independent claim which uses the term "running," and it is used to describe the overall "computer program product" that implements the claimed functionality, not a device application. '020 patent at 6:20-32 (claim 16); '476 patent at 6:30-43 (claim 11). These claims further recite an application "in an unlaunched state." If the patentee intended "unlaunched" to mean "not running," it knew how to express as much.

[21]** Figure 3, which is identical for both patents, further confirms this construction of "unlaunched state." In Figure 3, the summary window indicates that under the "Messages" application there are "3 unread emails," "2 new SMS" messages, and "1 Chat *ongoing*." '020 patent at Fig. 3 (emphasis added). The use of the word "ongoing" (as opposed to a word like "received") indicates that, in at least some embodiments of the invention, at least some subset of processes of **[***1444]** the Messages application are already running. The specification confirms that the application summary window reflects information that is something more than mere notifications from an application: "App Snapshots are not intended to replace notifications, but to complement them by providing non-intrusive reminders for the user, as well as rapid shortcuts to key application functionality." *Id.* at 4:32-35.


The specification also describes a preferred embodiment in which "the constituency of the App

Snapshot may *vary with the environment* in which the mobile telephone finds itself." *Id.* at 4:47-49 (emphasis added). It explains "if the telephone is Bluetooth enabled, then there may be a Bluetooth application which has associated with it a summary window which lists the other Bluetooth devices in the vicinity." *Id.* at 4:49-52. Moreover, claim 6 of the '020 patent and claim 5 of the '476 patent both require that the data or functionality displayed "varies with the environment of the device." LG has not articulated how an application with data in the application summary window that *varies* as the location of the device changes can operate without having the application "running" in some manner. While the full Bluetooth application may not be "running," at least some subset of that application's processes must be running in order to update the available **[**22]** devices in the application summary window.

The Bluetooth embodiment and the Messages embodiment displayed in Figure 3 are consistent with Core Wireless' argument during the *O2 Micro* hearing that a launched application is executing code *and* visible to the user. An unlaunched application, therefore, is "either not executing **[*1367]** code *or* not visible to the user." J.A. 10283 (emphases added). The specification does not teach that the application summary window performs limited processes on behalf of the unlaunched applications. LG's proposed construction of "unlaunched" as "not running" would impermissibly read these preferred embodiments out of the claims.

LG argues that the specification uses "launch" and "display" to express different ideas. For example, the specification explains: "The App Snapshot can therefore *display* data from an application and functions of that application *without actually opening the application up*: only once a user has selected an item in the App Snapshot associated with a given application does that application have to be opened." '020 patent at 3:53-58 (emphases added). This passage does not contradict the district court's construction. The passage does not state that the **[**23]** application summary window displays the *application* without actually opening the application up. The specification's statement that the App Snapshot "display[s]" data without the selected application being "opened" does not, without more, indicate that a previously unopened application was not running at least some subset of processes. Similarly, the dissent's interpretation assumes that displaying an application necessarily requires display of particular data. Wallach Op. at 3-5. The specification demonstrates this not to be true. When a user selects

data from the summary window, e.g., a commonly emailed contact, "the display then changes to a new email form seeded with [the] email address and all the user need do is input some body text and hit a 'Do It' button." '020 patent at 5:5-19. This is different from displaying an email application without this preloaded data, which does not "enable the selected data to be seen within the respective application." '476 patent claim 1.

The patentee did not clearly and unmistakably disclaim or limit the construction of "unlaunched state" during prosecution, as LG argues. [HN8](#)  The doctrine of prosecution disclaimer precludes patentees from recapturing the full scope of **[**24]** a claim term only when the patentee clearly and unmistakably disavows a certain meaning in order to obtain the patent. [Mass. Inst. of Tech. v. Shire Pharms., Inc., 839 F.3d 1111, 1119 \(Fed. Cir. 2016\)](#). When the alleged disclaimer is ambiguous or amenable to multiple reasonable interpretations, we decline to find prosecution disclaimer. *Id.*

The patentee's statements during prosecution do not amount to a clear and unmistakable disclaimer restricting the meaning of "unlaunched state" only to those applications that are not running any processes. During prosecution, the patentee distinguished the claims from prior art U.S. Patent No. 6,781,611 ("Richard"). Richard teaches a method "for switching between multiple open windows in multiple applications on a computer desktop." J.A. 14461 at 1:38-40. The examiner pointed to Richard Figure 6, in which "the user has two applications, AppA and AppB . . . open on a desktop," the top **[***1445]** window being AppA. J.A. 14459, 14462 at 3:20-26. A plurality of windows are open within AppB, and when the user clicks and holds the arrow on the application button for AppB on the taskbar, a popup menu appears, displaying the three open windows within AppB. In distinguishing the invention from Richard, the patentee stated that the main menu of Richard is "a menu of *open* **[**25]** windows within a single application, i.e., a *launched* application. It follows from the fact the windows are open within the application that the application must be running and therefore has been launched." J.A. 12764 (emphases in original). This statement is consistent with the district court's construction. Both AppA and AppB in Richard Figure 6 are **[*1368]** displayed to the user. While AppA takes up most of the display area in this figure, AppB is also displayed to the user in the form of the application button on the taskbar. Indeed, Richard specifically teaches that the arrow on the application

button for AppB "serves as a *visual indicator* that there are a plurality of windows open in AppB." J.A. 14462 at 3:35-37 (emphasis added). Core Wireless admits that an application that is displayed must be running. Oral Arg. at 20:32-40. Because AppB in Richard Figure 6 is displayed and running, the patentee's statement during prosecution that AppB must be "launched" is fully consistent with the construction that "unlaunched state" means "not displayed."

Because the claim language, specification, and prosecution history all support the district court's construction, we agree with the district court **[**26]** that the correct construction of "unlaunched state" is "not displayed."

Second, substantial evidence supports the jury's verdict of infringement based on the "reached directly from the [main] menu" claim limitation. LG argues no reasonable jury could find the accused devices satisfy this limitation because the evidence at trial established that the status bar was distinct from a "main menu." We do not agree.

There is no dispute on appeal how the accused devices work. The devices have a primary home screen display, comprising a series of icons along the bottom of the display, corresponding to applications like Gmail and Phone. The entire home screen display is the accused "main menu." Along the top of the home screen display, a status bar displays the time, battery status, signal strength, and other data. The accused application summary window is the LG devices' notification shade, which the user accesses by swiping down from the status bar.

The jury heard conflicting evidence regarding whether the status bar is part of the accused "home screen." Dr. Rhyne testified that the status bar is "not part of the home screen" because the home screen is the part of the screen between the status **[**27]** bar at the top and the navigation bar at the bottom of the display. J.A. 10603-04. He further testified that the user "can open [the notification shade] up in almost any application," not just the main home screen view. J.A. 10604-05. Core Wireless' infringement expert agreed that a user can reach the notification shade from the status bar while any application is displayed in the central view. Core Wireless presented evidence, however, that the status bar is part of the home screen. Core Wireless' expert, Dr. Zeger, acknowledged that when an application is open and displayed, the user does not reach the notification shade directly from the main menu "because there was an intervening step" of opening up the

application from the main menu. J.A. 10315. But he testified that when the main menu is displayed and the user pulls down the notification shade, the user reaches the accused application summary window directly from the main menu. Core Wireless also presented LG's user manual to the jury, which expressly identifies the status bar as part of the home screen.

The parties' dispute boils down to whether the status bar is part of the accused "home screen." This is a fact question that **[**28]** we presume the jury resolved in favor of Core Wireless, and substantial evidence supports the jury's finding. In the LG user manual, the status bar is the first section of the view identified as the home screen. The jury was also entitled to credit Dr. Zeger's testimony on this issue. Indeed, Dr. Rhyne admitted that if the status bar is part of the home screen, the user can reach the accused application summary window directly from the main **[*1369]** menu. We conclude that substantial evidence supports the jury's finding of infringement.

CONCLUSION

For the foregoing reasons, we affirm the district court's denial of summary judgment that the claims are ineligible under 35 U.S.C. § 101. We also affirm the district court's denial of judgment as a matter of law that the **[***1446]** claims are anticipated by Blanchard and the claims are not infringed.

AFFIRMED

Concur by: WALLACH (In Part)

Dissent by: WALLACH (In Part)

Dissent

WALLACH, *Circuit Judge*, concurring-in-part and dissenting-in-part.

I agree with the majority that the U.S. District Court for the Eastern District of Texas ("District Court") did not err either in determining that claims 11 and 13 of U.S. Patent No. 8,434,020 ("the '020 patent") and claims 8-9 of U.S. Patent No. 8,713,476 ("the '476 patent") (collectively, the "Asserted Claims") (together, the "Patents-in-Suit") are patent eligible **[**29]** or in construing the "reached directly" claim limitation for purposes of its infringement and anticipation analyses.

See [*Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, No. 2:14-cv-911-JRG, 2016 U.S. Dist. LEXIS 112425, 2016 WL 4440255, at *1 \(E.D. Tex. Aug. 23, 2016\)](#) (ruling on anticipation and infringement); [*Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, No. 2:14-cv-911-JRG-RSP, 2016 U.S. Dist. LEXIS 35663 \(Tex. Mar. 20, 2016\)](#) (J.A. 9555-62) (ruling on eligibility). I disagree, however, with the majority's ruling affirming the District Court's construction of the "unlaunched state" limitation. See '476 patent col. 6 ll. 2-3; '020 patent col. 5 l. 43. I would find the term "unlaunched state" to mean "not running," as proposed by Appellant LG Electronics, Inc. ("LG"), and remand the case to the District Court for review of whether this construction alters its findings on infringement and anticipation.¹ I therefore respectfully dissent-in-part from today's judgment. I review the legal standard for claim construction and then turn to my analysis.

I. Legal Standard

Claim construction focuses on the wording of the claims, "read in view of the specification, of which they are a part." [*Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 \(Fed. Cir. 2005\)](#) (en banc) (internal quotation marks and citation omitted). Prosecution history may also be examined to supply additional **[**30]** context to support a claim term's intended meaning. See [*Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1356 \(Fed. Cir. 2004\)](#). While courts may consider extrinsic evidence in claim construction, "such evidence is generally of less significance than the intrinsic record." [*Wi-LAN, Inc. v. Apple Inc.*, 811 F.3d 455, 462 \(Fed. Cir. 2016\)](#) (citation omitted). Extrinsic evidence may not be used "to contradict claim meaning that is unambiguous in light of the intrinsic evidence." [*Phillips*, 415 F.3d at 1324](#) (citation omitted). The District Court did not analyze extrinsic evidence in making its determination. See J.A. 10277-97. When the district court reviews only evidence intrinsic to the patent, that determination will amount solely to a determination of law that we review de novo. See [*Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841, 190 L. Ed. 2d 719 \(2015\)](#).

II. The District Court Erred in Its Claim Construction of "UnLaunched State"

The District Court construed the term "unlaunched state" during a pretrial conference **[*1370]** to mean "not

¹ Neither party argued that a different claim construction would affect our analysis of eligibility. See generally Appellant's Br.; Appellee's Br.

displayed" and maintained that construction in its post-trial denial of judgment as a matter of law. See [Core Wireless, 2016 U.S. Dist. LEXIS 112425, 2016 WL 4440255, at *4-5](#); J.A. 10297. LG argues that the term "unlaunched state" should mean "not running." Appellant's Br. 30; see *id.* at 30-48. I agree with LG. Consistent with claim construction principles, I look first to the language of the claims, followed by the remainder of the specification's language and prosecution **[**31]** history. See [Phillips, 415 F.3d at 1315](#).

First, the claims state in part that: an application summary "displays" certain data offered in applications; each of the data is "selectable to launch the respective application and enable the selected data to be seen"; and the application summary is "displayed while the one or more applications are in an unlaunched state." '476 patent col. 5 l. 60-col. 6 l. 3 (claim 1).² "Display" is used differently and independently from "launch" in the claims, which indicates these terms have different meanings. In addition, by separating "launch" and "enable the selected data to be seen," the claims contemplate a difference between launching and displaying data. See [Chi. Bd. Options Exch., Inc. v. Int'l Sec. Exch., \[***1447\] LLC, 677 F.3d 1361, 1369 \(Fed. Cir. 2012\)](#) (applying a "general presumption that different [claim] terms have different meanings"). Further, the claim language distinguishes between "launch[ing] the respective application" itself, and "enab[ling] the selected data . . . within" the application to be seen. '476 patent col. 5 l. 66-col. 6 l. 1 (emphasis added). Such a distinction would be rendered meaningless if launch were construed to mean "display." See [Merck & Co. v. Teva Pharms. USA, Inc., 395 F.3d 1364, 1372 \(Fed. Cir. 2005\)](#) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so." (citation **[**32]** omitted)). Moreover, I do not understand what "displaying" the application itself would mean in this context, where the claim language more specifically directs the invention to enable only certain "data" previewed in the application summary to be seen. See [Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1119 \(Fed. Cir. 2004\)](#) ("[W]hen an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in meaning of those terms.").

Second, the specification uses the terms "launch" and "display" distinctly. See '476 patent col. 3 ll. 10-11 ("Once the summary window is launched, core data/functionality is displayed."). This could either mean the terms are distinct, or, as the majority finds, that launch is synonymous with display. See Maj. Op. at 14-17. As stated previously, based on claim differentiation principles, I find it more likely that "launch" is a first step of independent meaning, and "display" is a step that comes second, after the "summary window" has been launched. Appellee Core Wireless Licensing S.A.R.L. ("Core Wireless") contends that the statement "a user can . . . launch a main view which shows various applications," '476 patent col. 3 ll. 5-7, supports its argument that "launch" **[**33]** refers to granting "visual access," because the language of the specification uses the term "view," Appellee's Br. 21. However, the term "main view" refers to and is synonymous with the summary application window. See '476 patent col. 3 ll. 5-7, 17-33; *id.* figs.1-3. Referring to this particular page using the term "view" does not confer additional meaning on the verb "launch."

[*1371] Additional language in the specification in support of LG's construction states that previously, users would "locate," "then start/open the required application," "and then may need to . . . cause the required stored data . . . to be displayed." *Id.* col. 1 ll. 51-55 (emphasis added). Again, the specification contemplates display and opening as two separate steps in the user's process, which leads me to the conclusion that "display" and "open" are not synonymous, and that the drafters of the Patents-in-Suit knew how to use the term "display" when conveying visual access to an application's contents.³

I also note that the specification explicitly defines the term "idle screen" as "a display which is shown when the mobile telephone is switched on but not in use," *id.* col. 2 ll. 10-12, which indicates the drafters of the Patents-in-Suit **[**34]** knew how to define a single term that contained two separate meanings (here, one related to display, and one related to operation), and believed such an explanation would be necessary for terms that on their face did not contain a dual meaning. For that reason, I am skeptical of the majority's understanding that the term "unlaunched"

² Claim 1 of the '020 patent is substantively similar to the relevant portions of the '476 patent and the specifications are effectively identical, so I refer only to claim 1 of the '476 patent for ease of reference.

³ For the same reason, I do not agree with the majority's conclusion that certain passages in the specification use "launch" to describe "what is displayed to the user when they select various menu options." Maj. Op. at 15 (citing '020 patent col. 2 l. 59-col. 3 l. 2).

"encompasses both applications that are not running at all and applications that are running, at least to some extent, in the background of the electronic device."⁴ Maj. Op. at 14.

I also agree with LG's contention that the specification teaches the invention was directed to a problem in line with its construction of the term "unlaunched state," or, at least, that the problems in the field are inconclusive to weigh in favor of either party's proposed construction. LG asserts that the invention is directed to saving "the user from navigating **[***1448]** to the required application, opening it up, and then navigating within that application." Appellant's Br. 32 (quoting '476 patent col. 2 ll. 46-50). Again, construction hinges on our understanding of the term "open" in this phrase and whether it refers to running or displaying an application. No matter the construction of launch **[**35]** though, the claimed invention seeks to improve access to the large amount of information stored in small computing devices. See, e.g., '476 patent col. 2 l. 66-col. 3 l. 6 (discussing invention's "advantages in ease and speed of navigation, particularly on small screen devices"). It seems to me that the default state of the applications storing this information when a user navigates through the claimed summary application menu does not affect the utility of the claimed invention.

The majority identifies the stated focus of the inventions as to "allow the user to navigate quickly and efficiently to access data and activate a desired function" on small screens. Maj. Op. at 14 (quoting '020 patent col. 1 ll. 26-29). Therefore, it finds the absence of an explicitly stated goal such as "memory drain," a problem which appears to be of the majority's own creation, to be instructive in its construction of the term "unlaunched," because the invention "only concerns itself with maximizing the benefit of the 'common functions and commonly accessed data' actually **[*1372]** displayed to the user." *Id.* at 15 (quoting '020 patent col. 4 ll. 36-39). In our claim construction analysis, we look not to what is absent from the specification or what could **[**36]** have been written, but rather to what is included. See [Merck](#)

⁴ While the majority additionally supports its argument by referring to the single use of the term "running" in the specification, see Maj. Op. at 15-16 (quoting '020 patent col. 2 ll. 40-44 ("[T]here is a computer program which when running on a computing device")), I note that neither party made arguments with respect to this language, and it is not clear to me from the record that "running" when referring to the computer program itself equates to use of the term as applied to applications within the device.

[& Co. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 \(Fed. Cir. 2003\)](#) ("A fundamental rule of claim construction is that the terms in a patent document are construed with the meaning with which they are presented *in the patent document*. Thus claims must be construed so as to be consistent with the specification" (emphasis added) (citations omitted)). Here, as mentioned above, the focus of the invention identified by the majority can support either party's construction of the disputed term. The use of an application summary menu to congregate data from myriad applications on a small screen computing device benefits users in the manner stated, regardless of whether the applications are running in the background. Moreover, in other parts of the specification, the invention is directed towards "effectively enabling the user to understand th[e device's] changing internal state" through offering on the application menu page a list of "common functions offered within an application and/or . . . data stored in that application." '476 patent col. 2 ll. 22-24, 34-36. Here again, enabling a user to better understand options offered by applications and data *stored* within them are goals that are successfully achieved **[**37]** with applications that are not running until selected from the main menu.

Third, the prosecution history further supports LG's proffered construction. Even if Core Wireless did not disclaim its professed interpretation that "launch" means "display,"⁵ I would nevertheless find LG's interpretation of "unlaunched" comports more closely with the overall language of the Patents-in-Suit and prosecution history. See [Phillips, 415 F.3d at 1316](#). Indeed, during prosecution, Core Wireless distinguished the Asserted Claims from those in the prior art because, unlike the prior art, its claims did not "only ever display[]" the summary application menu "within a running instance of the program, i.e., only when the program is in a *launched* state." J.A. 12764 (emphasis added). Thus, Core Wireless used the term "launch" to mean running, not merely displayed. See J.A. 12765 (stating, in another portion of Core Wireless's amendment, that 1) the "underlying purpose" of the claimed invention is that it overcomes the prior art in which information about applications in the summary application menu "is not

⁵ Both the majority and the District Court interpret LG's arguments as prosecution disclaimer arguments and determine that LG does not meet the high bar to prove that Core Wireless "clearly disavowed claim scope during prosecution." [Core Wireless, 2016 U.S. Dist. LEXIS 112425, 2016 WL 4440255, at *4](#); see Maj. Op. at 18-19.

displayed until after the application is already running" and 2) the prior art "*relate[s] to running applications* and combining **[**38]** them does nothing to satisfy the requirement of the present claims that the application summary window is displayed without launching the application" (emphasis added)).

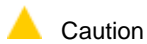
The majority adopts Core Wireless's argument that construing "unlaunched" to mean "not running" would exclude certain preferred embodiments in the specification, see Maj. Op. at 16-17; see also Appellee's Br. 28-29, contrary to our court's instruction that a **[***1449]** construction "that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct," *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007) (internal quotation marks and citation omitted). Specifically, Figure 3 illustrates an application window that indicates there is an ongoing chat not seen on the **[*1373]** screen. See '020 patent fig.3; '476 patent fig.3. The majority states that "use of the word 'ongoing' (as opposed to a word like 'received') indicates that, in at least some embodiments of the invention, at least some subset of processes of the Messages application are already running." Maj. Op. at 16. Yet Core Wireless has not presented evidence, in the form of expert testimony or otherwise, to suggest that the display in the application menu of new messages or the use of the term ongoing in the summary menu would **[**39]** be understood by a person having ordinary skill in the art to indicate the underlying application is running. Core Wireless presents only attorney argument, not evidence. See *Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) ("[U]nsworn attorney argument . . . is not evidence and cannot re-but . . . admitted evidence." (citation omitted)); Appellee's Br. 28-29. Moreover, I do not believe construing "unlaunched" to mean "not running" would be inconsistent with this preferred embodiment, since the requirements of claim 1 only state that "one or more applications" are in an unlaunched state. '476 patent col. 6 ll. 2-3; see '020 patent col. 5 ll. 35, 43 (requiring "at least a first application" that is "in an unlaunched state"). Therefore, even if "ongoing" were to imply a running application, the application menu display of messages from a non-running message application would still satisfy the requirements of claim 1 of the Patents-in-Suit.⁶

⁶ I would not read lines in the specification stating that "App Snapshots are not intended to replace notifications, but to complement them by providing non-intrusive reminders for the user" to support "launch" meaning "display," as the majority

Accordingly, I would reverse the District Court's claim construction of "un-launched state" and construe the term to mean "not running." Given this claim construction, I would remand for further findings on infringement and anticipation. I respectfully dissent.

End of Document

contends. See Maj. Op. at 16; '476 patent col. 4 ll. 43-46; '020 patent col. 4 ll. 32-35. Such language could just as easily be understood to refer to a summary application menu's presentation of information from applications that are not currently running.



Caution

As of: January 7, 2019 1:52 PM Z

Data Engine Techs. LLC v. Google LLC

United States Court of Appeals for the Federal Circuit

October 9, 2018, Decided

2017-1135

Reporter

906 F.3d 999 *; 2018 U.S. App. LEXIS 28412 **; 2018 WL 4868029

DATA ENGINE TECHNOLOGIES LLC, Plaintiff-Appellant v. GOOGLE LLC, Defendant-Appellee

Prior History: [****1**] Appeal from the United States District Court for the District of Delaware in No. 1:14-cv-01115-LPS, Chief Judge Leonard P. Stark.

[Data Engine Techs. LLC v. Google Inc., 211 F. Supp. 3d 669, 2016 U.S. Dist. LEXIS 134002 \(D. Del., Sept. 29, 2016\)](#)

Disposition: AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED.

Core Terms

spreadsheet, patent, tabs, user, electronic, recite, display, cell, three-dimensional, interface, invention, abstract idea, navigating, notebook, identifier, district court, pages, asserted claim, changes, storing, improved, functionality, eligibility, patent-ineligible, comprising, commands, tracking, prior art, ineligible, organizing

Case Summary

Overview

HOLDINGS: [1]-The district court erred, with one exception, when it found that claims in U.S. Patent Nos. 5,590,259, 5,784,545, and 6,282,551 ("the '551 patent") which claimed systems and methods for making complex electronic spreadsheets more accessible by providing notebook tabs could not be patented under 35 U.S.C.S. § 101 because they were directed to abstract ideas and failed to provide an inventive concept; [2]-The evidence supported the district court's judgment that claim 1 in the '551 patent was not patentable under § 101 because it was directed to the abstract idea of identifying and storing electronic spreadsheet pages;

[3]-The district court did not err when it found that claims in U.S. Patent No. 5,303,146 which recited methods for tracking changes to data in spreadsheets were not patentable under § 101 because they were directed to an abstract idea.

Outcome

The court affirmed the district court's judgment in part, reversed it in part, and remanded the case.

LexisNexis® Headnotes

Civil Procedure > Appeals > Standards of Review > De Novo Review

Patent Law > Jurisdiction & Review > Standards of Review > De Novo Review

Civil Procedure > Judgments > Pretrial Judgments > Judgment on Pleadings

Patent Law > Subject Matter

[HN1](#)  **Standards of Review, De Novo Review**

The United States Court of Appeals for the Federal Circuit reviews a district court's judgment on the pleadings under regional circuit law. The United States Court of Appeals for the Third Circuit reviews the grant of judgment on the pleadings de novo, accepting all of the allegations in the pleadings of the party against whom the motion is addressed as true and drawing all reasonable inferences in favor of the nonmoving party. Patent eligibility can be determined on the pleadings under [Fed. R. Civ. P. 12\(c\)](#) when there are no factual allegations that, when taken as true, prevent resolving the eligibility question as a matter of law.

Patent Law > Jurisdiction & Review > Standards of Review

Patent Law > Subject Matter

[HN2](#) **Jurisdiction & Review, Standards of Review**

35 U.S.C.S. § 101 provides that whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor. In *Alice Corp. v. CLS Bank International*, the United States Supreme Court articulated a two-step test for examining patent eligibility under § 101. Under that test, the United States Court of Appeals for the Federal Circuit must first determine whether the claims at issue are directed to a patent-ineligible concept. Laws of nature, natural phenomena, and abstract ideas are not patentable. The "abstract ideas" category embodies the long-standing rule that an idea of itself is not patentable. If a patent's claims are not directed to a patent-ineligible concept under Alice step 1, they satisfy § 101 and the Federal Circuit need not proceed to the second step. If the claims are directed to a patent-ineligible concept, however, the Federal Circuit considers Alice step two.

Patent Law > Jurisdiction & Review > Standards of Review

Patent Law > Subject Matter

[HN3](#) **Jurisdiction & Review, Standards of Review**

In the second step of the two-step test the United States Supreme Court adopted in *Alice Corp. v. CLS Bank International* for examining patent eligibility under 35 U.S.C.S. § 101, the United States Court of Appeals for the Federal Circuit considers the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. The second step is a search for an inventive concept—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.

Civil Procedure > Judgments > Pretrial

Judgments > Judgment on Pleadings

Patent Law > Infringement Actions > Prosecution History Estoppel > Prosecution Related Arguments & Remarks

[HN4](#) **Pretrial Judgments, Judgment on Pleadings**

On a motion for judgment on the pleadings, a court may consider matters of public record. Prosecution histories constitute public records in patent infringement actions.

Patent Law > Jurisdiction & Review > Standards of Review

Patent Law > Subject Matter

[HN5](#) **Jurisdiction & Review, Standards of Review**

At Alice step one, it is not enough to merely identify a patent-ineligible concept underlying a claim; instead, the United States Court of Appeals for the Federal Circuit must determine whether that patent-ineligible concept is what the claim is "directed to." And that inquiry requires that the claims be read as a whole.

Patent Law > Claims & Specifications > Claims > Claim Language

Patent Law > Subject Matter

Patent Law > Jurisdiction & Review > Standards of Review

[HN6](#) **Claims, Claim Language**

The question of abstraction is whether a patent's claim is "directed to" the abstract idea itself, and the United States Court of Appeals for the Federal Circuit must consider the claim as a whole to determine whether the claim is directed to an abstract idea or something more.

Patent Law > ... > Utility Patents > Process Patents > Computer Software & Mental Steps

Patent Law > Subject Matter

[HN7](#) **Process Patents, Computer Software &**

Mental Steps

The mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. For the role of a computer in a computer-implemented invention to be deemed meaningful in the context of the Alice/Mayo analysis, it must involve more than performance of well-understood, routine, and conventional activities previously known to the industry.

Counsel: BENJAMIN F. FOSTER, Ahmad, Zavitsanos, Anaipakos, Alavi & Mensing PC, Houston, TX, argued for plaintiff-appellant. Represented by AMIR H. ALAVI, IFTIKAHR AHMED, ALISA A. LIPSKI.

DARYL JOSEFFER, King & Spalding LLP, Washington, DC, argued for defendant-appellee. Represented by AMELIA GRACE YOWELL; JONATHAN K. WALDROP, MARCUS BARBER, JOHN WALTER DOWNING, DARCY L. JONES, Kasowitz, Benson, Torres & Friedman LLP, Redwood Shores, CA; DAN L. BAGATELL, Perkins Coie LLP, Hanover, NH.

Judges: Before REYNA, BRYSON, and STOLL, Circuit Judges.

Opinion by: STOLL

Opinion

[*1002] STOLL, *Circuit Judge*.

Data Engine Technologies LLC ("DET") appeals the district court's entry of judgment on the pleadings holding that the asserted claims of DET's U.S. Patent Nos. 5,590,259; 5,784,545; 6,282,551; and 5,303,146 are ineligible under 35 U.S.C. § 101. The district court held that the asserted claims are directed to abstract ideas and fail to provide an inventive concept. We conclude that, with the exception of claim 1 of the '551 patent, the asserted claims of the '259, '545, and '551 patents ("Tab Patents") are directed to patent-eligible subject matter. These claims are [*2] not abstract, but rather are directed to a specific improved method for navigating through complex three-dimensional electronic spreadsheets. We agree, however, that the asserted claims of the '146 patent, reciting methods for tracking changes to data in spreadsheets, are directed to the abstract idea of collecting, recognizing, and storing changed information. After a searching review, we find nothing in these claims that provides an

inventive concept sufficient to render the claims patent eligible. Accordingly, we affirm-in-part, reverse-in-part, and remand.

BACKGROUND

I. The Tab Patents

The Tab Patents are titled "System and Methods for Improved Spreadsheet Interface With User-Familiar Objects," and claim priority to April 8, 1992.¹ The Tab Patents claim systems and methods for making complex electronic spreadsheets more accessible by providing familiar, user-friendly interface objects—specifically, notebook tabs—to navigate through spreadsheets while circumventing the arduous process of searching for, memorizing, and entering complex commands.

The Tab Patents teach that the advent of electronic spreadsheets offered dramatic improvements in creating, editing, and using spreadsheets to organize [*3] and process data. Despite such advantages, twenty-five years ago, electronic spreadsheets were not easy to use. '259 patent col. 2 ll. 57-59. Users were required to master complex commands in order to perform basic operations within a spreadsheet. *Id.* at col. 2 ll. 28-29. To find an appropriate command for an operation, users would navigate through complex menu systems, with the proper command buried under several menus. *Id.* at col. 2 ll. 29-32. "Finding this approach to be unworkable, many users [would] memorize frequently-needed commands instead." *Id.* at col. 2 ll. 41-42. Because such commands were arbitrary (e.g., "/Worksheet Global Default Other International"), users could only master a very small fraction of available commands and features. *Id.* at col. 2 ll. 40-47, 53-56.

The Tab Patents specifically identify problems with navigation through prior art three-dimensional or multipage electronic spreadsheets. The Tab Patents explain that the complex commands required to manipulate each additional spread of the three-dimensional spreadsheet diminished the utility and ease of use of this technology.

[*1003] The invention claimed in the Tab Patents provided a solution to this problem. Specifically, the [*4] Tab Patents are directed to and claim a method of implementing a notebook-tabbed interface,

¹ Because the Tab Patents' specifications are substantially identical, we refer only to the '259 patent's specification.

which allows users to easily navigate through three-dimensional electronic spreadsheets. As shown in Figure 4G of the '259 patent below, the Tab Patents provide "an electronic spreadsheet system includ[ing] a notebook interface having a plurality of notebook pages, each of which contains a spread of information cells, or other desired page type." *Id.* at col. 3 ll. 48-52. In contrast to conventional electronic spreadsheets, the method claimed in the Tab Patents "includes user-familiar objects, i.e., paradigms of real-world objects which the user already knows how to use" such as notebook tabs. *Id.* at col. 6 ll. 52-58. "In this manner, complexities of the system are hidden under ordinary, everyday object metaphors," providing a "highly intuitive interface—one in which advanced features (e.g., three-dimensionality) are easily learned." *Id.* at col. 6 ll. 58-63.

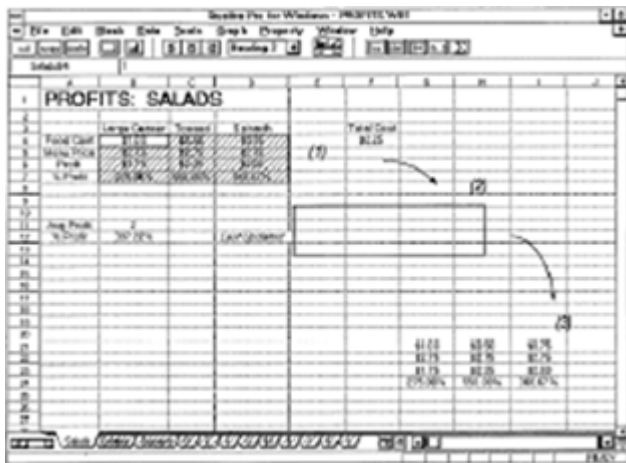


FIG. 4G

Figure 2D below shows more closely an individual spreadsheet page with notebook tabs located along the bottom edge of the page.



FIG. 2D

In this preferred embodiment, "each page identifier is in the form of a tab member (e.g., members 261a, 262a, 263a) situated **[**5]** along a bottom edge of the notebook." *Id.* at col. 8 ll. 13-15. Although these tabs are labeled A, B, and C, etc., they are typically given descriptive names assigned by the user. *Id.* at col. 8 ll. 19-23. To move to different spreadsheet pages, the user selects the corresponding tab for that page. *Id.* at col. 8 ll. 45-47. Thus, **[*1004]** "instead of finding information by scrolling different parts of a large spreadsheet, or by invoking multiple windows of a conventional three-dimensional spreadsheet, the present invention allows the user to simply and conveniently 'flip through' several

pages of the notebook to rapidly locate information of interest." *Id.* at col. 8 ll. 51-57. This improved interface allows for "rapidly accessing and processing information on the different pages, including, for example, displaying a plurality of page identifiers for selecting individual pages." *Id.* at col. 3 ll. 53-56.

Although these spreadsheet interfaces have become ubiquitous, Quattro Pro, the first commercial embodiment of the claimed invention, was highly acclaimed as having revolutionized three-dimensional electronic spreadsheets. During prosecution, DET submitted contemporaneous articles showing the state **[**6]** of the art at the time of the invention and evidencing the significance of the claimed methods to spreadsheet technology. For example, *PC World*, a leading computer magazine, published a front-page article, "Quattro Pro for Windows: The Ultimate 3-D Spreadsheet." J.A. 981. The article reflected the industry's view that "keeping large, complex worksheet projects organized, manageable, and reliable ha[d] long been a major concern for serious spreadsheet users" and that existing spreadsheets had "data and results hidden all over the place." J.A. 982. The article touts the claimed notebook-tabbed spreadsheet interface as a solution to that problem, explaining that it "makes developing nifty applications far easier for the average spreadsheet user, and [that] intelligent command organization makes navigation efficient." *Id.* *PC World* published another cover story naming Quattro Pro "The Best of 1992," again lauding it as "the first spreadsheet to make three-dimensional modeling an accessible, useful analytic tool." J.A. 1007. The article stated that "[o]ne of the keys to the product's success is a notebook metaphor, in which each worksheet page can be assigned a descriptive name and users **[**7]** can navigate through the set by clicking on page tabs." *Id.*

Similarly, in 1992, *InfoWorld* named Quattro Pro the product of the year for productivity applications. In doing so, *InfoWorld* wrote:

We collected all the word processors, spreadsheets, databases, personal information managers, and other productivity applications and asked ourselves a question: "Which of these programs really changed the way an individual user goes about handling data? Does any one stand out as a productivity booster?"

Our answer was Quattro Pro for Windows. The reason: Borland designed this program from the ground up and examined how spreadsheet users would work in a Windows environment. *The*

notebook metaphor, with pages and tabs for different worksheets, simplifies handling large worksheets. The "interface builder" lets a user design custom dialog boxes without extensive macro programming. And, of course, Quattro Pro's graphics are stellar.

J.A. 1008 (emphasis added). In total, DET submitted seven articles dated between 1992 and 1993, all touting the advantages of its use of notebook tabs to improve navigation through three-dimensional spreadsheets. See J.A. 981-1010.

DET filed suit against Google LLC, asserting **[**8]** claims 1-2, 12-13, 16-17, 19, 24, 46-47, and 51 of the '259 patent; claims 1-2, 5-7, 10, 13, and 35 of the '545 patent; and claims 1, 3, 6-7, 10, 12-13, 15, and 18 of the '551 patent. The district court considered claim 12 of the '259 patent representative of all asserted claims of the Tab Patents. See [*Data Engine Techs. LLC v. \[**1005\] Google Inc.*, 211 F. Supp. 3d 669, 677-78 \(D. Del. 2016\)](#) ("District Court Op."). Claim 12 of the '259 patent recites:

12. In an electronic spreadsheet system for storing and manipulating information, a computer-implemented method of representing a three-dimensional spreadsheet on a screen display, the method comprising:

displaying on said screen display a first spreadsheet page from a plurality of spreadsheet pages, each of said spreadsheet pages comprising an array of information cells arranged in row and column format, at least some of said information cells storing user-supplied information and formulas operative on said user-supplied information, each of said information cells being uniquely identified by a spreadsheet page identifier, a column identifier, and a row identifier;

while displaying said first spreadsheet page, displaying a row of spreadsheet page identifiers along one side of said first spreadsheet page, each said spreadsheet page identifier being displayed as an image of a notebook **[**9]** tab on said screen display and indicating a single respective spreadsheet page, wherein at least one spreadsheet page identifier of said displayed row of spreadsheet page identifiers comprises at least one user-settable identifying character;

receiving user input for requesting display of a second spreadsheet page in response to selection with an input device of a spreadsheet page identifier for said second spreadsheet page;

in response to said receiving user input step, displaying said second spreadsheet page on said screen display in a manner so as to obscure said first spreadsheet page from display while continuing to display at least a portion of said row of spreadsheet page identifiers; and

receiving user input for entering a formula in a cell on said second spreadsheet page, said formula including a cell reference to a particular cell on another of said spreadsheet pages having a particular spreadsheet page identifier comprising at least one user-supplied identifying character, said cell reference comprising said at least one user-supplied identifying character for said particular spreadsheet page identifier together with said column identifier and said row identifier for said particular **[**10]** cell.

'259 patent col. 26 l. 43—col. 27 l. 17.

II. The '146 Patent

The '146 patent is titled "System and Methods for Improved Scenario Management in an Electronic Spreadsheet." The '146 patent is directed to methods that allow electronic spreadsheet users to track their changes. The specification teaches that prior art electronic spreadsheets were not particularly adept at managing "what-if " scenarios in a given spreadsheet. '146 patent col. 2 ll. 41-44. The patent explains that "[s]ince a given spreadsheet model is routinely created under a set of assumptions (e.g., level of sales, corporate tax rate, and the like), it is desirable to test the extremes of one's assumptions to ascertain the likely results." *Id.* at col. 2 ll. 45-49. Prior art spreadsheets, however, "provided little or no tools for creating and managing such a multitude of scenarios." *Id.* at col. 2 ll. 51-52. Instead, users had to "resort to manually creating separate copies of the underlying model, with the user responsible for tracking any modifications made in the various copies." *Id.* at col. 2 ll. 53-56.

The '146 patent purports to solve this problem by providing an electronic spreadsheet system "having a preferred interface and methods for creating and tracking various **[*1006]** versions or **[**11]** 'scenarios' of a data model." *Id.* at col. 2 ll. 61-63. The claimed system "includes tools for specifying a 'capture area,' that is, a specific set of information cells to be tracked and an Identify Scenario tool for automatically determining changes between a captured parent or baseline model and a new scenario." *Id.* at col. 2 ll. 63-67.

DET alleged infringement of claims 1, 26-28, and 32-34 of the '146 patent. The district court considered independent claims 1 and 26 representative of all the asserted claims of the '146 patent. See [District Court Op., 211 F. Supp. 3d at 680](#). Claims 1 and 26 recite:

1. In an electronic spreadsheet system for modeling user-specified information in a data model comprising a plurality of information cells, a method for automatically tracking different versions of the data model, the method comprising:

- (a) specifying a base set of information cells for the system to *track changes*;
- (b) creating a new version of the data model by modifying at least one information cell from the specified base set; and
- (c) automatically determining cells of the data model which have changed by comparing cells in the new version against corresponding ones in the base set.

26. In an electronic spreadsheet system, a method for storing different **[**12]** versions of a spreadsheet model, the method comprising:

- (a) maintaining a base version of the spreadsheet model as ordered information on a storage device; and
- (b) for each new version of the spreadsheet model:
 - (i) determining portions of the new version which have changed when compared against the base version, and
 - (ii) maintaining the new version by storing additional information for only those portions determined to have changed.

'146 patent col. 14 ll. 1-13 (emphasis added), col. 16 ll. 7-19.

III. The District Court's Decision

Google filed a motion for judgment on the pleadings under [Federal Rule of Civil Procedure 12\(c\)](#), arguing that the asserted claims of the Tab Patents and the '146 patent are directed to patent-ineligible subject matter under § 101. The district court granted the motion with respect to the Tab Patents, concluding that representative claim 12 of the '259 patent is "directed to the abstract idea of using notebook-type tabs to label and organize spreadsheets." [District Court Op., 211 F. Supp. 3d at 678](#). The district court also agreed with Google that claim 12 "is directed to an abstract idea that humans have commonly performed entirely in their minds, with the aid of columnar pads and writing

instruments." [Id. at 679](#). The district court held that the remaining limitations of claim 12 fail to **[**13]** recite an inventive concept. *Id.*

Similarly, with respect to the '146 patent, the district court concluded that the asserted claims are directed to the abstract idea of "collecting spreadsheet data, recognizing changes to spreadsheet data, and storing information about the changes," and more specifically, directed "to input of information in a (computerized) columnar pad, recognition of changes in later versions of the inputted information, and storage of information about the changes." [Id. at 680-81](#) (emphases omitted). The district court also held that additional claim limitations directed to electronic spreadsheets failed to provide an inventive concept sufficient to confer patent eligibility. *Id.*

DET appeals. We have jurisdiction pursuant to [28 U.S.C. § 1295\(a\)\(1\)](#).

[*1007] DISCUSSION

I

[HN1](#)^[↑] We review the district court's judgment on the pleadings under regional circuit law. [Merck & Co. v. Hi-Tech Pharmacal Co., 482 F.3d 1317, 1320 \(Fed. Cir. 2007\)](#). The Third Circuit reviews the grant of judgment on the pleadings de novo, "accept[ing] all of the allegations in the pleadings of the party against whom the motion is addressed as true and draw[ing] all reasonable inferences in favor of the non-moving party." [Allstate Prop. & Cas. Ins. Co. v. Squires, 667 F.3d 388, 390 \(3d Cir. 2012\)](#). Patent eligibility can be determined on the pleadings under [Rule 12\(c\)](#) when there are no factual allegations that, when taken **[**14]** as true, prevent resolving the eligibility question as a matter of law. Cf. [Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121, 1125 \(Fed. Cir. 2018\)](#); [Berkheimer v. HP Inc., 881 F.3d 1360, 1365 \(Fed. Cir. 2018\)](#).

[HN2](#)^[↑] Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor." 35 U.S.C. § 101. In *Alice Corp. v. CLS Bank International*, the Supreme Court articulated a two-step test for examining patent eligibility under § 101. [134 S. Ct. 2347, 82 L. Ed. 2d 296, 189 L. Ed. 2d 296 \(2014\)](#). "We must first determine whether the claims at issue are directed to a patent-ineligible concept." [Id. at 2355](#). "Laws of nature, natural phenomena, and abstract ideas

are not patentable." *Id.* at 2354 (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589, 133 S. Ct. 2107, 186 L. Ed. 2d 124 (2013)). "The 'abstract ideas' category embodies 'the longstanding rule that '[a]n idea of itself is not patentable.'" *Id.* at 2355 (alteration in original) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972)). If the claims are not directed to a patent-ineligible concept under *Alice* step 1, "the claims satisfy § 101 and we need not proceed to the second step." *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018) (citing *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017)).

If the claims are directed to a patent-ineligible concept, however, we next consider *Alice* step two. *HN3*[↑] In this step, we consider "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible **[**15]** application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78-79, 132 S. Ct. 1289, 182 L. Ed. 2d 321 (2012)). This second step is "a search for an 'inventive concept'—i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 72-73).

II

We first address the Tab Patents. Our analysis begins at *Alice* step one, asking "whether the claims at issue are directed to a patent-ineligible concept." *Id.* at 2355. With the exception of claim 1 of the '551 patent, we hold that the asserted claims of the Tab Patents are directed to patent-eligible subject matter.

A

When considered as a whole, and in light of the specification, representative claim 12 of the '259 patent is not directed to an abstract idea. Rather, the claim is **[*1008]** directed to a specific method for navigating through three-dimensional electronic spreadsheets. The method provides a specific solution to then-existing technological problems in computers and prior art electronic spreadsheets. The specification teaches that prior art computer spreadsheets were not user friendly. They required users to "master many complex and arbitrary operations." '259 patent col. 2 ll. 28-29. Users had to search through complex **[**16]** menu systems to

find appropriate commands to execute simple computer tasks, which required users to memorize frequently needed commands. *Id.* at col. 2 ll. 29-45. This was burdensome and hindered a user's ability to find or access the many commands and features available in prior art computer spreadsheets, undercutting the effectiveness of the computer as a means to review and edit a spreadsheet. *Id.* at col. 2 ll. 45-56. This was particularly true for three-dimensional spreadsheets, which allowed users to build spreadsheet workspaces consisting of multiple two-dimensional spreadsheets, further increasing the complexity of using and navigating between multiple spreadsheets. *Id.* at col. 2 l. 66-col. 3 l. 24.

The Tab Patents solved this known technological problem in computers in a particular way—by providing a highly intuitive, user-friendly interface with familiar notebook tabs for navigating the three-dimensional worksheet environment. *Id.* at col. 3 ll. 44-52. The improvement allowed computers, for the first time, to provide rapid access to and processing of information in different spreadsheets, as well as easy navigation in three-dimensional spreadsheets. The invention was applauded **[**17]** by the industry for improving computers' functionality as a tool able to instantly access all parts of complex three-dimensional electronic spreadsheets. Numerous contemporaneous articles attributed the improved three-dimensional spreadsheets' success to its notebook tab feature.²

Representative claim 12 recites precisely this technical solution and improvement in computer spreadsheet functionality. The claim recites specific steps detailing

² The district court declined to consider the articles included in the prosecution history, relying only on the pleadings and the patents attached to DET's complaint. *District Court Op.*, 211 F. Supp. 3d at 681 n.4. *HN4*[↑] On a motion for judgment on the pleadings, however, the court may consider "matters of public record." Cf. *Bruni v. City of Pittsburgh*, 824 F.3d 353, 360 (3d Cir. 2016) (quoting *Pension Benefit Guar. Corp. v. White Consol. Indus., Inc.*, 998 F.2d 1192, 1196 (3d Cir. 1993)). Prosecution histories constitute public records. See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc.*, 222 F.3d 951, 957 (Fed. Cir. 2000) ("The prosecution history constitutes a public record"); see 37 C.F.R. § 1.11(a) ("The specification, drawings, and all papers to the file of: [a] published application; a patent; or a statutory invention registration are open to inspection by the public"). We consider this evidence relevant in our de novo review because it is part of the Tab Patents' prosecution histories and was relied on in DET's opposition to Google's *Rule 12(c)* motion.

the method of navigating through spreadsheet pages within a three-dimensional spreadsheet environment using notebook tabs. The claim requires displaying on a screen display a row of spreadsheet page identifiers along one side of the first spreadsheet page, with each spreadsheet page identifier being a notebook tab. The claim requires at least one user-settable identifying character to label the notebook tab and describes navigating through the various spreadsheet pages through selection of the notebook tabs. The claim further requires a formula that uses the identifying character to operate on information spread between different spreadsheet pages that are identified by their tabs. The claimed method does not recite the idea of navigating **[**18]** through spreadsheet pages using buttons or a generic method of labeling and **[*1009]** organizing spreadsheets. Rather, the claims require a specific interface and implementation for navigating complex three-dimensional spreadsheets using techniques unique to computers.

In this regard, claim 12 is similar to the claims we held patent eligible in *Core Wireless*. There, the claims were directed to an improved display interface that allowed users to more quickly access stored data and programs in small-screen electronics, thereby improving the efficient functioning of the computer. *Core Wireless*, 880 F.3d at 1359. The prior art taught that small-screen electronic interfaces required users to scroll through and switch views to find desired data and functions. *Id.* at 1363. *Core Wireless*'s invention, however, improved the efficiency of these display interfaces. By displaying only a limited list of common functions and data from which to choose, the invention spared users from time-consuming operations of navigating to, opening up, and then navigating within, each separate application. *Id.* The invention thus increased the efficiency with which users could navigate through various views and windows. *Id.* We rejected the accused infringer's contention **[**19]** that the claims were merely directed to the abstract idea of indexing information because the claims were directed "to an improved user interface for computing devices" and "a *particular* manner of summarizing and presenting information in electronic devices." *Id.* at 1362 (emphasis added). We concluded that the claims were patent eligible because the claims "recite[d] a specific improvement over prior systems, resulting in an improved user interface for electronic devices," and thus were directed to "an improvement in the functioning of computers." *Id.* at 1363.

Claim 12 of the '259 patent similarly recites a method that differs from prior art navigation methods and

"provide[s] for rapidly accessing and processing information" in three-dimensional spreadsheets. '259 patent col. 3 ll. 53-54. "[I]nstead of finding information by scrolling different parts of a large spreadsheet" the invention "allows the user to simply and conveniently 'flip through' several pages of the notebook to rapidly locate information of interest." *Id.* at col. 8 ll. 51-57. Moreover, akin to the claims in *Core Wireless*, claim 12 recites a "specific" and "particular" manner of navigating a three-dimensional spreadsheet that improves the efficient functioning **[**20]** of computers. See *Core Wireless*, 880 F.3d at 1362, 1363.

Likewise, claim 12 comports with the claims we held patent eligible in *Trading Technologies International, Inc. v. CQG, Inc.* 675 F. App'x 1001 (Fed. Cir. 2017). There, the claims recited a trading system in which a graphical user interface displayed dynamic bid and ask prices for a particular commodity traded in the market along with a static display of prices corresponding to the bids and asks. *Id.* at 1003. The system paired orders with the static display of prices to prevent entry of orders that had changed prices. *Id.* The patents explained that the invention solved an existing problem in the prior art by reducing the time it took to place and execute a trading order. We agreed with the district court that "the challenged patents 'solve[d] problems of prior graphical user interface devices . . . in the context of computerized trading[] relating to speed, accuracy and usability.'" *Id.* at 1004 (alterations in original) (quoting *Trading Techs. Int'l, Inc. v. CQG, Inc., No. 05-cv-4811, 2015 U.S. Dist. LEXIS 22039, 2015 WL 774655, at *4 (N.D. Ill. Feb. 24, 2015)*). As the district court had explained, the claims were not merely directed to displaying information on a graphical user interface, but rather "require[d] a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's **[**21]** structure **[*1010]** that is addressed to and resolves a specifically identified problem in the prior state of the art." *Id.* We agreed and adopted the district court's articulated reasons to conclude that the claims were not abstract under *Alice* step one. *Id.*

Google asserts that this court has repeatedly found that claims directed to methods of organizing and presenting information are abstract and that we should so hold here. During oral argument, Google identified three cases to best support its position: *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332 (Fed. Cir. 2017) (hereinafter, "*Capital One*"); and *Intellectual Ventures I LLC v. Erie*

[*Indemnity Co.*, 850 F.3d 1315 \(Fed. Cir. 2017\)](#) (hereinafter, "*Erie Indemnity*"). See Oral Arg. at 29:57-30:51, <http://oralarguments.ca9.uscourts.gov/default.aspx?fl=2017-1135.mp3>. We have reviewed these cases, but conclude that the claims in those cases were materially different.

In *Affinity Labs*, we held that claims directed to "streaming regional broadcast signals to cellular telephones located outside the region" were ineligible because "[t]he concept of providing out-of-region access to regional broadcast content is an abstract idea." [838 F.3d at 1255, 1258](#). The claims were "entirely functional in nature," and we found nothing in the claims "directed to how to implement out-of-region broadcasting." [Id. at 1258](#). Although the representative claim **[**22]** also recited "a graphical user interface" for displaying a menu of available media options from which a user could select, the limitation was "conventional," insignificant extra-solution activity and thus insufficient to confer patent eligibility. [Id. at 1261](#). In *Capital One*, the claims were directed to an apparatus for managing eXtensible Markup Language ("XML") documents. [850 F.3d at 1338](#). The invention allowed users to make changes to data in a "dynamic document," which could then be dynamically propagated back into an original XML document. [Id. at 1339](#). We held those claims were "directed to the abstract idea of collecting, displaying, and manipulating data." [Id. at 1340](#). In *Erie Indemnity*, we held that claims reciting a method for searching a database using an index of descriptive terms associated with "category" and "domain" tags were directed to the abstract idea of "creating an index and using that index to search for and retrieve data." [850 F.3d at 1326-27](#). The claims did not recite any specific structure or improvement of computer functionality sufficient to render the claims not abstract. [Id. at 1328-29](#).

In contrast to *Affinity Labs*, *Capital One*, and *Erie Indemnity*, representative claim 12 is not simply directed to displaying a graphical user interface **[**23]** or collecting, manipulating, or organizing information to improve navigation through three-dimensional spreadsheets.³ Instead, the claim recites **[*1011]** a

specific structure (i.e., notebook tabs) within a particular spreadsheet display that performs a specific function (i.e., navigating within a three-dimensional spreadsheet).

Nor is representative claim 12 directed generally to displaying information on a screen, without "requir[ing] a new source or type of information, or new techniques for analyzing it," like the claims in [Electric Power Group, LLC v. Alstom S.A.](#) [830 F.3d 1350, 1353-54 \(Fed. Cir. 2016\)](#). And unlike ineligible claims that merely "collect[], organiz[e], and display . . . information on a generic display device," claim 12 recites "a specific improvement to the way computers . . . operate." See [Interval Licensing LLC v. AOL, Inc.](#), [896 F.3d 1335, 1345 \(Fed. Cir. 2018\)](#) (quoting [Enfish, LLC v. Microsoft Corp.](#), [822 F.3d 1327, 1336 \(Fed. Cir. 2016\)](#)).

[HN5] At *Alice* step one, "it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is 'directed to.'" [Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.](#), [827 F.3d 1042, 1050 \(Fed. Cir. 2016\)](#). And that inquiry requires that the claims be read as a whole. See [Alice](#), [134 S. Ct. at 2355 n.3](#). We conclude that, when read as a whole, in light of the specification, claim 12 is directed to more than a generic or abstract idea as it claims a particular manner of navigating three-dimensional **[**24]** spreadsheets, implementing an improvement in electronic spreadsheet functionality.

Google avers that humans have long used tabs to organize information. It cites tabbed notebooks, binder dividers, file folders, and sticky Post-it notes as well-known examples of organizing information using tabs. We agree that tabs existed outside the context of electronic spreadsheets prior to the claimed invention. It is not enough, however, to merely trace the invention to some real-world analogy. The eligibility question is not whether anyone has ever used tabs to organize

³We have also considered [Affinity Labs of Texas, LLC v. Amazon.com Inc.](#), [838 F.3d 1266 \(Fed. Cir. 2016\)](#), also cited by Google, and find it distinguishable as well. There, the claims were directed to "a network-based media system with a customized user interface, in which the system delivers streaming content from a network-based resource." [Id. at 1268](#). We held the claims ineligible because "the concept of

delivering user-selected media content to portable devices is an abstract idea." [Id. at 1269](#). Although the claim recited a "customized user interface," we held that "'customizing information based on . . . information known about the user' is an abstract idea." [Id. at 1271](#) (alteration in original) (quoting [Intellectual Ventures I LLC v. Capital One Bank \(USA\)](#), [792 F.3d 1363, 1369 \(Fed. Cir. 2015\)](#)). Representative claim 12 of the '259 patent, however, is different. Although its recited notebook tabs can be customized, see '259 patent col. 8 ll. 19-23, they are more than merely labeled tabs. They implement a specific function—an improved manner of navigating through the spreadsheet.

information. That question is reserved for §§ 102 and 103. [HNG](#) [↑] The question of abstraction is whether the claim is "directed to" the abstract idea itself. *Id.* We must consider the claim as a whole to determine whether the claim is directed to an abstract idea or something more. Google fails to appreciate the functional improvement achieved by the specifically recited notebook tabs in the claimed methods. The notebook appearance of the tabs was specifically chosen by the inventors because it is easily identified by users. The tabs are not merely labeled buttons or other generic icons. DET has disclaimed as much. See Oral Arg. at 11:03-47. Rather, **[**25]** the notebook tabs are specific structures within the three-dimensional spreadsheet environment that allow a user to avoid the burdensome task of navigating through spreadsheets in separate windows using arbitrary commands.

Because we conclude that representative claim 12 of the '259 patent is not abstract under *Alice* step one, we need not reach *Alice* step two with respect to claim 12. See [Core Wireless, 880 F.3d at 1363](#).

B

Notwithstanding our conclusion that representative claim 12 of the '259 patent is directed to patent-eligible subject matter, we conclude that claim 1 of the '551 patent is ineligible.

Claim 1 of the '551 patent recites:

1. In an electronic spreadsheet for processing alphanumeric information, said . . . electronic spreadsheet comprising a three-dimensional spreadsheet operative in a digital computer and including a plurality **[*1012]** of cells for entering data and formulas, a method for organizing the three-dimensional spreadsheet comprising: partitioning said plurality of cells into a plurality of two-dimensional cell matrices so that each of the two-dimensional cell matrices can be presented to a user as a spreadsheet page;

associating each of the cell matrices with a user-settable page identifier which serves as a unique identifier for said each cell **[**26]** matrix; creating in a first cell of a first page at least one formula referencing a second cell of a second page said formula including the user-settable page identifier for the second page; and storing said first and second pages of the plurality of cell matrices such that they appear to the user as being stored within a single file.

'551 patent col. 23 l. 60—col. 24 l. 13.

We conclude that under *Alice* step one, this claim is directed to the abstract idea of identifying and storing electronic spreadsheet pages. DET concedes that, unlike claim 12 of the '259 patent, claim 1 of the '551 patent is "directed at something a bit more general." See Oral Arg. at 9:55-58. Indeed, it generically recites "associating each of the cell matrices with a user-settable page identifier" and does not recite the specific implementation of a notebook tab interface. '551 patent col. 24 ll. 3-4. Claim 1 of the '551 patent is therefore not limited to the specific technical solution and improvement in electronic spreadsheet functionality that rendered representative claim 12 of the '259 patent eligible. Instead, claim 1 of the '551 patent covers any means for identifying electronic spreadsheet pages.

Because claim 1 of the '551 patent is directed to an abstract idea, we must turn to *Alice* step two **[**27]** to "determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice, 134 S. Ct. at 2355* (quoting *Mayo, 566 U.S. at 78*). [HNT](#) [↑] The "mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Id. at 2358*. "For the role of a computer in a computer-implemented invention to be deemed meaningful in the context of this analysis, it must involve more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" [Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n, 776 F.3d 1343, 1347-48 \(Fed. Cir. 2014\)](#) (alteration in original) (quoting *Alice, 134 S. Ct. at 2359*).

After a searching review, the additional elements of claim 1 of the '551 patent fail to provide an inventive concept. Claim 1 merely recites partitioning cells to be presented as a spreadsheet, referencing in one cell of a page a formula referencing a second page, and saving the pages such that they appear as being stored as one file. These limitations merely recite the method of implementing the abstract idea itself and thus fail under *Alice* step two. Therefore, we conclude that claim 1 of the '551 patent is ineligible under § 101.

III

Finally, we turn to the '146 patent, which is directed to a method of tracking changes in three-dimensional spreadsheets. Beginning at *Alice* step **[**28]** one, we agree with the district court that these claims are directed to the abstract idea of collecting spreadsheet

data, recognizing changes to spreadsheet data, and storing information about the changes.

The district court considered claims 1 and 26 representative of all asserted [*1013] claims of the '146 patent. See [District Court Op., 211 F. Supp. 3d at 680](#). At their core, these claims recite tracking changes in a spreadsheet by: (1) creating a base version of a spreadsheet, (2) creating a new version of the spreadsheet, and (3) determining which cells of data have changed by comparing the new and base versions. The concept of manually tracking modifications across multiple sheets is an abstract idea. The mere automation of this process does not negate its abstraction. Unlike claim 12 of the '259 patent, nothing in the '146 patent's claims viewed in light of the specification convinces us that the claimed method improves spreadsheet functionality in a specific way sufficient to render the claims not abstract.

We agree with the district court that these claims are akin to those we held ineligible in *Content Extraction*. There, the claims were directed to methods of extracting data from hard-copy documents using an automated scanner, recognizing information from [**29] the extracted data, and storing that data in memory. [Content Extraction, 776 F.3d at 1345, 1347](#). We see no material difference in the level of abstraction here. The '146 patent's claims recite determining changes to spreadsheets by comparing the cells in two versions of the spreadsheet and storing that information. We reject DET's attempt to distinguish *Content Extraction* on the ground that it involved a business method. Regardless of the field of the technology, the claims at issue here are sufficiently similar to those in *Content Extraction* for us to conclude that the claims of the '146 patent are also abstract. As in *Content Extraction*, we hold that the asserted claims of the '146 patent are directed to the abstract idea of collecting, recognizing, and storing the recognized data in memory. [Id. at 1347](#).

We also conclude that the asserted claims of the '146 patent do not recite an inventive concept under *Alice* step two. The claims recite the generic steps of creating a base version of a spreadsheet, creating a new version of the spreadsheet, and determining changes made to the original version. These claims do not recite anything "more than simply stat[ing] the [abstract idea] while adding the words 'apply it.'" [Alice, 134 S. Ct. at 2357](#) (alterations in original) (quoting [Mayo, 566 U.S. at 72](#)). "[T]he mere recitation of [**30] a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." [Id. at 2358](#). We have

considered DET's arguments that other claims of the '146 patent, including claims 27 and 28, provide an additional inventive concept and find them unpersuasive.

CONCLUSION

For the foregoing reasons, we conclude that, with the exception of claim 1 of the '551 patent, the asserted claims of the Tab Patents are not directed to patent-ineligible subject matter under *Alice* step one and therefore satisfy § 101. We determine, however, that the asserted claims of the '146 patent are directed to an abstract idea, provide no inventive concept, and are therefore ineligible under § 101.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED

COSTS

No costs.

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Neutral

As of: January 7, 2019 1:51 PM Z

Seven Networks, LLC v. Google LLC

United States District Court for the Eastern District of Texas, Marshall Division

July 19, 2018, Decided; July 19, 2018, Filed

CIVIL ACTION NO. 2:17-CV-00442-JRG

Reporter

315 F. Supp. 3d 933 *; 2018 U.S. Dist. LEXIS 176265 **

SEVEN NETWORKS, LLC, Plaintiff, v. GOOGLE LLC, Defendant.

Subsequent History: Writ denied by [In re Google LLC, 2018 U.S. App. LEXIS 31000 \(Fed. Cir., Oct. 29, 2018\)](#)

Prior History: [Seven Networks, LLC v. Google LLC, 2018 U.S. Dist. LEXIS 112210 \(E.D. Tex., July 6, 2018\)](#)

Core Terms

Google, servers, infringement, place of business, regular, venue, established place of business, warehouse, patent, space, network, Edge, requirements, Host, Cache, Dictionary, Nodes, users, vending machine, business', services, statutory language, venue statute, proper venue, courts, customers, parties, lease, centers, Amazon

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Judges: RODNEY GILSTRAP, UNITED STATES DISTRICT JUDGE.

Opinion by: RODNEY GILSTRAP

Opinion

[*937] FILED UNDER SEAL

MEMORANDUM OPINION AND ORDER

Before the Court is Google LLC's ("Google") Second Renewed Motion to Dismiss or, in the Alternative, Transfer under [28 U.S.C. § 1406](#) for Improper Venue. (Dkt. No. 125) ("the Motion"). Having considered the Motion, the Court is of the opinion that it should be **DENIED** for the reasons contained herein.

I. PROCEDURAL BACKGROUND

SEVEN Networks, LLC, ("SEVEN") filed suit against Google on May 17, 2017, alleging, *inter alia*, patent infringement. (Dkt. No. 1). On August 8, 2017, Google filed a Motion to Dismiss under [Rule 12\(b\)\(3\)](#). (Dkt. No. 25). In response, SEVEN filed the Amended Complaint that is the subject of the present motion. (Dkt. No. 34). On September 12, 2017, Google filed a Renewed Motion to Dismiss ("Second Motion to Dismiss"), again under [Rule 12\(b\)\(3\)](#). In response, along with its opposition to the Second Motion to Dismiss, SEVEN

filed a Contingent Motion for Leave to Conduct Venue Discovery. (Dkt. No. 77).

On December 22, 2017, the Court entered a Venue Discovery **[**5]** Order, which directed the parties to conduct discovery on Google's venue motions by February 22, 2018, and directed Google to refile its venue motions no later than two weeks after the close of venue discovery. (Dkt. No. 107). The Court then granted the Parties' **[*938]** motion to extend venue discovery to March 1, 2018. (Dkt. No. 115). Following the close of venue discovery, Google filed the instant Motion and a related Motion to Transfer Venue to the Northern District of California. (Dkt. Nos. 125, 126). The Court held a hearing on the instant Motion on June 1, 2018. (Dkt. No. 186).

II. APPLICABLE LAW

In today's post-*TC Heartland* world, venue law in patent cases continues its development. See generally [In re Cray Inc.](#), 871 F.3d 1355 (Fed. Cir. 2017); [In re Micron Tech., Inc.](#), 875 F.3d 1091 (Fed. Cir. 2017); [In re HTC Corp.](#), 889 F.3d 1349 (Fed. Cir. 2018); [In re BigCommerce, Inc.](#), 890 F.3d 978 (Fed. Cir. 2018); [In re ZTE \(USA\) Inc.](#), 890 F.3d 1008 (Fed. Cir. 2018); and [In re Intex Recreation Corp.](#), No. 2018-131, 2018 WL 3089215 (Fed. Cir. June 13, 2018).

Venue in patent infringement actions is defined by [28 U.S.C. § 1400\(b\)](#). There is no doubt that any analysis of venue under [28 U.S.C. § 1400\(b\)](#) "begin[s] with the language of the statute." [In re BigCommerce](#), 890 F.3d at 982 (citing [Mallard v. U.S. Dist. Court for the S. Dist. of Iowa](#), 490 U.S. 296, 300, 109 S. Ct. 1814, 104 L. Ed. 2d 318 (1989)). [Section 1400\(b\) of Title 28, United States Code](#) states:

Any civil action for patent infringement may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business.

The Federal Circuits' first, and most general, guidance on how a district court should approach **[**6]** this venue statute was provided by [In re Cray](#), 871 F.3d 1355. There, the Federal Circuit struck down this Court's suggested test as "not sufficiently tethered to this statutory language" and for "fail[ing] to inform each of the necessary requirements of the statute." [Id. at 1362](#). The Circuit continued:

In deciding whether a defendant has a regular and

established place of business in a district, no precise rule has been laid down and each case depends on its own facts. The "requirements" listed above and discussed below inform whether there exist the necessary elements, but do not supplant the statutory language. We stress that the analysis must be closely tied to the language of the statute.

Id. Accordingly, district courts must hew closely to an analysis which is guided by the language of the statute.¹

Beyond this admonition, the Federal Circuit provided additional guidance on what it believed to be the major requirements of the statutory language; these lodestars guide district courts in their application of the statute to case specific facts. Specifically, the Federal Circuit held that "[§ 1400\(b\)](#) requires that 'a defendant has' a 'place of business' that is 'regular' and 'established.' All of these requirements must be **[**7]** present." *Id.* These requirements were further refined: "the first requirement is that there must be a physical place in the district"; "[t]he second requirement . . . is that the place must be a regular and established place of business"; and "the third requirement . . . is that the regular and established place of business must be the place of the defendant." *Id.* at [1362-63](#) (internal quotation marks omitted). Having **[*939]** set forth a three-part test² for the application of the statute, the Federal Circuit then examined each identified requirement in greater detail.

As to the requirement that there is a "physical place in the district," the Federal Circuit noted that a "place" is defined as "a building or a part of a building set apart for any purpose or quarters of any kind from which business is conducted." *Id.* at [1362](#) (citing William

Dwight Whitney, *THE CENTURY DICTIONARY*, 4520 (Benjamin E. Smith, ed. 1911); *Place*, *BLACK'S LAW DICTIONARY* (1st ed. 1891)) (internal quotations omitted). The Federal Circuit further noted that the statute "cannot be read to refer *merely* to a virtual space or to electronic communications from one person to another." *In re Cray*, [871 F.3d at 1362](#) (emphasis added).³⁴⁵⁴⁵⁵

[*940] Turning to the requirement that the place "must be a regular and established place of business," the Federal Circuit has instructed that the place of business must be "regular," by, for example, operating in a "steady, uniform, orderly, and methodical manner." *In re Cray*, [871 F.3d at 1362](#) (cleaned up) (citing *THE CENTURY DICTIONARY*, *supra*, at 5050). This business may not be temporary or for some special work or particular transaction; a single act does not constitute business, but a series of such acts does. *Id.* (citations

¹ Accord *In re BigCommerce*, [890 F.3d at 985](#) ("The requirement of venue is specific and unambiguous; it is not one of those vague principles which, in the interest of some overriding policy, is to be given a 'liberal' construction We cannot ignore the requirements of the statute merely because different requirements may be more suitable for a more modern business environment.") (quoting *Schnell v. Peter Eckrich & Sons, Inc.*, [365 U.S. 260, 264, 81 S. Ct. 557, 5 L. Ed. 2d 546 \(1961\)](#)).

² Describing *In re Cray* as setting forth a precise test of any kind likely reads too much into the actions of the Federal Circuit. As noted *supra*, the Circuit specifically held that the "requirements" it provided "inform . . . but do not supplant the statutory language." *Id.* at [1362](#). Accordingly, *In re Cray* is properly viewed as a set of guidelines. Thus, a district court may rely on *In re Cray* but must be mindful that its first master when determining proper venue is the statute itself.

³ The Federal Circuit's inclusion of "merely" indicates that a virtual space or electronic communications *alone* is insufficient to denote a "place" within the meaning of the statute. However, the statement also indicates that both a virtual space and electronic communications may be indicative of the requirement having been met where additional facts are present.

⁴ The Court turns to the dictionaries considered by the Federal Circuit—The Century Dictionary further supports the Circuit's rejection of purely virtual locales from the statute. *Place*, *THE CENTURY* **[**8]** *DICTIONARY*, 4520 (Benjamin E. Smith, ed. 1911) ("7. Room to abide in; abode; lodgment; location."); *id.* ("8. Room to stand or sit in; a particular location, as a seat, or a space for sitting or standing, as in a coach, car, or public hall."); *id.* ("9. A particular locality"). Black's similarly accords. *Place*, *BLACK'S LAW DICTIONARY* (1st ed. 1891) ("This word is a very indefinite term. It is applied to any locality,

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omitted).⁶ The Federal Circuit noted that the

limited by boundaries, however large or however small. It may be used to designate a country, state, county, town, or a very small portion of a town. The extent of the locality designated by it must be determined by the connection in which it is used. [46 Vt. at 432.](#)").

⁵The Court has surveyed additional dictionaries of the time specified, both legal and general, to ensure proper application of the statutory scope. Joseph Worcester, *DICTIONARY OF THE ENGLISH LANGUAGE*, 1083 (1860) (Place: "1. A particular portion of space; a locality; station; situation; position; post; site; spot."); WEBSTER'S HIGH SCHOOL *DICTIONARY*, 317 (1892) (Place: "Portion of space; position; locality."); Stormonth, *ETYMOLOGICAL AND PRONOUNCING DICTIONARY OF THE ENGLISH LANGUAGE*, 748 (7th ed. rev., 1882) (Place: "situation, site, or spot."); UNIVERSAL *DICTIONARY OF THE ENGLISH LANGUAGE*, 5628-29 (Hunter et al. eds., 1897) (Place (ordinary language): "2. A particular portion of space, considered as separate and distinct from the rest of space; a particular locality, spot, or site; position.") (citing *Milton: P. L.*, i. 253); Robert Gordon Latham, *A DICTIONARY OF THE ENGLISH LANGUAGE* (1882) (Place: "1. Particular portion of space. 2. Locality; ubiety; local relation. 3. Local existence."); J. Kendrick Kinney, *A LAW DICTIONARY AND GLOSSARY*, 525 (1893) (Place: "any locality limited by boundaries, whether large or small."); William C. Anderson, *A DICTIONARY OF LAW*, 774 (1889) (Place: "Any locality limited by boundaries, however large or small The extent of the locality is to be determined by the connection in which the word is used;" "In internal revenue acts, as applied to the place where a licensee may carry on business, construed with reference to the business In a statute forbidding betting in any 'house, office, room, or other place,' need not be covered with a roof; an umbrella is such place."); Benj. V. Abbott, *DICTIONARY OF TERMS AND PHRASES*, 280 (1879) (Place: "The word place has a very wide and varied signification, so that its precise meaning can only be determined by the connection in which it is used, and by having regard to the apparent purpose of the writer."); Benjamin W. Pope, *LEGAL DEFINITIONS*, 1179 (1920) (Place: "A 'place' is any space separated and distinguished from all other space."); BOUVIER'S *LAW DICTIONARY*, 2595 (1914) (Place: "The word is associated with objects which are, in their nature, fixed and territorial;" "Any piece of ground appropriated by its owner or occupier for the time being is a place within the English betting houses act but the ground must be so appropriated and must be an ascertained place.") (citations omitted); see also BOUVIER'S *LAW DICTIONARY*, 415 (1883) (Place of Business: "The place where a man usually transacts his affairs or business."); *Place of Business*, BLACK'S *LAW DICTIONARY* (5th ed. 1979) ("The location at which one carries on his business or employment."); Walter A. Shumaker and George Foster Longsdorf, *THE CYCLOPEDIA DICTIONARY OF LAW*, 694 (1901) (Place of Business: "The term implies a particular place appropriated exclusively to a local business.") (citing [38 Tex. 599](#)).

"established" limitation "bolsters this conclusion," as it requires the business not be "transitory" and possess "sufficient permanence." [Id. at 1363](#). "[W]hile a business can certainly move its location, it must for a meaningful time period be **[**9]** stable, established." *Id.* Fulfillment of this requirement is closely linked to the third requirement. See [In re ZTE, 890 F.3d at 1015](#).

The third requirement is that "the regular and established place of business must be the place of the defendant." [In re Cray, 871 F.3d at 1363](#). "[T]he defendant must establish or ratify the place of business." [Id. at 1364](#). In undertaking this inquiry, the Federal Circuit provided a number of relevant considerations to assist the district courts in their analyses, including "whether the defendant owns or leases the place, or exercises other attributes of possession or control over the place," "whether the defendant conditioned employment on an employee's continued residence in the district or the storing of materials at a place in the district so that they can be distributed or sold from that place," and whether "the defendant itself holds out a place for its business." [Id.](#) However, "it must be a place of the defendant, not solely a place of the defendant's employee." *Id.* (emphasis added). "[A] defendant's representations that it has a place of business in the district are relevant to the inquiry." *Id.* These representations might include "whether the defendant **[**10]** lists the alleged place of business on a website, or in a telephone or other directory; or places its name on a sign associated

⁶Here, too, definitions may prove helpful in ensuring proper application of the statutory scope. *Business*, THE CENTURY *DICTIONARY*, 732 (1903) ("Specifically—4. Mercantile pursuits collectively; employments requiring knowledge of accounts and financial methods; the occupation of conducting trade or monetary transactions of any kind."); *Business*, BLACK'S *LAW DICTIONARY* (1891 ed.) (Business: "This word embraces everything about which a person can be employed. That which occupies the time, attention and labor of men for the purpose of a livelihood or profit. The doing of a single act pertaining to a particular business will not be considered engaging in or carrying on the business; yet a series of such acts would be so considered."). However, the Court considers it improper to unduly restrict its construction of the statute to permit proper venue to lie pursuant to the second half of [§ 1400\(b\)](#) only in relation to businesses or types of business which were in existence at the time the statute was passed. No court in applying the statute, passed in 1897, would exclude from it airlines, automotive manufacturers, space transportation companies, nuclear power generators, television networks, or the various industries they support and which are supported by them.

[*941] with or on the building itself." [Id. at 1363-64](#). However, such ratification alone is not enough, as "the mere fact that a defendant has advertised that it has a place of business or has even set up an office is not sufficient; the defendant must actually engage in business from that location." *Id.* The Circuit further counseled district courts to readily compare "the nature and activity of the alleged place of business of the defendant in the district" to "that of other places of business of the defendant in other venues." *Id.*

The Federal Circuit elaborated on this specific requirement recently in [In re ZTE, 890 F.3d 1008](#). In determining whether an alleged place of business was of the defendant, the Circuit encouraged the district court to consider, on remand, "whether [the defendant] itself possesses, owns, leases, or rents the office space for the call center or owns any of the equipment located there," "whether any signage on, about, or relating to the call center associates the space as belonging to [the defendant]," and "whether the location of the call center was specified by [the defendant] [*11] or whether [the defendant's call center contractor] would need permission from [the defendant] to move its call center outside of the Eastern District of Texas or to stop working for [the defendant]." [Id. at 1015](#).

"[A]s a matter of Federal Circuit law [], upon motion by the Defendant challenging venue in a patent case, the Plaintiff bears the burden of establishing proper venue." [Id. at 1013](#).

Having summarized the law of venue as it currently exists, the Court turns now to the specific facts of this case and the application of that law thereto.

III. DISCUSSION

As discussed above, venue lies only "in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business." [28 U.S.C. § 1400\(b\)](#). Google argues that it meets neither requirement.

It is undisputed that when this action was filed,⁷ Google

was incorporated in Delaware and therefore "resided" in Delaware, not in Texas. (Dkt. No. 125 at 3 (citing Dkt. No. 1 at ¶ 2)); see generally Dkt. No. 141); see also [TC Heartland LLC v. Kraft Foods-Group Brand LLC, 137 S. Ct. 1514, 1521, 197 L. Ed. 2d 816 \(2017\)](#). SEVEN does not dispute this. Accordingly, Google's residence cannot provide a basis for venue in this District.

[**12] In order for proper venue in this action to lie in this District, Google must have committed acts of infringement and have a regular and established place of business in this District. Google avers that SEVEN cannot demonstrate that it has committed acts of infringement "in this district for at least some of the asserted patents." (Dkt. No. 125 at 17). Google also avers that SEVEN cannot demonstrate that it has a regular and established place of business within this District. (*Id.* at 7).

A. Acts of Infringement⁸

[*942] "The acts of infringement referred to in the patent venue statute are those acts defined by the statute dealing with infringement." [60 Am. Jur. 2d Patents § 747](#); see, e.g., [Alco Standard Corp. v. Tennessee Valley Auth., 448 F. Supp. 1175, 1182 \(W.D. Tenn. 1978\)](#) ("[T]he meaning of 'acts of infringement' in [\[§\] 1400\(b\)](#) must be determined by reference to 35 U.S.C. [\[§\] 271\(a\)](#). Accordingly, an act within the scope of [Tennessee Valley Authority Act of 1933, § 19] protection cannot be deemed an 'act of infringement' under [\[§\] 1400\(b\)](#)."); [Blackbird Tech LLC v. Cloudflare, Inc., No. 17-283, 2017 U.S. Dist. LEXIS 167860, at *8-9 \(D. Del. Oct. 11, 2017\)](#) ("What constitutes an act of infringement is determined by reference to the definition of patent infringement in 35 U.S.C. § 271(a), which states that patent infringement occurs whenever one 'without authority makes, uses or sells any patented invention within the United States during the term of the patent therefor.'"); [Roche Products v. Bolar Pharm. Co., 733 F.2d 858, 861 \(Fed. Cir. 1984\)](#); 1 Moore's Federal Practice 0.144[9] at 1509-10 [*13] n.39. "[T]he 'acts of

(citing [Hoover Grp., Inc. v. Custom Metalcraft, Inc., 84 F.3d 1408, 1410 \(Fed. Cir. 1996\)](#)); [Pers. Audio, LLC v. Google, Inc., 280 F. Supp. 3d 922, 931 \(E.D. Tex. 2017\)](#).

⁸While SEVEN brought suit against Google alleging infringement of certain claims in ten patents in this suit, Google only argues that SEVEN has failed to establish Google's commission of acts of infringement in this District as to three patents (the so-called '158, '433, and '812 Patents), leaving the other seven uncontested.

⁷Venue is assessed as of the time of filing of the complaint. See, e.g., [Raytheon Co. v. Cray, 258 F. Supp. 3d 781, 787 \(E.D. Tex. 2017\)](#), *mandamus granted on other grounds, order vacated sub nom. In re Cray, 871 F.3d 1355 (Fed. Cir. 2017)*

infringement' required to support venue [need not] be acts of direct infringement, and [] venue [may] lie if the defendant only induced infringement under 35 U.S.C.A. § 271(b) or contributed to infringement under 35 U.S.C.A. § 271(c)," and a contrarily "restricted view . . . of venue is not sound." [*Gunter & Cooke, Inc. v. Southern Elec. Servs. Co.*, 256 F. Supp. 639, 648 \(M.D.N.C. 1966\)](#), *aff'd*, [*378 F.2d 60 \(4th Cir. 1967\)*](#); [*Symbology Innovations, LLC v. Lego Sys., Inc.*, 158 F. Supp. 3d 916, 928 \(E.D. Va. 2017\)](#) (citing *Gunter*).⁹ Where a complaint alleges infringement, the allegations "satisfy the 'acts of infringement' requirement of § 1400(b)" "[a]lthough the[] allegations may be contested." [*Symbology*, 158 F. Supp. 3d at 928](#).¹⁰ "The issue of infringement is not [*943] reached on the merits in considering venue requirements." [*In re Cordis Corp.*, 769 F.2d 733, 737 \(Fed. Cir. 1985\)](#) (citing *Gunter*).

Google first appears to argue that direct infringement of a method claim by Google alone and entirely within this District is required to meet the requirement that it has allegedly committed an act of infringement under the venue statute. (Dkt. No. 125 at 18-19).¹¹ It is important

to note that Google does not dispute that SEVEN alleges that Google practices at least one step of the allegedly infringing method, irrespective of whether that practiced method is infringing. [***14] (See generally *id.*) However, Google argues that "SEVEN has failed to plead that Google performs each step of the method claim in this District, which is required to show that Google has committed an act of infringement in this District." (*Id.* at 18). Google relies on *NTP, Inc. v. Research in Motion, Ltd.* for this proposition. *418 F.3d 1282, 1317-18 (Fed. Cir. 2005)* (ruling that "[i]t is well established that a patent for a method or process is not infringed unless all steps or stages of the claimed process are utilized" and that a process "cannot be used within" a place "unless each of the steps is performed within" that place).

However, this exact argument has been previously rejected by the courts. "Contrary to Plaintiff's argument, not *all* of the alleged infringing activity needs to have occurred within [the District] so long as some act of infringement took place there." [*Blackbird Tech.*, 2017 U.S. Dist. LEXIS 167860, at *10](#) (specifically rejecting the Plaintiff's proposition (opposing a § 1404(a) motion) that while "some portion of the accused system is located in the Northern District of California, the data channels connecting the various network elements are found throughout the country," preventing "California

⁹ Nor do the alleged acts of infringement need be substantial or numerous. A single alleged act of infringement may be sufficient to properly establish venue. [*Rackman v. Texas Instruments, Inc.*, 712 F. Supp. 448, 450 \(S.D.N.Y. 1989\)](#) (finding "no support for [the] contention that [*28 U.S.C. § 1400\(b\)*](#) requires more than 'de minimis' infringement").

¹⁰ Accord [*Plexxikon Inc. v. Novartis Pharms. Corp.*, No. 17-cv-04405-HSG, 2017 U.S. Dist. LEXIS 201984, at *3 \(N.D. Cal. Dec. 7, 2017\)](#) (citing *Cordis*); [*RegenLab USA LLC v. Estar Techs. Ltd.*, No. 16-cv-08771 \(ALC\), 2017 U.S. Dist. LEXIS 131627, at *6 n.2 \(S.D.N.Y. Aug. 17, 2017\)](#) ("[Defendants] assert in passing that they have not committed acts of infringement in the Southern District of New York, a requirement under the second prong of [*§ 1400\(b\)*](#). With respect to infringement, at this stage, it suffices that [Plaintiff] alleges that each defendant made sales in New York of the product at issue.") (citing *Cordis*); [*Ballard Med. Prods. v. Concord Labs., Inc.*, 700 F. Supp. 796, 799 \(D. Del. 1988\)](#) ("The allegation of manufacture of the prototype meets defendants' burden as to venue since courts have consistently held an allegation of infringement is itself sufficient to establish

venue and the moving party is not required to demonstrate actual infringement by defendant's device.") (citing [*Cordis and Funnelcap, Inc. v. Orion Indust. Inc.*, 392 F.Supp. 938, 941 \(D.Del.1975\)](#); [*CAO Lighting, Inc. v. Light Efficient Design, No. 4:16-cv-00482-DCN, 2017 U.S. Dist. LEXIS 170052, at *5 \(D. Idaho Oct. 11, 2017\)*](#) ("The parties do not dispute that CAO has alleged that Light Efficient Design has committed acts of infringement in Idaho. Therefore, the Court need only address whether Light Efficient Design has a regular and established place of business in Idaho."); see also 17 [*Moore's Federal Practice - Civil § 110.39*](#) (2018) ("In [the] context of [post-TC Heartland [*§ 1400\(b\)*](#)] analysis, the requirement that the defendant commit an act of infringement in the proposed forum is not particularly troublesome. The patent statute defines acts of infringement to include making, using, or selling patented inventions without authority, or importing, selling, or using products made by patented process. This definition encompasses indirect as well as direct infringement. Traditionally, courts have required only an adequate allegation of infringement under the statute to assert venue.").

¹¹ (*Id.* ("On its face, the Complaint is deficient because SEVEN only specifically identifies a single step purportedly performed by Google in this District for each of the asserted method claims for the '158, '433, and '812 Patents.")).

[from being] the situs of infringement.").¹² As noted above, the acts of **[**15]** infringement required to support venue in a patent infringement action need not be acts of direct infringement, and venue does lie if the defendant only induced the infringement or *contributed* to the infringement in the forum. See [Gunter, 256 F. Supp. at 648](#); see also [Dover Corp. v. Fisher Governor Co., 221 F. Supp. 716, 720 \(S.D. Tex. 1963\)](#) ("I do not accept the defendant's theory of patent venue that 'acts of infringement' for venue purposes are exclusively defined as direct making, using or selling. The defendant's theory would virtually eliminate the availability of venue alternatives to a plaintiff suing a corporate 'contributory infringer,' for the suit would have to be brought at the place of the defendant's incorporation. I can discern neither the logic nor fairness of such a theory, for the place of incorporation of a 'contributory infringer' may be far removed from its principal place of business and from the place of occurrence of the acts or wrongs for which liability is imposed.").¹³

¹² See also [Grant St. Grp., Inc. v. D&T Ventures, LLC, No. 10-1095, 2012 U.S. Dist. LEXIS 505, at *15 n.5 \(W.D. Pa. Jan. 4, 2012\)](#) (rejecting an application of *NTP* in "a personal jurisdiction analysis," and noting that "[*NTP*] speaks to the merits of the infringement claim").

¹³ As SEVEN notes, "[t]he Federal Circuit did not hold, and has never held, that when a defendant carries out the steps of a method claim in multiple districts, there can be no act of infringement in any of them Such a ruling would be nonsensical, as it would mean that an act of infringement could occur within the United States without taking place in any district in the United States." (Dkt. No. 141 at 28). Google responds to this argument by noting that this result "does not eviscerate the venue statute as venue would still be proper in the district where the defendant resides," (Dkt. No. 148 at 9), and confirmed this position at argument. (Dkt. No. 193 at 26:24-27:7 ("THE COURT: So with a method claim, as long as an infringer made sure that all the steps weren't practiced in the same district, they could never properly be sued anywhere? [] Is that the -- is that the logical extension of your argument? MR. VERHOEVEN: That is an issue that would need to be dealt with."), 28:1-9 ([MR. VERHOEVEN:] "I would say that even if you had a method claim where each of the steps was in a different venue, you can still sue somebody in the state of incorporation. So there's two prong -- there's two ways that you can get venue, and -- and so -- THE COURT: So instead of there never being a place where you could get venue, you would be limited only to the state of incorporation. MR. VERHOEVEN: Yes. Yes, Your Honor.")). However, the result required by Google's reading of the statute undoubtedly forecloses the ability of a plaintiff to avail itself of half of the

[*944] The facts here comport with those of *Blackbird*. [2017 U.S. Dist. LEXIS 167860](#). The court in *Blackbird* "reject[ed] the contention that acts of infringement were not done in California because the entire method allegedly was not practiced in the forum, the court noting that 'not all of the alleged infringing **[**16]** activity needs to have occurred within California so long as some act of infringement took place there,' and as the complaint alleged both method and apparatus claims, and . . . finding that the accused infringers 'make or use the accused functionality' in the forum, and this was sufficient to show that [§ 1400\(b\)](#) venue was proper in the transferee forum." 5 Annotated Patent Digest § 36:153.80 (discussing [Blackbird Tech, 2017 U.S. Dist. LEXIS 167860](#)) (emphasis added).¹⁴ Google does not appear to dispute that SEVEN "explicitly alleged that at least one step of each of the claims is performed in this District." (Dkt. No. 141 at 27).¹⁵ This is **[*945]** sufficient

special patent venue statute. This would do violence to the statutory venue grant. That is the world [§ 1400\(b\)](#) was intended to leave behind. Indeed in its authoritative discussion on the underlying purpose and policy of [§ 1400\(b\)](#) in *In re Cray*, the Federal Circuit noted that the requirement of some courts (equivalent to the position Google urges here) which made it "necessary to sue a defendant in its place of incorporation, and 'the corporations thus have an opportunity to infringe upon patents and almost escape any responsibility for it by reason of the difficulty of finding them in order to sue them, for it is very inconvenient to travel across the continent to sue them when they are infringing in a business established near the plaintiff or owner of a patent,'" was abrogated by [§ 1400\(b\)](#), which, "of course[,] allows broader venue than merely the place of a defendant's incorporation." [871 F.3d at 1361](#) (citing 29 Cong. Rec. 2719 (1897) (statement of Sen. Platt) and [Brunette Mach. Works, Ltd. v. Kockum Indus., Inc., 406 U.S. 706, 713 n.13, 92 S. Ct. 1936, 32 L. Ed. 2d 428 \(1972\)](#)). Accordingly, Google's supposed preservation of the venue statute leaves little of the "broader" [§ 1400\(b\)](#) provision standing and must be rejected.

¹⁴ The *Blackbird* court also accepted the Defendants' representation that the allegedly infringing apparatus was "made" in the proposed forum.

¹⁵ (See Dkt. No. 34 at ¶¶ 47 ("Google infringes at least claim 10 of the '158 Patent under at least **35 U.S.C. § 271(a)**). Google, for example, practices every step of at least claim 10 in the United States, including steps that it practices in this District."), 79 ("Google infringes at least claims 1 and 16 of the '433 Patent under at least **35 U.S.C. § 271(a)** and **(b)**). Google makes, uses, sells, offers to sell, or imports into the United States the Google Play store which meets every limitation of at least claim 1. Further, Google, for example, practices every step of claim 16 in the United States, including steps that it practices in this District."), 86 ("Google infringes at least claims

to establish that acts of infringement were committed within this District for venue purposes under the patent venue statute.

Google also argues that merely alleging acts of infringement occurred in the District is insufficient under [§ 1400\(b\)](#). Under Google's view, "the acts of infringement alleged in SEVEN's Complaint [must be] *tied to or related to* Google's purported regular and established place of business in this District," as "required" by [28 U.S.C. § 1400\(b\)](#). (Dkt. No. 125 at 19) (emphasis added). The Court disagrees.

As this Court explained in Part II, courts applying the venue statute must hew closely to it. This **[**17]** duty constrains courts, forbidding minimizing or reading out requirements laid out by the statute; it similarly constrains courts from inserting or inventing requirements not present within the statute. [Bates v. United States](#), 522 U.S. 23, 29, 118 S. Ct. 285, 139 L. Ed. 2d 215 (1997) ("[W]e ordinarily resist reading words or elements into a statute that do not appear on its face."). As *Raytheon Co. v. Cray, Inc.* noted, the Federal Circuit has never addressed the question of whether the acts of infringement required by [§ 1400\(b\)](#) must be related to the regular and established place of business of the defendant. [258 F. Supp. 3d at 791-92](#). Google argues, however, that the language of [§ 1400\(b\)](#), while written as setting proper venue in a judicial district "where the defendant has committed acts of infringement and has a regular and established place of business," actually only sets proper venue in a judicial district "where the defendant has committed acts of infringement *at their* regular and established place of business." The clear substitution of statutory language which Google's proposition requires demonstrates that it is incorrect. Additionally, the venue statute is "designed to protect the defendant against the risk that a plaintiff will select an unfair or inconvenient place of trial." [Utterback v. Trustmark Nat'l Bank](#), 716 Fed. Appx. 241, 244 (5th Cir. 2017), cert. denied **[**18]**, 138 S. Ct. 1699, 200 L. Ed. 2d 954 (2018). It is not "unfair" to require a defendant to answer suit in a district wherein a defendant has a regular and established place of business *and* is alleged to have committed acts of infringement. Google would have the Court improperly

read a requirement into the statute where none exists and ignore the facial independence of the statutory elements. The Court declines to do so.

While some courts have previously held that there must be some "reasonable or significant relationship between the accused item and any regular and established place of business of the accused in the judicial district," [Scaramucci v. FMC Corp.](#), 258 F. Supp. 598, 602 (W.D. Okla. 1966),¹⁶ many other courts reached the opposite conclusion, holding that "the regular and established place of business need not be the business connected with the alleged patent infringement." [Ferguson v. Ford Motor Co.](#), 77 F. Supp. 425, 436 (S.D.N.Y. 1948). As one court explained:

Nothing in the language of [Section 1400\(b\)](#) justifies the conclusion that a defendant's place of business in the district must have some connection with the accused device. The statute requires only that the defendant have committed acts of infringement in the district and have a regular and established place of business there; there is no requirement that the two factors be related.

[Am. Can Co. v. Crown Cork & Seal Co.](#), 433 F. Supp. 333, 336 (E.D. Wis. 1977) (quoting [Bourns, Inc. v. Allen-Bradley Co.](#), 173 U.S.P.Q. 567, 568 (N.D. Ill. 1971)); see also **[**19]** [Chadeloid Chem. Co. v. Chicago Wood Finishing Co.](#), 180 F. 770, 771 **[*946]** (C.C.S.D.N.Y. 1910) (Hand, J.) ("Even if they committed no act of infringement there, it would still be a place of business within the act, which clearly differentiates between the two."). The conjoined reading which Google advances improperly introduces a new requirement into the statutory text. [Tesoro Hawaii Corp. v. United States](#), 405 F.3d 1339, 1347 (Fed. Cir. 2005) ("[I]t is the duty of the courts to enforce [the statute] according to its obvious terms and not to insert words and phrases so as to incorporate therein a new and distinct provision.") (citing [Gibson v. United States](#), 194 U.S. 182, 192, 24 S. Ct. 613, 48 L. Ed. 926, 39 Ct. Cl. 551 (1904) ("Had Congress intended that such allowances as theretofore given should be continued, or to reserve, the right to commutation as to the sea ration, it would have been very easy to have inserted apt words which would have rendered effectual this purpose. But the terms of the law undertaking to revise former laws upon the subject make no such reservation as is contended for, and we

1 and 10 of the '812 Patent under at least **35 U.S.C. § 271(a)** and **(b)**. Google, for example, practices every step of at least claim 1 in the United States, including steps that it practices in this District. Further, Google makes, uses, sells, offers to sell, or imports into the United States servers that meet every limitation of at least claim 10.")).

¹⁶ See also [Jeffrey Galion, Inc. v. Joy Mfg. Co.](#), 323 F. Supp. 261, 266-67 (N.D. W. Va. 1971).

think we are not at liberty to add to the statute by inserting it."), and [United States v. Temple](#), 105 U.S. 97, 98, 26 L. Ed. 967, 17 Ct. Cl. 436 (1881) ("Our duty is to read the statute according to the natural and obvious import of the language, without resorting to subtle and forced construction for the purpose of either limiting or extending its operation. When the language is plain, we have no right to insert words **[**20]** and phrases, so as to incorporate in the statute a new and distinct provision.") (citations omitted)).

While not controlling, the Fifth Circuit addressed this issue in [Gaddis v. Calgon Corp.](#), 449 F.2d 1318 (5th Cir. 1971), concluding that it was error to "requir[e] a showing that the particular division [of the business] charged with the infringements [*sic*] had a regular and established place of business present in the District." 449 F.2d at 1320 (emphasis omitted). The Fifth Circuit instead held that the totality of the circumstances together "add[ed] up to enough to establish venue," and rejected the same connection that Google now advances. *Id.* at 1320.¹⁷

This Court therefore rejects Google's proposition that the special patent venue statute requires that alleged acts of infringement by the Defendant pled to meet the requirements of [§ 1400\(b\)](#) must be "tied to or related to" the regular and established place of business of the Defendant, which is separately required by [§ 1400\(b\)](#). The Court finds that SEVEN has adequately pled acts of infringement within this District as to the claims related to the three objected-to patents-in-suit sufficient to meet the requirements of [28 U.S.C. § 1400\(b\)](#).¹⁸

¹⁷ This view is repeated by commentators and case law alike. [60 Am. Jur. 2d Patents § 747](#) ("The regular and established place of business does not need to be a business connected with the alleged infringement."); [Cabot Corp. v. WGM Safety Corp.](#), 562 F. Supp. 891, 892 (D. Mass. 1983) ("I do not read [§ 1400\(b\)](#) as requiring that there be some connection between the acts of infringement alleged and the regular and established place of business within this district."); see also *supra*, at 8

¹⁸ The Court notes that, to the extent Google objects to the inclusion of system claims of the objected-to patents in the acts of infringement analysis, the Court declines to address that issue at this time. (See Dkt. No. 125 at 25 ("SEVEN also asserts a system claim of the '433 Patent (claim 1), which recites "a first server" and "a second server." While SEVEN alleges "[c]ertain Google Play servers" may perform the recited functionality, it does not allege that any of these servers are in this District, that the servers or the accused

[*947] B. Regular and Established Place of Business

This Court now turns to the issue of **[**21]** whether Google has a regular and established place of business within this District within the meaning of the patent venue statute, [28 U.S.C. § 1400\(b\)](#). The Court believes adherence to the statutory requirements, informed by Federal Circuit guidance, is best demonstrated by addressing each of the requirements identified in *In re Cray* individually. [871 F.3d 1355](#). Proper venue lies in districts where each requirement of the venue statute is met. Only where one of the statutory requirements identified by the Circuit is not met is venue to be found improper.

*i. Background*¹⁹

functionality was made, designed, or developed in this District, or that Google has committed acts of infringement in this District.") (citations omitted). First, Google makes no effort to define the full scope of the system at issue in the '433 Patent, even though the system specifically includes mobile devices. See U.S. Pat. No. 9,386,433 at 20:2-5 ("1. A system for providing mobile network services comprising: a first server communicatively coupled to a mobile device over a mobile network . . ."). It may well be that one part of the system (the Google Play servers) is not present in this District; this argument says nothing about other clearly identified parts of the system specifically alleged to be present and infringing by SEVEN. (Dkt. No. 34 at ¶ 81 ("When using the Google Play app, one or more of these servers are communicatively coupled to a user's mobile device over a mobile network such as 3G, LTE, or WiFi."); *id.* at ¶ 82 (identifying "end users in this District"). And it cannot be disputed that the system's various parts must all be considered in any analysis of infringement. See [Intellectual Ventures I LLC v. Motorola Mobility LLC](#), 870 F.3d 1320, 1328 (Fed. Cir. 2017) (requiring "the patentee to demonstrate that the direct infringer obtained 'benefit' from each and every element of the claimed system"). Accordingly, the Court may properly hold that some alleged infringement of the system claim has occurred within this District and may find that partial alleged infringement sufficient to meet the acts of infringement requirement as to the system claim. [Blackbird Tech](#), 2017 U.S. Dist. LEXIS 167860. Second, to the extent that this is insufficient to establish acts of infringement under [§ 1400\(b\)](#) as to the system claim of the '433 patent, the Court holds that it may exercise pendent venue over any claims of a single patent where the Court has found proper venue as to at least one claim of that patent.

¹⁹ (Dkt. No. 141 at 2-8 (cleaned up)). This general background section is directly quoted from SEVEN's briefing. This is necessary to provide the factual framework within which the

Google is in the business of delivering information, including digital content such as movies, music, apps, and advertising. Google is a multinational technology company in the business of storing, organizing, and distributing data. More precisely, "Google is an information company." Its vision is "to provide access to the world's information in one click," and its mission is "to organize the world's information and make it universally accessible and useful." Making information available to people wherever they are and as quickly as possible is critical to Google's business. As Google's CEO, Sundar Pichai, explains, "We want to make sure that no matter **[**22]** who you are or where you are or how advanced the device you are using—Google works for you." To meet this goal, Google developed a content-delivery network that it calls the Edge Network.

Google delivers information through its Edge Network. Google provides web-based services, such as YouTube and Google Play, to users throughout the **[*948]** world. These services are in high demand. Google reports that Google Play reaches more than 1 billion Android users and that YouTube serves over 1.5 billion users per month. Studies show that YouTube alone is responsible for approximately 20% of all internet traffic. Delivering that much data requires lots of bandwidth, and when the data is being transmitted to large numbers of geographically diverse users it must traverse multiple network paths at different times. It also costs money. The larger the data and the farther it has to travel, the greater the cost.

Google addresses these challenges with its Edge Network, which has three elements: Core Data

Centers, Edge Points of Presence, and Edge Nodes. The Core Data Centers (there are eight in the United States) are used for computation and backend storage. Edge Points of Presence are the middle tier of the **[**23]** Edge Network and connect the Data Centers to the internet. Edge Nodes are the layer of the network closest to users. Popular content, including YouTube videos, video advertising, music, mobile apps, and other digital content from the Google Play store, is cached on the Edge Nodes, which Google refers to as Google Global Cache (GGC).

Google Global Cache is recognized as "one of Google's most important pieces of infrastructure," and Google uses it to conduct the business of providing access to the world's information. GGC servers in the Edge Nodes function as local data warehouses, much like a shoe manufacturer might have warehouses around the country.²⁰ Instead of requiring people to obtain information from distant Core Data Centers, which would introduce delay, Google stores information in the local GGC servers to provide quick access to the data.

"Caching and localization are vital for [Google's] optimization of network resources." Because "hosting all content everywhere is inefficient, it makes sense to cache popular content and serve it locally." Doing so brings delivery costs down for Google, network operators, and internet service providers. Storing content locally also allows it **[**24]** to be delivered more quickly, which improves user experience: "Serving content from the edge of the network closer to the user improves performance [and] user happiness." To achieve these benefits, Google has placed Edge Nodes throughout the United States, including in this District. Google describes these nodes as the "workhorse[s] of video delivery."

Just like brick-and-mortar stores, Google's GGC servers independently determine what content to cache based on local requests.²¹ The GGC servers in Google's Edge Nodes include software that Google refers to as "Ustreamer (actually µstreamer, i.e. micro-streamer)." Ustreamer is "responsible for

Court operates in this analysis and its direct quotation from the Plaintiff's briefing is largely a function of Google not providing any general overview of its business operations and how its Edge Network functions/supports its core business functionalities. While it is in Google's interests to minimize how its Edge Network and Google Global Cache ("GCC") servers operate within, support, and benefit its various business functionalities in order to support its contentions that it does not "do business" through its Edge Network and GCC servers, SEVEN's statements are, generally, not contradicted or otherwise undermined by Google in either its Motion or Reply. This section is intended to 'set the stage' for the specific fact-intensive analysis the Court must undertake in its application of the statute to the case at bar.

²⁰ Google disputes this characterization. (Dkt. No. 148 at 3 ("GGC servers are not warehouses.")). This is a principal objection and will be addressed *infra*.

²¹ Google disputes this characterization. (See Dkt. No. 148 at 1 ("There is no 'regular and established place of business'")).

serving video content from YouTube and other Google services, along with other large content such as Google Play applications and Chrome downloads." It operates on a content-delivery platform "at the edge of Google's network" called "bandaid"; it "does not run in the core (except for some internal testing purposes), unlike the majority of the Google services, such as search or gmail."

Using ustreamer and bandaid, a GGC server "handles requests directly from its clients, predominantly YouTube's video [*949] players." When such a request is received, if the [**25] content is stored in the node's local cache, "the node will serve [it] . . . to the end user, improving the user experience and saving bandwidth." If cache-eligible content is not already stored on the node, and the content is cache-eligible, "the node will retrieve it from Google, serve it to the user, and store it for future requests."

Ustreamer is largely "autonomous," "in the sense that almost all decisions related to serving a particular request are made locally, without coordinating with other servers." Like a brick-and-mortar store sells directly to customers from inventory and stocks that inventory based on local customer demand, ustreamer in each GGC node decides—independently from other nodes in Google's Edge Network—whether to serve requested content, whether to cache content, and whether to send requests to other servers.²²

Google's GGC servers are housed in spaces in the District leased by Google.²³ Google's GGC servers are housed in spaces leased²⁴ by Google from Internet Service Providers (ISPs) whose networks "have substantial traffic to Google and are interested in saving [bandwidth]." Hosting Google

servers allows ISPs to save both bandwidth and costs, as they "do not incur [**26] the expense of carrying . . . traffic across their peering and/or transit links."

When an ISP agrees to host a GGC server, the parties enter into a Global Cache Service Agreement, under which Google provides hardware and software—including GGC servers and software—to be housed in the host's facilities; technical support; service management of the hardware and software; and content distribution services, including content caching and video streaming. In exchange, the host provides, among other things, a physical building, rack space where Google's computer hardware is mounted, power, and network interfaces. "All ownership rights, title, and intellectual property rights in and to the Equipment [i.e., the hardware and software provided by Google] . . . remain in Google and/or its licensors."

Google GGC servers located in this District cache Google's products and deliver them to residents of this District. Google does not dispute the following.

1. Multiple ISPs hosted GGC servers in the Eastern District of Texas for at least the five months leading up to the filing of the lawsuit (and they continue to do so).
2. Suddenlink Communications, for example, is an ISP that hosts six GGC servers in [**27] Tyler, Texas.
3. CableOne is an ISP that hosts three GGC servers in Sherman, Texas, and three GGC servers Texarkana, Texas.
- [*950] 4. Google caches content on its GGC servers located in the Eastern District of Texas.
5. Google's GGC servers located in the Eastern District of Texas cache content that includes, among other things: (i) video advertising; (ii) apps; and (iii) digital content from the Google Play store.
6. Google's GGC servers located in the Eastern District of Texas deliver cached content referenced in number 5, above, to users in the Eastern District of Texas.
7. Google generates revenue (i) by delivering video advertising, (ii) from apps, and (iii) from digital content in the Google Play store.
8. Google treats its GGC servers in the Eastern District of Texas the same as it treats all of its other GGC servers in the United States.

²² Google disputes this characterization. (See Dkt. No. 148 at 1 ("There is no 'regular and established place of business'")).

²³ Google disputes that it leases anything. (Dkt. No. 148 at 5 ("Google does not own, lease, or otherwise exercise possession or control over the ISPs' buildings or rooms housing the GGC servers in this District")). This is a principal objection and will be addressed *infra*.

²⁴ Google disputes that it leases anything. (Dkt. No. 148 at 5 ("Google does not own, lease, or otherwise exercise possession or control over the ISPs' buildings or rooms housing the GGC servers in this District")). This is a principal objection and will be addressed *infra*.

The photographs below show Google's GGC servers hosted by Suddenlink and the building where they are located at 322 North Glenwood Boulevard, Tyler, Texas 75702.



ii. Physical Place

Google argues that "GGC servers are not 'physical places of business.'" (Dkt. No. 125 at 9). "A server is a piece of hardware or equipment, not a place. SEVEN **[**28]** itself has described the servers as 'physical objects housed at physical locations' (Dkt. [No.] 76 at 14), which is exactly right. The servers are objects; the locations where they are stored are the places." (*Id.*) "Contrary to SEVEN's allegation that 'a physical, geographical location' can be broader than a building or quarter (Opp. 12), all three 'locations' identified in *Cray* were buildings or quarters: employees' home offices, distribution centers, and a building occupied by the secretarial service." (Dkt. No. 148 at 2). "Even people (employees) are physical objects that enclose space, which alone cannot establish venue. SEVEN's definition directly contradicts [Section 1400\(b\)](#) and *Cray*, both of which require a 'place' to establish venue, not objects or physical things." (*Id.*)

Google relies on a sister court's ruling from this District considering these GGC servers to support its contention. "The GGC servers are not 'places' under the meaning of the statute and therefore cannot establish a regular and established place of business in this [D]istrict." [Personal Audio, LLC v. Google, Inc., 280 F. Supp. 3d 922, 2017 WL 5988868, at *10 \(E.D. Tex. 2017\)](#).

With respect to its sister court, this Court disagrees with that conclusion. A revisiting of **[**29]** the ultimate decision of [Personal Audio](#) on this issue is not only possible but compelled by the facts of this case. Additionally, in this Court's opinion, neither the statute nor the Federal Circuit's guidance in *In re Cray* permit the result reached by that court.²⁵

²⁵ Other courts examining similar facts have reached the same conclusion as this Court now reaches. [Peerless Network, Inc. v. Blitz Telecom Consulting, LLC, No. 17-CV-1725 \(JPO\)](#),

Specifically, the Court recalls the conclusion it noted *supra* n.3. [Section 1400\(b\) of Title 28, United States Code](#) **[*951]** lays proper venue where "the defendant . . . has a regular and established place of business." As the Federal Circuit instructed in *In re Cray*, "[t]he statute [] cannot be read to refer *merely* to a virtual space or to electronic communications from one person to another." [871 F.3d at 1362](#) (emphasis added). Any reading of the statute which "authorizes" such places must be rejected. *Id.* However, the Federal Circuit's inclusion of "merely" indicates that while a virtual space or electronic communications *alone* are insufficient to denote a "place" within the meaning of the statute, they may, with more, be indicative of the requirement having been met. This is precisely the situation here.

Of course, it would run counter to the statutory requirements to find proper venue in a district where there was *no* physical presence of a given defendant. A defendant who does not establish **[**30]** or permit a physical presence within a district *of its own volition* may not be brought into a district pursuant to the venue statute by the acts of another. To hold otherwise contravenes the language of the statute, requiring the defendant to "[have] a regular and established place of business" within the district. [28 U.S.C. § 1400\(b\)](#).²⁶ This is true even where there may be citizens of that district who, at *their* places (homes, for example) connect to that defendant's website and engage that defendant in business or where a defendant's employees have *their own* places in which they perform their employment. [In re Cray, 871 F.3d at 1363](#) ("[I]t must be a place of the defendant, not solely a place of the defendant's employee.") (emphasis omitted).

Here, however, there is more than "merely" "a virtual

[2018 U.S. Dist. LEXIS 49628, 2018 WL 1478047, at *3 \(S.D.N.Y. Mar. 26, 2018\)](#) (holding that "a shelf containing a piece of Local Access's telecommunications equipment" "is a 'physical place in the district' insofar as it is '[a] building or a part of a building set apart for any purpose.'" (citing [In re Cray, 871 F.3d at 1362](#)).

²⁶ Accordingly, the concern expressed in *Personal Audio* that "[m]aybe even every handheld device sold by Verizon would become a place of business for Verizon because the end-user signed an agreement with Verizon regarding Verizon's exclusive control of the device," is clearly seen to be too far afield from the statutory text. [280 F. Supp. 3d at 934](#). Such a holding could not be supported by proper application of the law; proper reading of the statute, guided by [In re Cray](#). Such would adequately prevent the "distort[ion] of the statute" feared by the *Personal Audio* court. *Id.*

space or [] electronic communications from one person to another." *Id. at 1362*. The "place" is specifically localized: a physical server occupying a physical space. Not only does Google exercise exclusive control exercised over *the digital aspects of the GGC*,²⁷ Google exercises exclusive control over the *physical server and the physical space within which the server is located and maintained*.

In this regard, the Court has considered the Beta Service Agreement: Google Global Cache (GGC) Service between Google and Suddenlink ("the Suddenlink Agreement") (Dkt. No. 141-23).²⁸ It reveals that Google exerts far more control than may [*952] be suspected from a general lease arrangement. Google *requires* ISPs such as Suddenlink to provide "[r]ack space, power, network interfaces, and IP addresses, as specified in the following table [omitted], in consultation with Google";²⁹ "[r]emote assistance and installation services described in SCHEDULE 'A'"; "[n]etwork access between the Equipment and Host network subscribers"; and "[r]emote high bandwidth access, sufficient for Google to download upgrade images of GGC to the Equipment, unless separate arrangements are agreed with Google." (Dkt. No. 141-23 at 1). The Suddenlink Agreement makes it clear that the ISP *does not own* the server(s); *Google owns the servers*. (Dkt. No. 141-23 at 2 (In the event of termination of the Agreement: "Host will *remove, package and ship*

(shipping charges will be pre-paid directly by Google to the carrier, and Host will undertake such [*32] removal and packaging to be undertaken in a commercially reasonable manner) all Equipment back to Google within fifteen (15) calendar days of effective date of termination. If Host fails to do so, *Google will have the right to: (a) charge Host and Host will pay the fair market value of the Equipment; or (b) recover and take possession of such Equipment*, and for this purpose may enter any premises of Host where such equipment is located during normal working hours to remove Equipment. Host will promptly surrender the Equipment to Google in as good order and condition as originally delivered, reasonable wear and tear excepted.") (emphasis added)). Google is not even required to replace faulty servers under the Suddenlink Agreement. (Dkt. No. 141-23 at 7 ("Google Services: Google will provide the following services in beta: . . . 3. replace faulty Equipment (at Google's cost and sole discretion)"). This Agreement is not a mere lease of digital space or computing power; it is the installation of Google's own servers in a physical space *that becomes Google's*. Following installation of the GGC server, the ISP is required to provide Google explicit details regarding Google's server's installation [*33] location. (*Id.* at 3 ("Contact & Location Details: As soon as practicable after the Effective Date, the parties will advise each other in writing (which may be sent electronically) of the following: . . . (c) Equipment location (address/floor/rack)"). Once installed, it is considered a permanent fixture. There is no dispute that the Suddenlink Agreement requires that, in order for an ISP to move a previously installed GGC from one location to a new location, it must secure Google's permission, *which Google may not permit "at its sole discretion."* (Dkt. No. 141-23 at 2 ("Change Notification: *Host will provide Google no less than thirty (30) days' written notice of any proposed relocation of the Equipment or change of IP address.* Host may propose relocation at any time. *Google, at its sole discretion, may elect not to accept the proposed relocation* but will reasonably consider any such relocation and discuss all reasonable options with Host.") (emphasis added)). Google's ownership of the server and its contents is absolute, as is Google's control over the server's location once it is installed. (Dkt. No. 141-24 at 2 ("Restriction on Use of Equipment: *All ownership rights, [*953] title, and intellectual [*34] property rights in and to the Equipment shall remain in Google and/or its licensors. THE EQUIPMENT OR ANY PORTION THEREOF MAY NOT BE USED, COPIED, TRANSFERRED, REVERSE-ENGINEERED, OR MODIFIED EXCEPT AS EXPRESSLY PERMITTED BY*

²⁷ Which may well constitute "merely" a "virtual space" without more and, thus, not meet the statutory requirement. For example, while an Amazon Web Services data center may be located in a particular district, an online business which utilizes Amazon's cloud web hosting solution *on the terms offered [*31] by Amazon and without any physical equipment of its own present within the data center* would, undoubtedly, not be subject to proper venue under [§ 1400\(b\)](#) in that district.

²⁸ The Suddenlink Agreement is only one instance of GGC agreements existing between Google and ISPs within the Eastern District of Texas. The Court discusses it as an exemplar. Such GGC agreements also include Google's agreement with CableOne, an ISP that hosts three GGC servers in Sherman, Texas, and three GGC servers Texarkana, Texas. (Dkt. No. 141 at 19 ("Google GGC servers have been operating (i) in Tyler under the Global Cache Agreement with Suddenlink since at least December 2015 and (ii) in Sherman and Texarkana under the agreement with CableOne since at least August 2015") (citations omitted)).

²⁹ (See Dkt. No. 141-23 at 6 ("Space: The Host shall provide Google rack space for the Equipment located at the Space within Host premises.")).

THIS AGREEMENT. Host must not, without the prior written consent of Google (which may be withheld in its sole discretion), access, use, or dispose of the Equipment, in whole or in part.") (emphasis added)).

This is not a partnership, wherein an ISP may independently act on Google's behalf in administering the GGC. To the contrary, the Suddenlink Agreement expressly disclaims any such relationship. (Dkt. No. 141-24 at 2 ("No Partnership, No Exclusivity: The parties are independent contractors, and this Agreement does not create an agency, partnership or joint venture. This Agreement is not intended to, nor does it create, any agency, partnership, joint venture or other profit-sharing arrangement, nor does it create an exclusive relationship between the parties. This Agreement places no restrictions of any type on either party's ability to freely compete or to enter into agreements with other entities or individuals.")). Indeed, Google's total control over the **[**35]** GGC server's physical presence within the ISP may be best illustrated by the Suddenlink Agreement's requirement that tasks such as the "physical switching of a toggle switch;" "power cycling equipment (turning power on and/or off);" and "tightening screws, cable ties, or securing cabling to mechanical connections, plug;" may be performed "only with specific and direct step-by-step instructions from Google." (Dkt. No. 141-23 at 6) (emphasis added).

This level of control in the physical world exemplifies how the physical presence of the GGC server within this District constitutes more than "merely" "a virtual space or [] electronic communications from one person to another." *In re Cray*, 871 F.3d at 1362. Indeed, such control in the physical realm over a specific physical space establishes that, irrespective of the determinations related to the other [§ 1400\(b\)](#) requirements, there is a physical place which this Court may examine to determine if it is a regular and established place of business and whether it is a place of the defendant.³⁰

³⁰ This conclusion is buttressed by statements made by Google at argument on the instant Motion. Google agrees that "all virtual space has to have [associated] hardware." (Dkt. No. 193, Hr'g Tr. (sealed) at 15:2). Google admits that it owns the server. (*Id.*, Hr'g Tr. (sealed) at 7:14-16 ("THE COURT: Would you agree that Google owns the server? MR. VERHOEVEN: Yes.")). Google agrees that Google possesses a "right" for its server to be "placed" in and occupy the ISP's "physical location" by means of the Suddenlink agreement and that without the agreement "its server would be trespassing on someone else's property." (*Id.*, Hr'g Tr. (sealed) at 7:17-8:4

[*954] Accordingly, the Court finds that, in this case, the GGC server itself and the place of the GGC server, both independently and together, meet the statutory requirement of a "physical **[**36]** place."³¹ SEVEN has met its burden to demonstrate satisfaction of this statutory requirement.

iii. Regular and Established Place of Business

Google argues that "[e]ven if the GGC servers were 'places' . . . SEVEN fails to provide a basis to conclude that these servers are 'places of businesses,' let alone regular and established places of business of Google." (Dkt. No. 125 at 10). The Court will address the "of Google" argument in Part III.B.iv., *infra*, but as to whether the GGC servers and the place where the servers are lawfully housed are "places of business" within the meaning of the statute, the Court reaches the opposite conclusion—they undoubtedly are.

("THE COURT: And would you agree that Google acquires the right for its server to be placed in the ISP's physical location by means of this agreement? MR. VERHOEVEN: Yes. Yes, Your Honor. THE COURT: And without the agreement, Google's property, its server, would be trespassing on someone else's property, correct? MR. VERHOEVEN: I mean, that's a hypothetical, Your Honor. THE COURT: Well, there would be no right to be there outside of this agreement? MR. VERHOEVEN: As a general principle, yes, you never have a right to invade somebody else's prop - real estate property . . . "). There is no other basis for permitting the GGC server to reside within the ISP separate and apart from the Suddenlink Agreement. (*Id.*, Hr'g Tr. (sealed) at 8:17-21 ("THE COURT: You're not pointing to any other document or any other basis outside of this, as you call it, hosting agreement to support Google's right to have its property housed at these locations, correct? MR. VERHOEVEN: I guess I'm not, Your Honor.")). The ISPs are "not allowed to open the server. You're not allowed to manipulate the server. You're not allowed to unscrew the form factor and take it apart." (*Id.*, Hr'g Tr. (sealed) at 10:14-17 (MR. VERHOEVEN)).

³¹ The Court notes that this conclusion is able to be reached largely due to the venue discovery Ordered by the Court in this case. (Dkt. No. 107). With the recent decision by the Federal Circuit establishing that "the Plaintiff bears the burden of establishing proper venue," *In re ZTE*, 890 F.3d at 1013, as opposed to the defendant bearing the burden to establish improper venue, the Court anticipates it will commonly be asked to permit, on motion, a similar, targeted discovery process to ensure it is able to have a complete picture of the underlying venue facts before attempting to apply the statutory requirements of [§ 1400\(b\)](#).

Google's shotgun arguments point in many directions, each intended to persuade that the GGC servers are not places of business within the meaning of the statute: "[t]he GGC servers are standard machines manufactured by a third-party and used to cache static Google content"; "[s]ervers are pieces of equipment, like slot machines or vending machines, and do not rise to the level of being places of business"; "there would be little to no impact to the performance of Google's Edge Network or to Google users if there were no GGC servers [****37**] in this District," as the "GGC servers in this District are 'a fraction of a fraction' of 1 percent of the total serving capacity of Google's peering and GGC server network." These arguments must be rejected.

In arguing that slot and vending machines are not places of business, Google cites [*HomeBingo Network, Inc. v. Chayevsky*, 428 F. Supp. 2d 1232, 1250 \(S.D. Ala. 2006\)](#) ("That an individual may be a part owner of a piece of equipment (in this case, a slot machine) located in a judicial district does not render the situs of that equipment his regular and established place of business for venue purposes."), and [*Magee v. Coca-Cola Refreshments USA, Inc.*, 833 F.3d 530, 534 \(5th Cir. 2016\)](#) (finding that "vending machines are not 'sales establishments,'" where "establishment" was "a place of business or residence with its furnishings and staff."). However, these citations do not support Google's proposition.

First, the Court notes that *HomeBingo* relates to specifically named *individual* (natural person) defendants named in suit in conjunction with a corporate entity. [*HomeBingo*, 428 F. Supp. 2d at 1235-36](#). The specific proposition rejected by the *HomeBingo* Court was that "(i) [the individual corporate officers] Macke, Minard and Chayevsky own, operate, and maintain [the corporate defendant] Cadillac Jack's bingo-based slot machines; (ii) a number of those machines are located at the [****38**] Atmore casino; and (iii) therefore, Movants have a regular and established place of business in the Southern District of Alabama." [*Id.* at 1250](#). That the proper venue of the corporate defendant, Cadillac Jack's, was properly based upon the presence of the bingo-based slot machines in the Southern [****955**] District of Alabama was far from being rejected by the *HomeBingo* court—it was *not even challenged by the defendant* in that case. Thus, *HomeBingo* stands for the proposition that Google's GGC server may not establish that Sundar Pichai (Google LLC's CEO) has a regular and established place of business within this District. [*Id.* at 1251](#) ("As such, the Court finds that the Cadillac Jack slot machines located at a casino in Atmore, Alabama

do not constitute a regular and established place of business for Macke, Minard and Chayevsky, as individuals."). It does nothing to demonstrate that the GGC server should not be considered a regular and established place of business as to Google.

As to *Magee*, the Court first notes that the Fifth Circuit was not considering whether a vending machine was a regular and established place of business but, rather, a "sales establishment" under the ADA such that it constituted a place of "public [****39**] accommodation" subject to Title III compliance. [*833 F.3d at 532*](#). This is not a beneficial comparison. Further, there are opinions by numerous courts squarely holding that vending machines or similar objects *are* places of business.³² All

³² [*State v. Woods*, 242 Ala. 184, 189, 5 So. 2d 732, 736 \(Ala. 1942\)](#) ("We may observe, as a matter of common knowledge, that many places of business rent space in their establishments to third persons who may and do conduct their own and different businesses in such space or department so rented. Such space or department becomes, and is, a separate place of business,—the business of such third party. If, therefore, a vending machine owner rents (method of payment immaterial) space for a vending machine and such space becomes his place of business (special or limited), in the conduct of his business he thereby makes himself . . ."); [*Vending Mach. Corp. v. Okla. Tax Comm'n \(In re Cigarette Licenses of the Vending Mach. Corp.\)*, 1938 OK 463, ¶ 6, 183 Okla. 427, 429 \(1938\)](#) (noting that, in discussing whether two cigarette vending machines in the same location constituted one or two places of business for licensing purposes, "[t]he Legislature has not said that one who sells by means of mechanical device shall pay more or less than one who sells through the medium of personal salesmanship. It declares that there shall be a separate license for each place of business; and 'place of business,' says the Legislature, 'shall be construed to include the place where orders are received, or where cigarettes are sold.' Then, in the following words, each vending machine is in effect declared to be a place of business: 'Vending machines shall be licensed as a place of business and each and every cigarette vending machine shall have a separate license for each machine from which cigarettes are dispensed.' So far as the classification is concerned, the statute makes no attempt to bring into play any of the usual regulatory measures employed under the police powers. Neither is there an attempt to distinguish or classify upon the basis of volume of business, value of merchandise, capital invested, or mode of dispensing to the trade. . . . In the instant case each vending machine is a complete unit dispensing cigarettes at retail, a complete retail establishment. Each exercises the privilege granted to any other retail dispensary of cigarettes."); [*Los Angeles v. Amber Theatres, Inc.*, 123 Cal. App. 3d 715 n.4, 176 Cal. Rptr. 850, 852 \(Cal. Ct. App. 1981\)](#) ("While 'penny arcade' is not defined for zoning

of this [*956] aside, it is not the machine alone (be it a server, slot machine, or vending machine) that moves the Court to its ultimate conclusion in this case. It is the server, its physical location within this District, the control exerted over both the server and its location under the GGC agreements (like the Suddenlink Agreement), and the other circumstances here present that lead this Court to conclude these facts meet the strict statutory application laid out by the Federal Circuit in *In re Cray*.

Google's argument relating to the impact of the GGC servers in this District on its Edge Network or on Google users is similarly rejected. The statute does not require "substantial" business or "large" impact from the business being done at the place of business—in order to lay proper venue in a judicial district, the statute simply requires that a regular and established place of business be present. The Court refuses to read into the statute extra-statutory requirements [**40] at the behest of Defendants who have, through their own volition, secured and established multiple places of business within this District.

Google argues that it does not need the GGC servers in this District, and that their contribution to Google's business mission is so small as to be immaterial. However, even the *Personal Audio* court explicitly found that GGC servers may be found in "at least Tyler,

purposes in the Municipal Code, Webster's Third New International Dictionary states that HN1 a 'penny arcade' is an amusement center where each device for entertainment may be operated for a penny. The fact that a penny may not be used today to operate these devices has no effect on the basic definition. We would interpret a 'penny arcade,' for zoning purposes, to mean a place of business devoted primarily or in some substantial degree to maintaining coin-operated amusement machines and devices for the purpose of providing public entertainment."); *Hartney Fuel Oil Co. v. Hamer*, 2013 IL 115130, ¶ 54, 998 N.E.2d 1227, 376 Ill. Dec. 294, (Ill. 2013) ("Three additional provisions define 'the seller's place of business' or 'where the seller is engaged in business'" (referencing 86 Ill. Adm. Code 220.115(f) (sales through vending machines) ("A retailer is engaged in the business of selling food, beverages or other tangible personal property through a vending machine at the location where the vending machine is located when the sale is made if: i) the vending machine is a device operated by coin, currency, credit card, token, coupon or similar device that dispenses food, beverage or other tangible personal property; ii) the food, beverage or other tangible personal property is contained within the vending machine and dispensed from the vending machine; and iii) the purchaser takes possession of the purchased food, beverage or other tangible personal property immediately.)).

Sherman, Plano, and Texarkana," that "[t]he GGC servers carry out a useful role in Google's business, in that they appear to more efficiently connect internet service customers, i.e., customers of Suddenlink or CableOne, to Google content," and that "Google evidently values the contribution of the GGC system." *Personal Audio*, 280 F. Supp. 3d at 934 (citations omitted). That the machines are manufactured by third parties is of no moment as places of business are frequently manufactured by third parties. Indeed providing business services, such as office space, logistics, telecommunications, retail and commercial locations, and customer facing automated points-of-sale,³³ to businesses is not only common but is a business model unto itself. These servers actively service a distinct business need of Google's, as described in the [**41] Background section, *supra* at 16. Thus, they are places of business.

Further, the Court has previously seen this "impact" argument in a similar context; it reveals how such a reading of the statute undermines the clear statutory scheme. See, e.g., *Word to Info, Inc. v. Apple Inc.*, 2:17-cv-592-JRG, Apple's Motion to Dismiss for Improper Venue (Redacted Version), Dkt. No. 23 at 4-5³⁴ (arguing that "Apple's stores do not constitute a regular and established place of business for venue purposes because they account for only a trivial part of Apple's overall business. . . . Apple's two retail [*957] stores are not a substantial part of its ordinary business. Apple has approximately 270 retail stores in the United States. The two stores in this district account for less than 1% of Apple's total retail establishments Likewise, the two stores in this district account for only small part of Apple's sales. Because the two stores in the Eastern District represent such a small part of Apple's overall operations, if Apple closed those stores, its established business . . . would not be appreciably or substantially affected."), at 5 ("Subjecting a company with 80,000

³³ For example: unattended gas pumps, vending machines, automated car washes, bike share kiosks, etc. See also Automated Retail, Wikipedia (available at https://en.wikipedia.org/wiki/Automated_retail).

³⁴ The Court recognizes that Apple has recently urged similar arguments in a currently pending motion, *Alert Signal Intellectual Property, LLC v. Apple Inc.*, No. 2:18-cv-177-JRG, Apple's Motion to Dismiss for Improper Venue (Redacted Version), Dkt. No. 19 at 1, 5. The above argument is presented for illustration and the Court does not prejudge Apple's motion here. The Court will fully analyze and address those arguments in their entirety when that motion is ripe.

employees and 270 stores **[**42]** across the United States to venue in the Eastern District because of the presence of two retail outlets accounting for only [redacted] of Apple's revenues would allow the tail to wag the dog, especially when those stores do not represent the totality of Apple's business operations."). Examining the "effect" on a company's business which a particular place or places of business have is not in keeping with a strict statutory application. In fact, it undermines it. Reading a non-statutory requirement that the place of business for [§ 1400\(b\)](#) requires the place of business to be a substantial part of a defendant's ordinary business or have a material effect on a business's provisioning of goods or services does violence to the language of the statute and is precisely the kind of statutory deviation the Federal Circuit cautioned against in *In re Cray*, 871 F.3d at 1362 ("We stress that the analysis must be closely tied to the language of the statute."), 1364, n. 1 (noting that any "relative comparison" of "the nature and activity of the alleged place of business of the defendant in the district in comparison with that of other places of business of the defendant in other venues" should not include "value judgments on the **[**43]** different types of business activity conducted therein.") (emphasis omitted).

Google additionally argues that "the servers are also not 'regular and established' because under the agreements between Google and the ISPs, either party can terminate at any time and for any reason." (Dkt. No. 125 at 11 (citing the Suddenlink Agreement)). The Court disagrees. A business which has a five-year agreement is certainly no less established with a month remaining on the lease than it is in the first year of the lease. A month-to-month agreement which has endured for years is clearly "regular and established." There is little question that Google intends the GGC servers to be a "[s]calable long term solution for edge content distribution," and it is undisputed that they have been such a solution in this District for years. (Dkt. No. 141-18 (Mike Axelrod, The Value of Content Distribution Networks and Google Global Cache) at 10; Dkt. No. 141 at 19). The fact that the Suddenlink Agreement may be terminated is not evidence that Google's presence in this District is somehow less than "regular and established." Few sophisticated transactional documents fail to have one or more escape clauses, but nothing about such provisions makes the **[**44]** commercial targets addressed less than established.

As a part of ensuring a proper application of the statutory language, it may be appropriate to consider similar types of places of business to demonstrate the

appropriateness of this Court's finding. SEVEN argues that "GGC servers in the Edge Nodes function as local data warehouses, much like a shoe manufacturer might have warehouses around the country. Instead of requiring people to obtain information from distant Core Data Centers, which would introduce delay, Google stores information in the local GGC servers to provide quick access to the data." (Dkt. No. 141 at 4). "The only relevant difference between a warehouse that stores a company's tangible products and **[*958]** Google's GGC servers is the nature of the products being stored—physical merchandise versus digital content. Regardless of what the products may be, if the physical structure that stores them is 'a physical, geographical location in the district from which the business of the defendant is carried out,' that structure is a place of business under [§ 1400\(b\)](#)." (*Id.* at 15 (citing *In re Cray*, 871 F.3d at 1362)). The Court agrees.

There is no question that warehouses are properly considered places of business and have been **[**45]** so held, by both legislatures and courts.³⁵,³⁶,³⁷ This recognition makes **[*960]** intuitive sense. The vast majority of business organizations require and utilize some form of storage or logistics. Of course, businesses may store items at *other* business's locations (like, for

³⁵ [State v. Hutton](#), 39 Mo. App. 410, 416 (Mo. Ct. App. 1890) ("This act, as amended by the act of March 24, 1887, recites: 'No such license shall authorize any merchant to sell vinous, fermented or spirituous liquors in any quantities, to be drank at **his store, stand or warehouse, or other place of business.**'") (quotation omitted) (emphasis added); [Kansas City v. Butt](#), 88 Mo. App. 237, 238 (Mo. Ct. App. 1901) ("that defendant, as manager of said corporation, was engaged in the manufacture and production of ice by artificial means; that **no place of business, depot or warehouse was kept for the selling of ice.**") (emphasis added); [Gregory v. Wabash Ry. Co.](#), 46 Mo. App. 574, 577 (Mo. Ct. App. 1891) ("Hutchinson on Carriers, section [89], thus clearly states the law: . . . 'But, **if the delivery be made at the warehouse or other place of business of the carrier** for as early transportation as can be made in the course of the carrier's business, and subject to only such delays as may necessarily occur in awaiting the departure of trains, . . . or from the performance of prior engagements by him, he becomes, the moment the delivery is made, a carrier as to the goods, and his responsibility as such at once attaches.'") (citation omitted) (emphasis added); [Woods v. Postal Telegraph-Cable Co.](#), 205 Ala. 236, 241, 87 So. 681, 685 (1920) ("'improvements,' as used in a lease which provided that all improvements of the building shall belong to the landlord at the expiration of the term, may be said to 'comprehend everything that tends to add to the value or convenience of **a building or a place of**

example, Fulfillment by Amazon³⁸) wherein goods are stored by third parties at the third parties' discretion and with no control over the location, management, or daily supervision of the products in storage. Such an arrangement can scarcely be considered to render the physical location of the stored items a place of business as to the party whose goods are stored. However, were that same party to integrate the storage arrangement into its own logistical operations (similar to, for example, Amazon and its relationship with its own fulfillment centers), there can be little doubt that the storage warehouses are places of business, *even if the public never interacts with the warehouse*. See [*Smith v. Farbenfabriken of Elberfeld Co.*, 203 F. 476, 479-81 \(6th Cir. 1913\)](#).³⁹

Here, the GGC servers are best characterized as local data warehouses, storing information in local districts to provide Google's users with quick access to the cached data, avoiding the delays associated with distant data retrieval from Google Data Centers. (Dkt. No. 141 at 4). This [*961] type of logistical positioning is commonplace for larger corporate interests, especially where prompt delivery is a core aspect of a business strategy.⁴⁰,⁴¹ This is the case with [**48] Google.⁴²

Holding that Google's business done at and through the GGC servers faithfully comports with the language of the statute; it is the logical result this Court has reached.⁴³

In considering the language of the patent venue statute, some courts have held that [*§ 1400\(b\)*](#) "requires some employee or agent of the defendant to be conducting business at the location in question." [*Peerless \[*962\] Network, Inc. v. Blitz Telecom Consulting, LLC, No. 17-CV-1725 \(JPO\), 2018 U.S. Dist. LEXIS 49628, 2018 WL 1478047, at *4 \(S.D.N.Y. Mar. 26, 2018\)*](#).⁴⁴ These cases

business, [**46] **whether it be a store, manufacturing establishment, warehouse, or farming premises.**") (citation omitted) (emphasis added); [*City of Newport v. French Bros. Bauer Co.*, 169 Ky. 174, 183 S.W. 532, 534 \(Ky. 1916\)](#) ("the appellee at no time ever had any goods not sold previous to the time of delivery in Kentucky, and had never maintained **any warehouse, storeroom, or other place of business** in Kentucky") (emphasis added); [*Hasselbring v. Koepke*, 263 Mich. 466, 480, 248 N.W. 869, 873 \(Mich. 1933\)](#) ("In other words, the nature and extent of the right is to have that amount of light through the windows of the dominant house which is sufficient, according to the ordinary notions of mankind, for the comfortable use and enjoyment of the house as a dwelling-house, if it be a dwelling-house, or for the beneficial use and occupation of **the building if it be a warehouse, shop, or other place of business.**") (citing 11 Halsbury's Laws of England, p. 300) (emphasis added); [*Huebner-Toledo Breweries Co. v. Mathews Gravity Carrier Co.*, 253 F. 435, 442, 1919 Dec. Comm'r Pat. 251 \(6th Cir. 1918\)](#) ("Palmer obtained a patent in 1888, No. 376,340, on an elevator, which may properly be regarded as a distributing contrivance; it was designed for carrying goods or other materials up or down **in a warehouse, store, manufactory, or other similar place of business.**") (emphasis added); [*J.B. Van Sciver Co. v. Flurer*, 11 N.J. Misc. 464, 167 A. 513, 513](#)

[*\(N.J. Dist. Ct. 1933\)*](#) ("**It maintains no warehouse, factory, general offices, or other place of business outside the state of New Jersey**") (emphasis added); [*Wagner v. City of Covington*, 177 Ky. 385, 197 S.W. 806, 807 \(Ky. 1917\)](#), aff'd, 251 U.S. 95, 40 S. Ct. 93, 64 L. Ed. 157, 17 Ohio L. Rep. 437 (1919) ("**appellants have no warehouse or other place of business in Covington**") (emphasis added); [*Hill Mfg. Co. v. New Orleans, M. & C.R.R. Co.*, 117 Miss. 548, 78 So. 187, 191 \(Miss. 1918\)](#) ("The rule is stated in section 113 of Hutchinson on Carriers, vol. 2, as follows: 'But if the delivery be made **at the warehouse or other place of business of**

reason that this must be so since, to be a place of business, "the defendant must actually engage in business from that location," such that, "for example, products are made, customers are served, or business decisions are made." *Id.* However, this requirement finds no basis within the language of the statute, nor does it accord with conceptions of places of business stretching back to at least the turn of the 20th century. **[**49]** See, e.g., *supra* at 31 n.35, 32 n.36. The mandates of *In re Cray* requiring that a court's "analysis must be closely tied to the language of the statute" prevents both the removal of statutory requirements and the addition of extra-statutory requirements with equal

the carrier for as early transportation as can be made in the course of the carrier's business, . . . he becomes, the moment the delivery is made, a carrier as to the goods") (emphasis added); *Wingfield v. Kutres*, 136 Ga. 345, 71 S.E. 474, 475 (Ga. 1911) ("Section 2 prescribed a license fee of \$500 for each calendar year or part thereof to be paid by every person, firm, or corporation who shall maintain **a supply depot, warehouse or distributing offices or other place of business** within the limits of this state") (emphasis added); *Inhabitants of Abington v. Inhabitants of N. Bridgewater*, 40 Mass. 170, 177, 23 Pick. 170 (Mass. 1839) ("if it be his place of business, he may have a warehouse, manufactory, wharf or other place of business, in connexion with his dwellinghouse in different towns.") (citing *Lyman v. Fiske*, 34 Mass. 231, 231, 17 Pick. 231 (Mass. 1835)) (emphasis added); *Flynn v. Colonial Disc. Co.*, 149 Misc. 607, 610, 269 N.Y.S. 394 (City Ct. 1933) ("His storage room is in effect as much a part of his place of business as is his showroom. A sale from his warehouse is in fact a sale 'in the ordinary course of business.'") (emphasis added); *Grantham v. City of Chickasha*, 1932 OK 123, 156 Okla. 56, 9 P.2d 747, 748 (Okla. 1932) ("The ordinance, in part, provides as follows: 'Ordinance No. 1032. . . . Section Two (2): . . . That the term itinerant merchant as herein used in this ordinance, shall be deemed to mean and include any and all itinerant vendors, . . . who have no fixed or established **store, warehouse, or other place of business** within the City of Chickasha.'") (emphasis added); *Morgan v. State*, 140 Ga. 202, 78 S.E. 807, 807 (Ga. 1913) ("The Court of Appeals has certified to the Supreme Court the following question[]: . . . Is the said act in conflict with the **fourteenth amendment of the Constitution of the United States** in that: (a) The act imposes a greater tax upon persons maintaining '**a supply depot, warehouse, distributing office, or other place of business** within this state . . .')") (emphasis added). *In re BigCommerce*, 890 F.3d at 983 (Fed. Cir. 2018) (approving of "the general principle of statutory construction that 'where words are employed in a statute which had at the time a well-known meaning at common law or in the law of this country, they are presumed to have been used in that sense unless the context compels to the contrary.'" (citing *Standard Oil Co. v. United States*, 221 U.S. 1, 59, 31 S. Ct. 502, 55 L. Ed. 619 (1911)).

force. *871 F.3d at 1362*; see also *Fed. Elec. Prods. Co. v. Frank Adam Elec. Co.*, 100 F. Supp. 8, 10-11 (S.D.N.Y. 1951) ("Lengthy precedent is available to show that courts have been unwilling to constrict the definition of 'regular and established place of business.'"); *Urquhart v. American-La France Foamite Corp.*, 144 F.2d 542, 543 n.3, 79 U.S. App. D.C. 219, 1944 Dec. Comm'r Pat. 82 (D.C. Cir. 1944), cert. denied 323 U.S. 783, 65 S. Ct. 273, 89 L. Ed. 625 (1944) ("Nor should the term 'a regular and established place of business' be narrowed or limited in its construction.") (citing *Shelton v. Schwartz*, 131 F.2d 805, 808 (7th Cir. 1942)); *Shelton*, 131 F.2d at 809 ("Emphasis must be on the existence of the regular and established place of business,—not on the nature or character of the business conducted there.").

Any such addition or subtraction from the language of the statute is improper and contrary to the express prohibition as set forth in *In re Cray*. "[T]he requirement of venue is specific and unambiguous; it is not one of those vague principles which, in the interests of some overriding policy, is to be given a liberal construction." *In re ZTE*, 890 F.3d at 1014 (citing *In re Cray*, 871 F.3d at 1361). The narrowing would do violence to the plain

³⁶This common view of warehouses as places of business continued throughout the 20th century. See, e.g., *Fed. Elec. Prod. Co. v. Frank Adam Elec. Co.*, 100 F. Supp. 8, 10 (S.D.N.Y. 1951) ("Defendant has a number of what it terms '**reshipping centers**' spaced around the country. One of these is located in New York City. Defendant describes its function as 'incidental to the filling of orders for goods manufactured and sold in Missouri, by expediting delivery thereof to purchasers along the Atlantic Seaboard.' It denies that the New York operation constitutes a regular and established place of business within the meaning of *Section 1400(b)*. . . . The mechanics of bookkeeping which invoiced these orders in St. Louis, do not alter the nature of defendant's New York office. **It is a regular and established business within the meaning of *Section 1400(b)***." (emphasis added); *New Wrinkle v. Fritz*, 30 F. Supp. 89, 90-91 (W.D.N.Y. 1939) ("Defendant corporation's plant is located at Pontiac, Michigan. It has no office for the transaction of business in this district. **It has no warehouse [**47] within this district.** . . . The foregoing facts do not show that the defendant corporation has '**a regular and established place of business**' in this district." (emphasis added); *E. H. Sheldon & Co. v. Norbute Corp.*, 228 F. Supp. 245, 246-47 (E.D. Pa. 1964) ("Neither defendant nor Metalab owns, leases or otherwise controls **any office, warehouse or other permanent location in this district.** . . . In the present case the defendant does not maintain, control or pay for an establishment in this district. **It has no regular and**

language of the statute, as [§ 1400\(b\)](#) does not require that the place of business **also be** a place of employment by **[**50]** the defendant.⁴⁵

Recent legislation also reveals the impropriety of the imposition of an extra-statutory human-centric requirement. The *Leahy-Smith America Invents Act*, P.L. 112-29, ("the AIA") was enacted September 16, 2011. It is widely considered to be "a change at least as

established place of business here. The suit, therefore, cannot be maintained here.") (emphasis added); [Holub Indus., Inc. v. Wyche](#), 290 F.2d 852, 853 (4th Cir. 1961) ("It has no regular or established place of business or office or warehouse of any kind in South Carolina and is not registered to do business in that state.") (emphasis added); [Brevel Prod. Corp. v. H & B Am. Corp.](#), 202 F. Supp. 824, 827 (S.D.N.Y. 1962) ("An essential prerequisite for a finding of venue in cases of this sort is that the defendant actually maintains, in the words of the statute, 'a regular and established place of business' within the district. **This 'place of business' can be a branch office, a sales-showroom, or a warehouse o[r] distribution center.** But it must be maintained and paid for by the defendant. The mere fact that defendant hires a sales representative who in turn rents offices to sell defendant's products is insufficient.") (citations omitted) (emphasis added). Indeed, warehouses are commonly viewed as "integral" to the conduct of business and business purposes. See, e.g., [In re McCrary's Farm Supply, Inc.](#), 705 F.2d 330, 334 (8th Cir. 1983) ("Employees of Central Terminal Warehouse did not solicit business for McCrary's. They did, however, perform stock transfers for McCrary's and assist in making merchandise available for pick up either by McCrary's, its customers, or common carriers. Sales involve more than simply solicitation, and **we are satisfied that Central Terminal, in contributing to the storage and distribution of merchandise, performed an integral part of McCrary's sales activity and business.**") (emphasis added).

³⁷ But see [CDx Diagnostic, Inc. v. United States Endoscopy Grp., Inc.](#), No. 13-CV-5669(NSR), 2018 U.S. Dist. LEXIS 87999, 2018 WL 2388534, at *3 (S.D.N.Y. May 24, 2018) ("[S]torage units are not 'regular and established places of business', because Plaintiffs have failed to demonstrate that Defendant 'actually engage[s] in business from [either] location.' The question is whether the storage units are 'location[s] at which one carries on a business.' They are not. While Defendant's customer service reps may 'typically' retrieve materials from the storage units to visit customers within this District, no 'employee or agent of [Defendant actually] conduct[s] business at' the storage units, whatsoever.") (citations omitted).

³⁸ See <https://services.amazon.com/fulfillment-by-amazon/benefits.html> ("With Fulfillment by Amazon (FBA), **you store your products in Amazon's fulfillment centers,**

significant for this Nation's patent system as the formation of the Federal Circuit in 1982." [Synopsys, Inc. v. Mentor Graphics Corp.](#), 814 F.3d 1309, 1324 (Fed. Cir. 2016) (Newman, J., dissenting), overruled by [Aqua Prods., Inc. v. Matal](#), 872 F.3d 1290 (Fed. Cir. 2017). The AIA "is the product of extensive study by the concerned communities and the Congress," and the breadth of its reach in reforming facets of patent law, both substantive and procedural, is unquestionably vast. [Id. at 1325](#). Of note, Congress enacted, but did not codify, Section 18 of the AIA, **[*963]** which established a "Transitional Program for Covered Business Method Patents." P.L. 112-29, Sec. 18. This Section set up an additional post-grant proceeding, Covered Business Method Review, in addition to the two codified options created by the AIA, Post-Grant Review and *Inter Partes* Review. Of special interest to applications of [§ 1400\(b\)](#), the Section reached beyond the confines of the newly

and we pick, pack, ship, and provide customer service for these products."); see also Amazon.com, Inc., 2017 Annual Report at 3 ("We offer programs that enable sellers to grow their businesses, sell their products on our websites and their own branded websites, and fulfill orders through us. We are not the seller of record in these transactions. We earn fixed fees, a percentage of sales, per-unit activity fees, interest, or some combination thereof, for our seller programs."); *id.* at 8 ("Under some of our commercial agreements, we maintain the inventory of other companies, thereby increasing the complexity of tracking inventory and operating our fulfillment network.").

³⁹ [Id. at 479](#) (holding a mail order drug business, run from a residence in Windsor, Canada, but with a warehouse in Detroit, Michigan, with "All orders filled promptly and completely from [the] Detroit warehouse, duty paid," is a regular and established place of business for purposes of venue in a patent case, even though the warehouse "does not receive orders directly from customers or enter into contracts with them, or receive any money in payment of bills; and . . . has no authority so to do."), [at 480-81](#) ("If what is done at the warehouse at Detroit, and in that city, looking to the delivery of the goods, were subtracted from what is done in Windsor, appellant could not conduct his present business at all. We need not repeat that he has no other warehouse, no other representative, and no stock of goods through which to conduct business, except only at the Woodward avenue warehouse in Detroit. Now, despite the fact that the preliminary steps are taken at Windsor, it is plain enough that the final and essential acts of infringement in issue are committed by [a warehouse employee] at the warehouse in Detroit, and through his dealings with the carriers at the warehouse and elsewhere within that city. [The warehouse employee] thus does something with respect to the business upon which the suit is founded. [The warehouse employee] is

enacted law to *specifically exempt* a particular regular and established place of business for purposes **[**51]** of venue under [§ 1400\(b\)](#). Section 18(c) reads as follows:

ATM EXEMPTION FOR VENUE PURPOSES.--In an action for infringement under [Section 281 of title 35, United States Code](#), of a covered business method patent, an automated teller machine shall not be deemed to be a regular and established place of business for purposes of [section 1400\(b\) of title 28, United States Code](#).

Accordingly, Congress specifically withdrew automated teller machines ("ATMs") from those regular and established places of business which could be used to establish venue.⁴⁶ A plain reading of this exception indicates that ATMs and similar devices *would otherwise constitute regular and established places of business*. See also Edward D. Manzo, *America Invents Act: A Guide to Patent Litigation and Patent Procedure*, Venue, *America Invents Act* § 17:12 (2017).⁴⁷

"Courts assume that a legislature always has in mind previous statutes relating to the same subject when it enacts a new provision. In the absence of any express repeal or amendment, the new provision is presumed to accord with the legislative policy embodied **[**52]** in those prior statutes, and they all should be construed together." 2B Sutherland Statutory Construction § 51:2 (7th ed.); accord A. Scalia & B. Garner, *READING LAW* 252 (2012) ("Any word or phrase that comes before the Court for interpretation . . . is part of an entire *juris corpus*. So, if possible, it should no more be interpreted to clash with the rest of that corpus than it should be interpreted to clash with other provisions of the same law."); [Goodyear Atomic Corp. v. Miller, 486 U.S. 174, 184-85, 108 S. Ct. 1704, 100 L. Ed. 2d 158 \(1988\)](#) ("We generally presume that Congress is knowledgeable about existing law pertinent to the legislation it enacts."). "Statutes cannot be read intelligently if the eye is closed to considerations evidenced in affiliated statutes." Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527, 539 (1947). "It is well established **[*964]** in the statutory field that unless the context indicates otherwise, words or phrases in a provision that were used in a prior act pertaining to the same subject matter will be construed in the same

there in the right of appellant, and [The warehouse employee]'s acts are appellant's acts; and to say that appellant has 'no regular and established place of business' there is to ignore the use that has been made for years of the Woodward avenue warehouse.").

⁴⁰ See, e.g., Lisa Fickenscher, "Amazon is finally opening one of its mega-warehouses in New York" (June 19, 2017) (available at <https://nypost.com/2017/06/19/new-yorkers-are-getting-faster-shipping-thanks-to-amazon/>, accessed on July 11, 2018) ("Amazon's ability to quickly ship stuff to New Yorkers, from Kindle readers to kayaks, is about to get a major boost. . . . The Amazon 'fulfillment center' will span nearly 1 million square feet on the west shore of Staten Island, amping up Amazon's access to millions of online shoppers in Manhattan, Brooklyn, Queens and Long Island, sources close to the situation said. . . . In December 2014, Amazon opened a 40,000-square-foot 'Prime Now' hub — **filling urgent orders for beer, shampoo and printer cartridges within a few hours with the help of bike couriers** — at 7 W. 34th St. in Manhattan.").

⁴¹ This type of close storage location is seen in a variety of fields and industries. See, e.g., Dept. of Energy, Strategic Petroleum Reserve Storage Sites (available at <https://www.energy.gov/fe/services/petroleum-reserves/strategic-petroleum-reserve/spr-storage-sites>) ("Storage locations along the Gulf Coast were selected because they provide the most flexible means for connecting to the Nation's commercial oil transport network. Strategic Reserve oil can be distributed through interstate pipelines to nearly half of the Nation's oil refineries or loaded into ships or barges for transport to other refineries."); Edward T. O'Donnell, *The Dawn of New York's Ice Age*, N.Y. Times (July 31, 2005) (available at <https://www.nytimes.com/2005/07/31/nyregion/thecity/the-dawn-of-new-yorks-ice-age.html>) ("1855 . . . brought the incorporation of the Knickerbocker Ice Company, an enterprise that quickly became the city's largest supplier. Knickerbocker developed a massive ice harvesting operation at Rockland Lake in Nyack and along the banks of the upper Hudson River, and during the winter months it employed thousands of men to cut huge blocks of ice and haul them to scores of large ice warehouses. When the warm weather set in, barges carried the product to the Manhattan docks, where it was transferred to icehouses dotted around the city and then distributed to customers via ice wagons.").

⁴² See Alphabet, Inc., 10-K (2017 fiscal year) (available at https://abc.xyz/investor/pdf/20171231_alphabet_10K.pdf) at

sense." [*Texaco, Inc. v. Dep't of Energy*, 795 F.2d 1021, 1030 \(Temp. Emer. Ct. App. 1986\)](#) (citation and internal quotations omitted).⁴⁸

Automated Teller Machines are not operated, in person or remotely, by employees of the owning financial institution.⁴⁹ Any reading of the statutory requirements

propelling new ideas and people forward. At Google, our mission is to make sure that information serves everyone, not just a few. So whether you're a child in a rural village or a professor at an elite university, you can access the same information. We are helping people get online by tailoring digital experiences to the needs of emerging markets. **We're also making sure our core Google products are fast and useful, especially for users in areas where speed and connectivity are central concerns.**").

⁴³ The Court notes with interest the ironic positions Google takes in its Motion. While clearly taking the position that "Servers are pieces of equipment . . . and do not rise to the level of being places of business," (Dkt. No. 125 at 10-11), it also represents that "the Google applications and services named in the Complaint *are provided by Google servers* in Google data centers located outside this District." (*Id.* at 17). Google continues, stating that the alleged infringement *by Google*, cannot have occurred within this District because "Google has no data centers in this District." (*Id.* at 18-19). Google cannot argue that it both does business at and through servers in its data centers while plausibly maintaining that servers themselves cannot be places of business.

⁴⁴ At argument on this Motion, Google went further, refusing to concede that a place with Google employees present at it constituted proper venue under the statute. (Dkt. No. 193, Hr'g Tr. at 20:4-12 ("THE COURT: If Google has a place with employees present, is it subject to venue there? MR. VERHOEVEN: That'd be a much closer call, Your Honor. It would depend specifically on the facts and circumstances. Certainly, if Google had an office that had a sign on it and people could walk in, customer - or business customers could walk in, not necessarily retail people -- or retail people, then that would be - probably be a place of business.")).

⁴⁵ See *Place of Employment*, BLACK'S LAW DICTIONARY (10th ed. 2014) ("The location at which work done in connection with a business is carried out; the place where **some process or operation** related to the business is conducted.") (emphasis added).

⁴⁶ Interestingly, this result was not as broad as the financial services industry proposed. See *Patent Reform: The Future of American Innovation: Hearing Before the S. Comm. on the Judiciary*, 110th Cong. 291 (2007) (Testimony of John A. Squires on behalf of the American Bankers Assn., et al.) (commenting on the Patent Reform Act of 2007 (which redefined "resides" for [§ 1400\(b\)](#) to exclude the definition found in [§ 1391\(c\)](#)), and arguing that "[i]t is appropriate to create a test whereby both parties have [a] substantial business nexus in the judicial district or otherwise constrained by this statute. Financial firms do not want to be open to suit in any and all districts due simply to the presence of a branch or an ATM."). Even so, at least one commentator views this limited exemption as a "bank bailout." Lawrence A. Kogan, *Commercial High Technology Innovations Face Uncertain*

53 ("We generate revenues primarily by delivering relevant, cost-effective online advertising"), at 4 ("The goal of our advertising business is to deliver relevant ads at just the right time and to give people useful commercial information, regardless of the device they're using."), at 3 ("The Internet is one of the world's most powerful equalizers, capable of

of [§ 1400\(b\)](#) that **[**53]** inserts an extra-statutory requirement of human-centric activity at the "regular and established place of business" necessarily renders this express exemption superfluous. A. Scalia & B. Garner, *READING LAW* 174 (2012) ("The surplusage canon holds that it is no more the court's function to revise by subtraction than by addition."). A "cardinal principle of statutory interpretation" is that no provision "shall be superfluous, void, or insignificant." [TRW Inc. v. Andrews](#), 534 U.S. 19, 31, 122 S. Ct. 441, 151 L. Ed. 2d 339 (2001); [Gustafson v. Alloyd Co.](#), 513 U.S. 561, 574, 115 S. Ct. 1061, 131 L. Ed. 2d 1 (1995) ("[T]he Court will avoid a reading which renders some words altogether redundant."); [Mountain States Tel. & Tel. Co. v. Pueblo of Santa Ana](#), 472 U.S. 237, 249, 105 S. Ct. 2587, 86 L. Ed. 2d 168 (1985) (applying the "elementary canon of construction that a statute should be interpreted so as not to render one part inoperative") (citation omitted). Where "one statute deals with a subject in general terms and another deals with a part of the same subject in a more detailed way, the two should be harmonized if possible." 2B Sutherland Statutory Construction § 51:5 (7th ed.). A. Scalia & B. Garner, *READING LAW* 181 (2012) ("[T]here can be no justification for needlessly rendering provisions in conflict if they can be interpreted harmoniously."). Where two acts are *in pari materia*, as here, they should be construed together. But even if one reads the ATM exemption **[**54]** of AIA Sec. 18(c) as being in conflict with the generally application of the special venue

statute, "the general statute must yield to the specific statute involving the same subject, regardless of whether it was passed prior to the general statute." 2B Sutherland Statutory Construction § 51:5 (7th ed.); [Morton v. Mancari](#), 417 U.S. 535, 550-51, 94 S. Ct. 2474, 41 L. Ed. 2d 290 (1974) (Blackmun, J.) ("Where there is no clear intention otherwise, a specific statute will not be controlled or nullified by a general one, regardless of the priority of enactment.") (citing [Bulova Watch Co. v. United States](#), 365 U.S. 753, 758, 81 S. Ct. 864, 6 L. Ed. 2d 72, 1961-1 C.B. 782 (1961); [Rodgers v. United States](#), 185 U.S. 83, 87-89, 22 S. Ct. 582, 46 L. Ed. 816, 37 Ct. Cl. 552 (1902)). Accordingly, the Court holds that the "regular and established place of business" requirement of [§ 1400\(b\)](#) does not countenance the addition of a further human-centric requirement at the place of business.

Having so held, the Court finds that, for the reasons discussed above, the GGC servers and their several locations within this District constitute "regular and established place[s] of business" within the meaning of the special patent venue statute.

[*965] *iv. Of the Defendant*

The last of the three statutory requirements identified by the Federal Circuit in *In re Cray* is that the regular and established place of business be "of the defendant." [871 F.3d at 1362-63](#). Other courts have previously found "shelves" which store telecommunications equipment **[**55]** are "places of the defendant." [Peerless Network](#), 2018 U.S. Dist. LEXIS 49628, 2018 WL 1478047, at *3 ("[A]ssuming that Local Access rents the shelf on which its equipment rests, the Court is satisfied that the shelf is 'a place of the defendant,' even if the shelf is figuratively land-locked inside of Peerless territory. The fact that Local Access employees must gain Peerless's permission to visit their shelf does not change the fact that, as alleged, the shelf belongs to Local Access.") (internal citations omitted). This case presents a similar situation⁵⁰ and thus reaches a similar

Future Amid Emerging "Brics" Compulsory Licensing and IT Interoperability Frameworks, 13 *San Diego Int'l L.J.* 201, 300 (2011) (noting "the provision in the [AIA] excluding ATM machines as a venue tool") (citing AIA Sec. 18(c)).

⁴⁷ H.R. REP. NO. 112-98, pt. 1, at 81 (2011) ("Subsection (c) deems that in an action for infringement under [§ 281](#) of a covered business method patent, an automated teller machine ('ATM') shall not be considered a regular and established place of business for purposes of the patent venue statute.") (citing [28 U.S.C. § 1400\(b\)](#)).

⁴⁸ The precedent of the Temporary Emergency Court of Appeals, eventually replaced by the Court of Appeals for the Federal Circuit, has been adopted by the Court of Appeals for the Federal Circuit to some extent. See [Tex. Am. Oil Corp. v. United States Dep't of Energy](#), 44 F.3d 1557, 1561 (Fed. Cir. 1995) (en banc) ("[T]he Court of Appeals for the Federal Circuit adopts as precedent the body of law represented by the holdings of the Temporary Emergency Court of Appeals."); but see [Marriott Int'l Resorts, L.P. v. United States](#), 437 F.3d 1302, 1306 n.4 (Fed. Cir. 2006).

⁴⁹ Hence, "automated."

⁵⁰ (See Dkt. No. 193, Hr'g Tr. at 20:17-22 ([MR. VERHOEVEN:] "In this case, there are no Google employees. In fact, there's no record that any Google employee has ever been to any of the ISPs identified by SEVEN in this motion. Google employees don't have access. They'd have to get permission to enter."), at 23:3-7 ([MR. VERHOEVEN:] "Google owns the servers. Google owns the software. Google controls what can be done with the servers. It doesn't control what rack they're put on. But it -- but it does control -- they can't open up

result.

Google argues that "the rooms and buildings that house the GGC servers in this District . . . are not Google's." (Dkt. No. 125). The Court recognizes that they may not, on their own, establish proper venue as to Google in this District. See [Personal Audio, 280 F. Supp. 3d at 934](#) ("The property on which they are located is not owned, leased, or controlled by Google. The 'server rooms' are not rooms from which the business of Google is conducted.").

However, as discussed above, *supra* Part III.B.ii., the "place" of the "place of business" is not the room or building of the ISP but rather Google's server and the space wherein it is located. There is little doubt that both the server and the physical location **[**56]** in and at which it resides is under the exclusive control of Google. The rack space allotted for the GGC server is "provided" to Google. (Dkt. No. 141-23 at 6 ("Space: The Host shall provide Google rack space for the Equipment located at the Space within Host premises.")). The precise location of that space, and thus the server, is reported to Google by the ISP. (Dkt. No. 141-23 at 3 ("Contact & Location Details: As soon as practicable after the Effective Date, the parties will advise each other in writing (which may be sent electronically) of the following: . . . (c) Equipment location (address/floor/rack)")). Further, as noted *supra* at 22-23, "Google's ownership of the server and its contents is absolute, as is its control over the server's location, once installed." (See Dkt. No. 141-23 at 6). Google's ownership of the server and control thereof has not been a focus of Google's objections to proper venue in this District. *Supra* at 24 n 30.

Google itself has denoted that the GGC servers are places "of Google." As the Federal Circuit instructed in *In re Cray*, "a defendant's representations that it has a place of business in the district are relevant." [871 F.3d at 1363](#). In this respect, "[p]otentially relevant inquiries include whether the **[**57]** defendant lists the alleged place of business on a website," in determining whether "the defendant [has] establish[ed] or ratifi[ed] the place of business," within the meaning of the statute. *Id.* Here, Google has done so. Google states on <http://peering.google.com> that "Our Edge Network is how we connect with ISPs to get traffic to and from users" **[*966]** and that this content traffic "can come from multiple Google locations, including our data centers Edge PoPs, and **Edge Nodes**." (Dkt. No. 197-1 at 1).⁵¹

these servers. They can't mess with them.")).

The Court concludes that the GGC servers and their locations within the various ISPs within this District are "places of Google" sufficient to meet the statutory requirement of [§ 1400\(b\)](#).

IV. CONCLUSION

In light of the foregoing, the Court finds and holds that:

- 1) SEVEN has adequately pleaded acts of infringement within this District sufficient to meet the requirements of [28 U.S.C. § 1400\(b\)](#). *Supra* at 14.
- 2) SEVEN has met its burden of demonstrating that the GGC server and its location is a "physical place" within the meaning of [§ 1400\(b\)](#). *Supra* at 24.
- 3) SEVEN has met its burden of demonstrating that the GGC server and its location is a "regular and established **[*967]** place of business" within the meaning of [§ 1400\(b\)](#).⁵² *Supra* at 39.
- 4) SEVEN has met its burden of demonstrating **[**58]** that the GGC server and its location is a "place of the defendant" within the meaning of [§ 1400\(b\)](#). *Supra* at 41.

Having so found, the Court holds that the statutory

⁵¹ Additional statements from that website further confirm the ratification by Google. (See Dkt. No. 141-13 at 2 ("Google's network infrastructure has three distinct elements: Core data centers, Edge Points of Presence (PoPs), Edge caching and services nodes (Google Global Cache, or GGC)"), at 5 ("Edge nodes (Google Global Cache, or GGC) Our edge nodes (called Google Global Cache, or GGC) represent the tier of Google's infrastructure closest to our users. With our edge nodes, network operators and internet service providers deploy Google-supplied servers inside their network. Static content that is very popular with the local host's user base, including YouTube and Google Play, is temporarily cached on edge nodes. Google's traffic management systems direct user requests to an edge node that will provide the best experience. In some locations, we also use our edge nodes to support the delivery of other Google services, such as Google Search, by proxying traffic where it will deliver improved end-to-end performance for the end user.")). Google also presents a "[m]ap of metros where at least one Edge node (GGC) is present," *id.*, which identifies the GGCs located at least in Tyler and Sherman. (Dkt. No. 141 at 24 (citing Dkt. No. 141-13)). A portion of this map has been reproduced below (with the yellow dot west of Tyler indicating the presence of the

requirements of [§ 1400\(b\)](#) are met in this case and that venue is proper as to Google within this District.⁵³ Accordingly, the Court hereby **DENIES** Google LLC's Second Renewed Motion to Dismiss or, in the Alternative, Transfer under [28 U.S.C. § 1406](#) for Improper Venue. (Dkt. No. 125).

It is further **ORDERED** that this ruling will remain **PROVISIONALLY SEALED** until the Parties file joint proposed redactions, with specific explanations for the necessity of such redactions, within seven (7) days of this order, after which a redacted version will be entered by the Court.

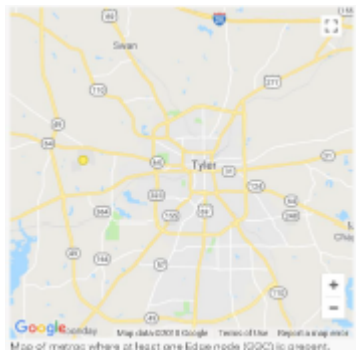
So ORDERED and SIGNED this 19th day of July, 2018.

/s/ Rodney Gilscrap

RODNEY GILSCRAP

UNITED STATES DISTRICT JUDGE

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Edge node (GGC):

⁵² With regard to a current analysis of what constitutes "business" within the language of the statute, recent guidance from the Supreme Court appears to caution against ignoring the state of the modern economy. [S. Dakota v. Wayfair, Inc., 138 S. Ct. 2080, 2093, 201 L. Ed. 2d 403 \(2018\)](#) ("[T]he Court should focus on rules that are appropriate to the twenty-first century, not the nineteenth.") (citations and internal quotations omitted), [at 2095](#) ("[I]t is not clear why a single employee or a single warehouse should create a substantial nexus while 'physical' aspects of pervasive modern technology should not."), [at 2095](#) ("The 'dramatic technological and social changes' of our 'increasingly interconnected economy' mean that buyers are 'closer to most major retailers' than ever before—'regardless of how close or far the nearest storefront.' Between targeted advertising and instant access to most consumers via any internet-enabled device, 'a business may be present in a State in a meaningful way without' that presence 'being physical in the traditional sense of the term.' A virtual showroom can show far more inventory, in far more detail, and with greater opportunities for consumer and seller interaction than might be possible for local stores.") (internal citations omitted); see also [id. at 2096-99](#).

⁵³ In addition to the analysis presented herein, the Court accepts each aspect of SEVEN's opposition to the Motion in support of this Order's conclusion. (Dkt. Nos. 141, 154).



Caution

As of: January 8, 2019 2:14 PM Z

Akamai Techs., Inc. v. Limelight Networks, Inc.

United States Court of Appeals for the Federal Circuit

August 13, 2015, Decided

2009-1372, 2009-1380, 2009-1416, 2009-1417

Reporter

797 F.3d 1020 *; 2015 U.S. App. LEXIS 14175 **; 116 U.S.P.Q.2D (BNA) 1344 ***

AKAMAI TECHNOLOGIES, INC., THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
Plaintiffs-Appellants v. LIMELIGHT NETWORKS, INC.,
Defendant-Cross-Appellant

directed or controlled the customers' infringing activities.

Outcome

Judgment of non-infringement reversed.

Subsequent History: Later proceeding at, Remanded
by [V Limelight Networks, 805 F.3d 1368, 2015 U.S.
App. LEXIS 19848 \(Fed. Cir., Nov. 16, 2015\)](#)

Prior History: **[**1]** Appeals from the United States
District Court for the District of Massachusetts in Nos.
06-CV-11585, 06-CV-11109, Judge Rya W. Zobel.

[Akamai Techs., Inc. v. Limelight Networks, Inc., 786
F.3d 899, 2015 U.S. App. LEXIS 7856 \(Fed. Cir., 2015\)](#)
[Akamai Tech., Inc. v. Limelight Networks, 494 F. Supp.
2d 34, 2007 U.S. Dist. LEXIS 47598 \(D. Mass., 2007\)](#)

Core Terms

customers', infringement, steps, patent, tagging,
substantial evidence, network, delivery, entity, serving,
vicarious liability, alleged infringer, joint enterprise

Case Summary

Overview

HOLDINGS: [1]-Direct patent infringement by divided
infringement under 35 U.S.C.S. § 271(a) is not limited
solely to principal-agent relationships, contractual
arrangements, or joint enterprises, and a court
considers whether all method steps can be attributed to
a single entity; [2]-A provider of Internet services was
properly found to have infringed a patent claiming
methods for delivering content over the Internet, even
though the provider's customers performed the content
tagging and serving method steps, since the provider
conditioned use of its network to the customers'
performance of tagging and serving steps and thus

LexisNexis® Headnotes

Patent Law > Infringement Actions > Infringing
Acts > General Overview

[HN1](#) [📄] Infringement Actions, Infringing Acts

Direct patent infringement under 35 U.S.C.S. § 271(a)
occurs where all steps of a claimed method are
performed by or attributable to a single entity. Where
more than one actor is involved in practicing the steps, a
court must determine whether the acts of one are
attributable to the other such that a single entity is
responsible for the infringement. The court will hold an
entity responsible for others' performance of method
steps in two sets of circumstances: (1) where that entity
directs or controls others' performance; and (2) where
the actors form a joint enterprise.

Patent Law > Infringement Actions > Infringing
Acts > General Overview

Patent Law > Jurisdiction & Review > Standards of
Review > Substantial Evidence

[HN2](#) [📄] Infringement Actions, Infringing Acts

To determine if a single entity directs or controls the
acts of another for purposes of patent infringement, a
court considers general principles of vicarious liability.
An actor is liable for patent infringement under 35

U.S.C.S. § 271(a) if it acts through an agent (applying traditional agency principles) or contracts with another to perform one or more steps of a claimed method. Liability under *§ 271(a)* can also be found when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance. In those instances, the third party's actions are attributed to the alleged infringer such that the alleged infringer becomes the single actor chargeable with direct infringement. Whether a single actor directed or controlled the acts of one or more third parties is a question of fact, reviewable on appeal for substantial evidence, when tried to a jury.

Business & Corporate Law > Joint Ventures > Formation

Patent Law > Infringement Actions > Infringing Acts > General Overview

Patent Law > Jurisdiction & Review > Standards of Review > Substantial Evidence

[HN3](#) **Joint Ventures, Formation**

For purposes of patent infringement, where two or more actors form a joint enterprise, all can be charged with the acts of the other, rendering each liable for the patent steps performed by the other as if each is a single actor. A joint enterprise requires proof of four elements: (1) an agreement, express or implied, among the members of the group; (2) a common purpose to be carried out by the group; (3) a community of pecuniary interest in that purpose, among the members; and (4) an equal right to a voice in the direction of the enterprise, which gives an equal right of control. Whether actors entered into a joint enterprise is a question of fact, reviewable on appeal for substantial evidence.

Patent Law > Infringement Actions > Infringing Acts > General Overview

[HN4](#) **Infringement Actions, Infringing Acts**

35 *U.S.C.S. § 271(a)* is not limited solely to principal-agent relationships, contractual arrangements, and joint enterprise. Rather, to determine direct patent infringement, a court considers whether all method steps can be attributed to a single entity.

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DONALD R. WARE, Foley Hoag LLP, Boston, MA, for amicus curiae The Coalition for 21st Century Medicine. Also represented by MARCO J. QUINA, SARAH S. BURG.

Judges: Before PROST, Chief Judge, NEWMAN, LOURIE, LINN, DYK, MOORE, O'MALLEY, REYNA, WALLACH, and HUGHES, Circuit Judges.*

Opinion

[***1345] [*1022] PER CURIAM.

This case was returned to us by the United States Supreme Court, noting "the possibility that [we] erred by too narrowly circumscribing the scope of § 271(a)" and suggesting that we "will have the opportunity to revisit the § 271(a) question" [Limelight Networks, Inc. v. Akamai Techs., Inc.](#), 134 S. Ct. 2111, 2119, 2120, 189 L. Ed. 2d 52 (2014). We hereby avail ourselves of that opportunity.

Sitting en banc, we unanimously set forth the law of divided infringement under 35 U.S.C. § 271(a). We conclude that, in this case, substantial evidence supports the jury's finding that Limelight Networks, Inc. ("Limelight") directly infringes U.S. Patent 6,108,703 (the "703 patent") under § 271(a). We therefore reverse the district court's grant of judgment of [*4] noninfringement as a matter of law.

I. DIVIDED INFRINGEMENT

HN1 [↑] Direct infringement under § 271(a) occurs where all steps of a claimed method are performed by or attributable to a single entity. See [BMC Res., Inc. v. Paymentech, L.P.](#), 498 F.3d 1373, 1379-81 (Fed. Cir. 2007). Where more than one actor is involved in practicing the steps, a court must determine whether the acts of one are attributable to the other such that a single entity is responsible [***1346] for the infringement. We will hold an entity responsible for others' performance of method steps in two sets of circumstances: (1) where that entity directs or controls

others' performance, and (2) where the actors form a joint enterprise.¹

HN2 [↑] To determine if a single entity directs or controls the acts of another, we continue to consider general principles of vicarious liability.² See [BMC](#), 498 F.3d at [*1023] 1379. In the past, we have held that an actor is liable for infringement under § 271(a) if it acts through an agent (applying traditional agency principles) or contracts with another to perform one or more steps of a claimed method. See [BMC](#), 498 F.3d at 1380-81. We conclude, on the facts of this case, that liability under § 271(a) can [**5] also be found when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance. Cf. [Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.](#), 545 U.S. 913, 930, 125 S. Ct. 2764, 162 L. Ed. 2d 781 (2005) (stating that an actor "infringes vicariously by profiting from direct infringement" if that actor has the right and ability to stop or limit the infringement). In those instances, the third party's actions are attributed to the alleged infringer such that the alleged infringer becomes the single actor chargeable with direct infringement. Whether a single actor directed or controlled the acts of one or more third parties is a question of fact, reviewable on appeal for substantial evidence, when tried to a jury.

HN3 [↑] Alternatively, where two or more actors form a joint enterprise, all can be charged with the acts of the other, rendering each liable for the steps performed by the other as if each is a single actor. See [Restatement \(Second\) of Torts § 491 cmt. b](#) ("The law . . . considers that each is the agent or servant of the others, and that

¹To the extent that our decision in [Golden Hour Data Systems, Inc. v. emsCharts, Inc.](#), 614 F.3d 1367 (Fed. Cir. 2010) is inconsistent with this conclusion, that aspect of *Golden Hour* is overruled.

²We note that previous cases' use of the term "vicarious liability" is a misnomer. [Restatement \(Third\) of Torts: Apportionment of Liability § 13](#) (2000). In the context of joint patent infringement, an alleged infringer is not liable for a third party's commission of infringement—rather, an alleged infringer is responsible for method steps performed by a third party. Accordingly, we recognize that vicarious liability is not a perfect analog. Nevertheless, as both vicarious liability and joint patent infringement discern [**6] when the activities of one entity are attributable to another, we derive our direction or control standard from vicarious liability law. See [BMC](#), 498 F.3d at 1379.

* Circuit Judges Taranto, Chen, and Stoll did not participate.

the act of any one within the scope of the enterprise is to be charged vicariously against the rest."'). A joint enterprise requires proof of four elements:

- (1) an agreement, express or implied, among the members of the group;
- (2) a common purpose to be carried out by the group;
- (3) a community of pecuniary interest in that purpose, among the members; and
- (4) an equal right to a voice in the direction of the enterprise, which gives an equal right of control.

Id. § 491 cmt. c. As with direction or control, whether actors entered into a joint enterprise is a question of fact, reviewable on appeal for substantial evidence. *Id.* ("Whether these elements exist is frequently a question for the jury, under proper direction from the court.").

We believe these approaches to be most consistent [**7] with the text of § 271(a), the statutory context in which it appears, the legislative purpose behind the Patent Act, and our past case law. [HN4](#) [↑] Section 271(a) is not limited solely to principal-agent relationships, contractual arrangements, and joint enterprise, as the vacated panel decision held.³ Rather, to determine direct infringement, we consider whether all method steps can be attributed to a single entity.

II. APPLICATION TO THE FACTS OF THIS CASE

Today we outline the governing legal framework for direct infringement and address the facts presented by this case. In the future, other factual scenarios may arise which warrant attributing others' performance of method steps to a single actor. Going forward, principles of attribution are to be considered in the context of the particular facts presented.

The facts of this case need not be repeated in detail once again, but the following [**1024] constitutes the basic facts. In 2006, Akamai Technologies, Inc. ("Akamai") filed a patent infringement [***1347] action against Limelight alleging infringement of several patents, including the '703 patent, which claims methods for [**8] delivering content over the Internet. The case proceeded to trial, at which the parties agreed that Limelight's customers—not Limelight—perform the "tagging" and "serving" steps in the claimed methods. For example, as for claim 34 of the '703 patent, Limelight performs every step save the "tagging" step, in

which Limelight's customers tag the content to be hosted and delivered by Limelight's content delivery network. After the close of evidence, the district judge instructed the jury that Limelight is responsible for its customers' performance of the tagging and serving method steps if Limelight directs or controls its customers' activities. The jury found that Limelight infringed claims 19, 20, 21, and 34 of the '703 patent. Following post-trial motions, the district court first denied Limelight's motion for judgment of noninfringement as a matter of law, ruling that Akamai had presented substantial evidence that Limelight directed or controlled its customers. After we decided [Muniauction, Inc. v. Thomson Corp.](#), 532 F.3d 1318 (Fed. Cir. 2008), the district court granted Limelight's motion for reconsideration, holding as a matter of law that there could be no liability.

We reverse and reinstate the jury verdict. The jury heard substantial evidence from which it could find [**9] that Limelight directs or controls its customers' performance of each remaining method step, such that all steps of the method are attributable to Limelight. Specifically, Akamai presented substantial evidence demonstrating that Limelight conditions its customers' use of its content delivery network upon its customers' performance of the tagging and serving steps, and that Limelight establishes the manner or timing of its customers' performance. We review the evidence supporting "conditioning use of the content delivery network" and "establishing the manner or timing of performance" in turn.

First, the jury heard evidence that Limelight requires all of its customers to sign a standard contract. The contract delineates the steps customers must perform if they use the Limelight service. These steps include tagging and serving content. As to tagging, Limelight's form contract provides: "Customer shall be responsible for identifying via the then current [Limelight] process all [URLs] of the Customer Content to enable such Customer Content to be delivered by the [Limelight network]." J.A. 17807. In addition, the contract requires that Limelight's customers "provide [Limelight] with all cooperation [**10] and information reasonably necessary for [Limelight] to implement the [Content Delivery Service]." *Id.* As for the serving step, the form contract states that Limelight is not responsible for failures in its content delivery network caused by its customers' failure to serve content. *See id.* If a customer's server is down, Limelight's content delivery network need not perform. Thus, if Limelight's customers wish to use Limelight's product, they must

³To the extent our prior cases formed the predicate for the vacated panel decision, those decisions are also overruled.

tag and serve content. Accordingly, substantial evidence indicates that Limelight conditions customers' use of its content delivery network upon its customers' performance of the tagging and serving method steps.

remain, we return the case to the panel for resolution of all residual issues consistent with this opinion.

End of Document

Substantial evidence also supports finding that Limelight established the manner or timing of its customers' performance. Upon completing a deal with Limelight, Limelight sends its customer a welcome letter instructing the customer how to use Limelight's service. In particular, the [*1025] welcome letter tells the customer that a Technical Account Manager employed by Limelight will lead the implementation of Limelight's services. J.A. 17790. The welcome letter also contains a hostname assigned by Limelight that the customer "integrate[s] into [its] webpages." [**11] J.A. 17237; 17790. This integration process includes the tagging step. Moreover, Limelight provides step-by-step instructions to its customers telling them how to integrate Limelight's hostname into its webpages if the customer wants to act as the origin for content. J.A. 17220. If Limelight's customers do not follow these precise steps, Limelight's service will not be available. J.A. 587 at 121:22-122:22. Limelight's Installation Guidelines give Limelight customers further information on tagging content. J.A. 17791. Lastly, the jury heard evidence that Limelight's engineers continuously engage with customers' activities. Initially, Limelight's engineers assist with installation and perform quality assurance testing. J.A. 17790. The engineers remain available if the customer experiences any problems. J.A. 17235. In sum, Limelight's customers do not merely take Limelight's guidance and act independently on their own. Rather, Limelight establishes the manner and timing of its customers' [***1348] performance so that customers can only avail themselves of the service upon their performance of the method steps.

We conclude that the facts Akamai presented at trial constitute substantial evidence from [**12] which a jury could find that Limelight directed or controlled its customers' performance of each remaining method step. As such, substantial evidence supports the jury's verdict that all steps of the claimed methods were performed by or attributable to Limelight. Therefore, Limelight is liable for direct infringement.

III. CONCLUSION

At trial, Akamai presented substantial evidence from which a jury could find that Limelight directly infringed the '703 patent. Therefore, we reverse the district court's grant of judgment of noninfringement as a matter of law. Because issues in the original appeal and cross-appeal



Caution

As of: January 8, 2019 2:15 PM Z

Eli Lilly & Co. v. Teva Parenteral Meds., Inc.

United States Court of Appeals for the Federal Circuit

January 12, 2017, Decided

2015-2067

Reporter

845 F.3d 1357 *; 2017 U.S. App. LEXIS 555 **; 121 U.S.P.Q.2D (BNA) 1277 ***; 2017 WL 117164

ELI LILLY AND COMPANY, Plaintiff-Appellee v. TEVA PARENTERAL MEDICINES, INC., APP PHARMACEUTICALS LLC, PLIVA HRVATSKA D.O.O., TEVA PHARMACEUTICALS USA, INC., BARR LABORATORIES, INC., Defendants-Appellants

Subsequent History: Related proceeding at [Eli Lilly & Co. v. Glenmark Generics Inc., 2017 U.S. Dist. LEXIS 128604 \(S.D. Ind., Aug. 11, 2017\)](#)

Prior History: [**1] Appeal from the United States District Court for the Southern District of Indiana in No. 1:10-cv-01376-TWPKL, Judge Tanya Walton Pratt.

[Eli Lilly & Co. v. Teva Parenteral Meds., Inc., 126 F. Supp. 3d 1037, 2015 U.S. Dist. LEXIS 112221 \(S.D. Ind., Aug. 25, 2015\)](#)

[Eli Lilly & Co. v. Teva Parenteral Meds., Inc., 2014 U.S. Dist. LEXIS 43885 \(S.D. Ind., Mar. 31, 2014\)](#)

[Eli Lilly & Co. v. Teva Parenteral Meds., Inc., 2012 U.S. Dist. LEXIS 85369 \(S.D. Ind., June 20, 2012\)](#)

Disposition: AFFIRMED.

Core Terms

vitamin, pemetrexed, folic acid, infringement, patent, patients, skilled, district court, asserted claim, labeling, induce, pretreatment, toxicities, instructions, dose, cyanocobalamin, artisan, administering, prior art, references, invalid, steps, indefiniteness, ordinary person, supplementation, schedules, recites, Prescribing, acid, double patenting

Case Summary

Overview

HOLDINGS: [1]-The record supported the district court's

judgment that pharmaceutical companies that proposed to manufacture a generic form of the chemotherapy drug pemetrexed disodium could not do so without inducing infringement of U.S. Patent No. 7,772,209 ("the '209 patent"), in violation of 35 U.S.C.S. § 271, because the '209 patent protected a method for using pemetrexed that required patients to take specified doses of folic acid and vitamin B12 to avoid side effects that could occur, and that method was required to use the generic drugs the pharmaceutical companies proposed to manufacture; [2]-The '209 patent was not invalid for indefiniteness under former [35 U.S.C.S. § 112, para. 2](#) (replaced 2012) because it used the term "vitamin B12" but did not define that term.

Outcome

The court of appeals affirmed the district court's judgment.

LexisNexis® Headnotes

Business & Corporate

Compliance > ... > Infringement Actions > Infringing Acts > Indirect Infringement

Evidence > Burdens of Proof > Preponderance of Evidence

Patent Law > Jurisdiction & Review > Standards of Review > Clearly Erroneous Review

[HN1](#) **Infringing Acts, Indirect Infringement**

Pursuant to 35 U.S.C.S. § 271(b), whoever actively induces infringement of a patent shall be liable as an infringer. Importantly, liability for induced infringement under § 271(b) must be predicated on direct infringement. A patentee must also show that the

alleged infringer possessed the requisite intent to induce infringement, which requires that the alleged infringer knew or should have known his actions would induce actual infringements. A patentee seeking relief under § 271(e)(2) bears the burden of proving infringement by a preponderance of the evidence. Infringement is a question of fact that, after a bench trial, the United States Court of Appeals for the Federal Circuit reviews for clear error. Reversal for clear error is appropriate only when the court of appeals is left with a definite and firm conviction that a district court was in error.

Patent Law > Infringement Actions > Infringing Acts > Intent & Knowledge

Patent Law > ... > Claims > Claim Language > Product by Process

Patent Law > Subject Matter > Utility Patents > Process Patents

[HN2](#) Infringing Acts, Intent & Knowledge

Where no single actor performs all steps of a method claim, direct infringement only occurs if the acts of one are attributable to the other, such that a single entity is responsible for the infringement. The performance of method steps is attributable to a single entity in two types of circumstances: when that entity directs or controls others' performance, or when the actors form a joint enterprise.

Business & Corporate
Compliance > ... > Infringement Actions > Infringing Acts > Indirect Infringement

[HN3](#) Infringing Acts, Indirect Infringement

In its 2015 decision in *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, the United States Court of Appeals for the Federal Circuit held that directing or controlling others' performance includes circumstances in which an actor: (1) conditions participation in an activity or receipt of a benefit upon others' performance of one or more steps of a patented method; and (2) establishes the manner or timing of that performance. In addition to this two-prong test, the Federal Circuit observed that in the future, factual scenarios may arise which warrant attributing others' performance of method steps to a single actor. Going forward, principles of

attribution are to be considered in the context of the particular facts presented.

Business & Corporate
Compliance > ... > Infringement Actions > Infringing Acts > Indirect Infringement

[HN4](#) Infringing Acts, Indirect Infringement

The United States Court of Appeals for the Federal Circuit rejects the argument that an actor can only condition the performance of a step by imposing a legal obligation to do so, by interposing that step as an unavoidable technological prerequisite to participation, or both. In its 2015 decision in *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, the Federal Circuit found "conditioning" based on evidence that a defendant required all of its customers to sign a standard contract delineating the steps that customers had to perform to use the defendant's service. But the court did not limit "conditioning" to legal obligations or technological prerequisites. The court cautioned that principles of attribution are to be considered in the context of the particular facts presented, and expressly held that 35 U.S.C.S. § 271(a) infringement is not limited solely to principal-agent relationships, contractual arrangements, and a joint enterprise.

Business & Corporate
Compliance > ... > Infringement Actions > Infringing Acts > Indirect Infringement

Patent Law > Infringement Actions > Infringing Acts > Intent & Knowledge

[HN5](#) Infringing Acts, Indirect Infringement

The mere existence of direct infringement by physicians, while necessary to find liability for induced infringement, is not sufficient for inducement. To show inducement, a patent holder carries the burden of proving specific intent and action to induce infringement. Mere knowledge of the acts alleged to constitute infringement is not sufficient.

Business & Corporate
Compliance > ... > Infringement Actions > Infringing Acts > Indirect Infringement

Patent Law > Infringement Actions > Infringing
Acts > Intent & Knowledge

[HN6](#) **Infringing Acts, Indirect Infringement**

The intent for inducement must be with respect to the actions of an underlying direct infringer. The United States Court of Appeals for the Federal Circuit has not required evidence regarding the general prevalence of the induced activity. When an alleged inducement relies on a drug label's instructions, the question is not just whether those instructions describe the infringing mode, but whether the instructions teach an infringing use such that the Federal Circuit is willing to infer from those instructions an affirmative intent to infringe the patent. A label must encourage, recommend, or promote infringement. For purposes of inducement, it is irrelevant that some users may ignore the warnings in a proposed label. Depending on the clarity of the instructions, the decision to continue seeking FDA approval of those instructions may be sufficient evidence of specific intent to induce infringement. The Federal Circuit held in *AstraZeneca LP v. Apotex, Inc.* that a label that instructed users to follow the instructions in an infringing manner was sufficient even though some users would not follow the instructions. That was true even though the product in question had substantial noninfringing uses. Conversely, "vague" instructions that require one to look outside a label to understand the alleged implicit encouragement do not, without more, induce infringement.

Business & Corporate
Compliance > ... > Infringement Actions > Infringing
Acts > Indirect Infringement

[HN7](#) **Infringing Acts, Indirect Infringement**

Where product labeling already encourages infringement of asserted claims, a physician's decision to give patients even more specific guidance is irrelevant to the question of inducement.

Patent
Law > ... > Specifications > Definiteness > Precision
Standards

[HN8](#) **Definiteness, Precision Standards**

Pursuant to former [35 U.S.C.S. § 112, para. 2](#) (replaced

2012), a patent's specification must conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Patent Law > Jurisdiction & Review > Standards of
Review > De Novo Review

Patent
Law > ... > Specifications > Definiteness > Precision
Standards

Patent
Law > ... > Specifications > Definiteness > Fact &
Law Issues

[HN9](#) **Standards of Review, De Novo Review**

In *Nautilus, Inc. v. Biosig Instruments, Inc.*, the United States Supreme Court rejected the United States Court of Appeals for the Federal Circuit's "not amenable to construction or insolubly ambiguous" standard for indefiniteness and articulated, instead, that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. Indefiniteness is a question of law that the Federal Circuit reviews de novo, and the Federal Circuit has reiterated post-*Nautilus* that general principles of claim construction apply to the question of indefiniteness. The Federal Circuit reviews subsidiary factual determinations made by a district court based on extrinsic evidence for clear error.

Patent
Law > ... > Specifications > Definiteness > Fact &
Law Issues

[HN10](#) **Definiteness, Fact & Law Issues**

Understandings that lie outside patent documents about the meaning of terms to one of skill in the art or the science or state of the knowledge of one of skill in the art are factual issues.

Patent Law > Infringement Actions > Claim
Interpretation > Claim Differentiation

Patent Law > ... > Claims > Claim
Language > Dependent Claims

[HN11](#) **Claim Interpretation, Claim Differentiation**

The doctrine of claim differentiation presumes that dependent claims are of narrower scope than the independent claims from which they depend.

Patent Law > ... > Claims > Claim
Language > Duplication & Multiplicity

[HN12](#) **Claim Language, Duplication & Multiplicity**

Although the United States Court of Appeals for the Federal Circuit has in some instances interpreted claim terms to avoid redundancy, the rule is not inflexible.

Patent Law > Jurisdiction & Review > Standards of
Review > Clearly Erroneous Review

Patent Law > Nonobviousness > Elements &
Tests > Ordinary Skill Standard

Patent Law > Nonobviousness > Elements &
Tests > Prior Art

Patent Law > Nonobviousness > Evidence > Fact &
Law Issues

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[HN13](#) **Standards of Review, Clearly Erroneous Review**

To prevail on obviousness, an alleged infringer must prove by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so. Obviousness is a question of law based on underlying facts, and on appeal from a bench trial, the United States Court of Appeals for the Federal Circuit reviews the district court's conclusions of law de novo and findings of fact for clear error.

Patent Law > Double Patenting

[HN14](#) **Patent Law, Double Patenting**

The judicially-created doctrine of "obviousness-type double patenting" is intended to prevent the extension of the term of a patent by prohibiting the issuance of the claims in a second patent that are not patentably distinct from claims of the first patent. After determining the differences in the claims of the earlier and later patents, a court must determine if the alleged infringer has proven by clear and convincing evidence that the claims are not patentably distinct. A later patent claim is not patentably distinct from an earlier claim if the later claim is obvious over, or anticipated by, the earlier claim. Even where a patent is found invalid for obviousness-type double patenting, though, a patentee may file a terminal disclaimer. Obviousness-type double patenting is a question of law based on underlying facts, so on appeal from a bench trial, the United States Court of Appeals for the Federal Circuit reviews a district court's conclusions of law de novo and findings of fact for clear error.

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Judges: Before **[**2]** PROST, Chief Judge, NEWMAN and DYK, Circuit Judges.

Opinion by: PROST

Opinion

[*1361] [***1279] PROST, *Chief Judge*.

Eli Lilly & Co. ("Eli Lilly") is the owner of U.S. Patent No. 7,772,209 ("209 patent"). It filed this consolidated Hatch-Waxman suit against Teva Parenteral Medicines, Inc.; APP Pharmaceuticals LLC; Pliva Hrvatska D.O.O.; Teva Pharmaceuticals USA, Inc.; and Barr Laboratories, Inc. (collectively, "Defendants") to prevent Defendants from launching a generic version of a chemotherapy drug with accompanying product literature that would allegedly infringe methods of treatment claimed by the '209 patent. The United States District Court for the Southern District of Indiana held two bench trials, one on infringement and one on invalidity. The district court found that no single actor performs all steps of the asserted claims because the actions of both physicians and patients are required. Nonetheless, under [*Akamai Technologies, Inc. v. Limelight Networks, Inc.* \(Akamai V\), 797 F.3d 1020, 1022 \(Fed. Cir. 2015\)](#) (en banc) (per curiam), *cert. denied*, 136 S. Ct. 1661, 194 L. Ed. 2d 767 (2016), the court found direct infringement attributable to physicians and held Defendants liable for inducing that infringement. The court also determined that the asserted claims were not invalid for, inter alia, indefiniteness, obviousness, or obviousness-type double patenting.

For the reasons below, we affirm.

[***1280] BACKGROUND

The '209 patent [*3], which issued in 2010, relates to methods of administering the chemotherapy drug pemetrexed disodium ("pemetrexed") after pretreatment with two common vitamins—folic acid and vitamin B12. Pemetrexed is an antifolate that kills cancer cells by inhibiting the function [*1362] of folates, a class of nutrients necessary for cell reproduction. The purpose of the dual vitamin pretreatments is to reduce the toxicity of pemetrexed in patients. Eli Lilly markets pemetrexed under the brand name ALIMTA®, and the drug is used to treat certain types of lung cancer and mesothelioma.

Around 2008-2009, Defendants notified Eli Lilly that they had submitted Abbreviated New Drug Applications ("ANDAs") seeking approval by the Food and Drug

Administration ("FDA") to market generic versions of ALIMTA®. After the '209 patent issued, Defendants sent Eli Lilly additional notices regarding their ANDAs, including notices that they had filed Paragraph IV certifications under [21 U.S.C. § 355\(j\)\(2\)\(A\)\(vii\)\(IV\)](#), declaring that the '209 patent was invalid, unenforceable, or would not be infringed. Eli Lilly subsequently brought this consolidated action against Defendants for infringement under 35 U.S.C. § 271(e)(2). Specifically, Eli Lilly alleged that Defendants' generic drugs would be administered [**4] with folic acid and vitamin B12 pretreatments and, thus, result in infringement of the '209 patent. Defendants raised noninfringement and invalidity defenses.

Eli Lilly asserted claims 9, 10, 12, 14, 15, 18, 19, and 21 of the '209 patent at trial. Importantly, all of the asserted claims require patient pretreatment by "administering" or "administration of" folic acid. Claims 9 and 10 depend from claim 1, which recites:

1. A method of administering pemetrexed disodium to a patient in need thereof comprising *administering an effective amount of folic acid* and an effective amount of a methylmalonic acid lowering agent followed by administering an effective amount of pemetrexed disodium, wherein the methylmalonic acid lowering agent is selected from the group consisting of vitamin B12, hydroxycobalamin, cyano-10-chlorocobalamin, aquocobalamin perchlorate, aquo-10-cobalamin perchlorate, azidocobalamin, cobalamin, cyanocobalamin, or chlorocobalamin.

'209 patent col. 10 ll. 55-65 (emphasis added). The additional limitations of claims 9 and 10 restrict the dose of folic acid to particular ranges. *Id.* at col. 11 ll. 19-22.

Asserted claim 12 is independent and recites:

12. An improved method for administering pemetrexed disodium [**5] to a patient in need of chemotherapeutic treatment, wherein the improvement comprises:

- a) *administration of between about 350 µg and about 1000 µg of folic acid* prior to the first administration of pemetrexed disodium;
- b) administration of about 500 µg to about 1500 µg of vitamin B12, prior to the first administration of pemetrexed disodium; and
- c) administration of pemetrexed disodium.

Id. at col. 11 l. 25-col. 12 l. 4 (emphasis added).

Asserted claims 14, 15, 18, 19, and 21 depend from claim 12 and further limit the dose, schedule, or route of folic acid or vitamin B12 administration. *Id.* at col. 12 ll. 7-11, col. 12 ll. 16-20, col. 12 ll. 24-27.

The parties agree for purposes of this appeal that no single actor performs all steps of the asserted claims; rather, the steps are divided between physicians and patients. Though physicians administer vitamin B12 and pemetrexed, patients self-administer folic acid with guidance from physicians. Eli Lilly's theory of infringement therefore requires establishing liability for divided infringement—an area of [*1363] law that this court was actively reconsidering during the pendency of this case.

In June 2013, Defendants conditionally conceded induced infringement [*6] [*1364] under then-current law set forth in *Akamai Technologies, Inc. v. Limelight Networks, Inc.* (*Akamai II*), 692 F.3d 1301 (Fed. Cir. 2012) (en banc) (per curiam), *rev'd*, 134 S. Ct. 2111, 189 L. Ed. 2d 52 (2014).¹ At the time, the *Akamai II* decision was the subject of a petition to the Supreme Court for a writ of certiorari. The parties' stipulation included a provision reserving Defendants' right to litigate infringement if the Supreme Court reversed or vacated *Akamai II*.

Eli Lilly and Defendants proceeded with a bench trial on invalidity, after which the district court held that the asserted claims were [***1281] not invalid for, inter alia, obviousness or obviousness-type double patenting. The court had also previously rejected Defendants' contention that the asserted claims were invalid for indefiniteness of the term "vitamin B12." Defendants filed an appeal on invalidity, which was docketed in this court as Case No. 14-1455. While that appeal was pending, the Supreme Court reversed *Akamai II*, holding that liability for inducement cannot be found without direct infringement, and remanding for this court to possibly reconsider the standards for direct infringement. *Limelight Networks, Inc. v. Akamai Techs., Inc.* (*Akamai III*), 134 S. Ct. 2111, 189 L. Ed. 2d 52 (2014). In view of that development, the parties in this case filed a joint motion to remand the matter to the district court for the limited purpose of litigating infringement. [*7] We granted the motion.

The district court held a second bench trial in May 2015

and concluded in a decision issued on August 25, 2015 that Defendants would induce infringement of the '209 patent. As explained in further detail below, the court applied our intervening *Akamai V* decision, which had broadened the circumstances in which others' acts may be attributed to a single actor to support direct-infringement liability in cases of divided infringement.² See *Akamai V*, 797 F.3d at 1022. The court accordingly entered final judgment against Defendants, barring them from launching their generic products before the expiration of the '209 patent.

Defendants timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

Defendants appeal the district court's finding of induced infringement, as well as the court's decision that the asserted claims are not invalid for indefiniteness, obviousness, or obviousness-type double patenting. We will address each of these issues in turn.

I

HN1 [↑] Pursuant to 35 U.S.C. § 271(b), "[w]hoever actively induces infringement of a patent shall be liable as an infringer."³ Importantly, liability for induced infringement under § 271(b) "must be predicated on direct infringement." *Akamai III*, 134 S. Ct. at 2117. The patentee must also show that the alleged infringer possessed [*8] the requisite intent to induce infringement, which we have held requires that the alleged infringer "knew or should have known his actions would induce actual infringements." *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006) (en banc in relevant part) (internal quotation marks omitted). A patentee seeking relief under § 271(e)(2) bears the burden of proving infringement by a preponderance of the evidence. *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1366 (Fed. Cir. 2003).

² Following remand from the Supreme Court, a panel of this court initially found that the accused infringer in *Akamai* was not liable for direct infringement, *Akamai Techs., Inc. v. Limelight Networks, Inc.* (*Akamai IV*), 786 F.3d 899 (Fed. Cir. 2015), as had the first panel in the case, *Akamai Techs., Inc. v. Limelight Networks, Inc.* (*Akamai I*), 629 F.3d 1311 (Fed. Cir. 2010). We later vacated *Akamai IV* and took the case en banc, which resulted in the *Akamai V* decision.

¹ *Akamai II* held that "induced infringement can be found even if there is no single party who would be liable for direct infringement." 692 F.3d at 1317-18.

³ Section 271 was not amended by the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011).

"Infringement is a question of fact that, after a bench trial, we review for clear error." [*Alza Corp. v. Mylan Labs, Inc.*, 464 F.3d 1286, 1289 \(Fed. Cir. 2006\)](#). Reversal for clear error is appropriate "only when this court is left with a definite and firm conviction that the district court was in error." *Id.*

The district court relied in part on Defendants' proposed product labeling as evidence of infringement. For purposes of this case, the parties have agreed that Defendants' product labeling would be materially the same as the ALIMTA® product labeling, which consists of two documents: the Physician Prescribing Information and the Patient Information. Both documents include instructions regarding the administration of folic acid—the step that the district court found would be performed by patients but attributable to physicians. For example, the Physician Prescribing Information provides, among other things: **[**9]**

"Instruct patients to initiate folic acid 400 [µg] to 1000 [µg] orally once daily beginning 7 days before the first dose of [pemetrexed]" J.A. 11256.


"Instruct patients on the need for folic acid and vitamin B₁₂ supplementation to reduce treatment-related hematologic and gastrointestinal toxicity" J.A. 11278.

The Patient Information includes similar information:


[*1282]** "To lower your chances of side effects of [pemetrexed], you must also take folic acid . . . prior to and during your treatment with [pemetrexed]." J.A. 11253 (emphasis omitted).

"It is very important to take folic acid and vitamin B12 during your treatment with [pemetrexed] to lower your chances of harmful side effects. You must start taking 400-1000 micrograms of folic acid every day for at least 5 days out of the 7 days before your first dose of [pemetrexed]. . . ." *Id.* (emphasis omitted).

A

HN2  Where, as here, no single actor performs all steps of a method claim, direct infringement only occurs if "the acts of one are attributable to the other such that a single entity is responsible for the infringement." [*Akamai V*, 797 F.3d at 1022](#). The performance of method steps is attributable to a single entity in two types of circumstances: when that entity **[**10]** "directs or controls" others' performance, or when the actors "form a joint enterprise." *Id.* Eli Lilly did not pursue a joint enterprise theory, so the question of direct infringement before us is whether physicians direct or control their

patients' administration of folic acid.⁴

HN3  **[*1365]** In *Akamai V*, we held that directing or controlling others' performance includes circumstances in which an actor: (1) "conditions participation in an activity or receipt of a benefit" upon others' performance of one or more steps of a patented method, and (2) "establishes the manner or timing of that performance." *Id.* at 1023 (emphases added). In addition to this two-prong test, we observed that, "[i]n the future, other factual scenarios may arise which warrant attributing others' performance of method steps to a single actor. Going forward, principles of attribution are to be considered in the context of the particular facts presented." *Id.*

Here, the district court decided that "the factual circumstances [we]re sufficiently analogous to those in *Akamai V* to support a finding of direct infringement by physicians." [*Eli Lilly & Co. v. Teva Parenteral Meds., Inc. \(Eli Lilly III\)*, 126 F. Supp. 3d 1037, 1041 \(S.D. Ind. 2015\)](#). The court observed initially that taking folic acid in the manner recited by the asserted claims is a "critical" **[**11]** and "necessary" step to "reduc[e] . . . potentially life-threatening toxicities caused by pemetrexed," i.e., to "receive the benefit of the patented method." *Id.* at 1042. Regarding the first *Akamai V* prong, the court found, based on the product labeling, that "taking folic acid in the manner specified is a condition of the patient's participation in pemetrexed treatment." *Id.* Regarding the second prong, the court found that physicians would "prescrib[e] an exact dose of folic acid and direct[] that it be ingested daily." *Id.* at 1043. The court therefore held that, under *Akamai V*, the performance of all steps of the asserted claims would be attributable to physicians.

1

With respect to the first prong—conditioning participation in an activity or receipt of a benefit upon performance of one or more method steps—Defendants argue at the outset that the district court did not make a relevant finding because it misidentified the benefit that

⁴ Before the district court, Eli Lilly also asserted theories of direct infringement that did not rely on showing physicians' direction or control of patient action, arguing that: (1) as a matter of claim construction, physicians "administer" folic acid; and (2) under the doctrine of equivalents, physicians' actions are equivalent to putting folic acid into patients' bodies. The district court did not reach those issues. Although Eli Lilly asks us to reach them in the alternative, we need not do so in light of our decision to affirm the district court under *Akamai V*.

would be conditioned as the "benefit of the patented method, i.e., a reduction of potentially life-threatening toxicities caused by pemetrexed." Appellants' Opening Br. 21-22. We agree that a reduction in toxicities is not a benefit that physicians can condition (as it follows from folic acid **[**12]** pretreatment) and that the relevant benefit that may be conditioned on folic acid administration is pemetrexed treatment. But the court's discussion of reducing pemetrexed toxicities in relation to its direction-or-control analysis was not erroneous. A reduction in pemetrexed toxicities is relevant only if pemetrexed treatment is administered, and it provides a reason why physicians would condition the receipt of pemetrexed treatment on folic acid administration. The court recognized this relationship and correctly identified pemetrexed treatment as the benefit to be conditioned: "What is relevant is whether the physician sufficiently directs or controls the acts of the patients in such a manner as to condition participation in an activity or receipt of a benefit—in this case, treatment with pemetrexed in the manner that reduces toxicities—upon the performance **[***1283]** of a step of the patented method and establishes the manner and timing of the performance." *Eli Lilly III*, 126 F. Supp. 3d at 1042 (emphasis added); see also *id.* ("[T]aking folic acid in the manner specified is a condition of the patient's participation in pemetrexed treatment." (emphasis added)).


[*1366] The district court's finding that physicians "condition" pemetrexed treatment **[**13]** on the administration of folic acid is supported by the record evidence. The Physician Prescribing Information, which is "directed to the physician," J.A. 2181, explains that folic acid is a "[r]equirement for [p]remedication" in order "to reduce the severity of hematologic and gastrointestinal toxicity of [pemetrexed]." J.A. 11258. Consistent with the importance of folic acid pretreatment, the product labeling repeatedly states that physicians should "[i]nstruct patients" to take folic acid and includes information about folic acid dosage ranges and schedules. J.A. 11256; see also J.A. 11255, 11278. The Patient Information also informs patients that physicians may withhold pemetrexed treatment: "You will have regular blood tests before and during your treatment with [pemetrexed]. Your doctor may adjust your dose of [pemetrexed] or delay treatment based on the results of your blood test and on your general condition." J.A. 11253 (emphasis added).

Furthermore, Eli Lilly's expert, Dr. Chabner, testified that it is "the physician's responsibility to initiate the supplementation" of folic acid. J.A. 2181. He explained

that the product labeling shows that taking folic acid is "an absolute requirement" before pemetrexed treatment **[**14]** because "it wouldn't be safe to take the drug without the vitamin supplementation. . . . [I]t must be done this way." J.A. 2192; see also J.A. 2195 ("[I]t's an absolute requirement."), 2246 ("I think it's that important."). He further testified that if a physician realizes that a patient did not follow his or her instructions to take folic acid, then the "doctor will not give the pemetrexed." J.A. 2218. Even Defendants' expert, Dr. Schulz, acknowledged that it is "standard practice"—both his personally and physicians' generally—that a patient "must have taken their required folic acid in order to have the pemetrexed administered." J.A. 2329-40; see also J.A. 2304 ("I would withhold the pemetrexed therapy until [the patient] had initiated or resumed their folic acid treatment . . . [s]o as to avoid the toxicities associated with pemetrexed without vitamin replacement."). Dr. Schulz agreed that he was "not aware of any reputable institution or doctor . . . who, when they think the patient hasn't taken the required folic acid" would go ahead and administer pemetrexed. J.A. 2330-31.

The record is thus replete with evidence that physicians delineate the step of folic acid administration that patients **[**15]** must perform if they wish to receive pemetrexed treatment.

Defendants argue that mere guidance or instruction is insufficient to show "conditioning" under *Akamai V*. But the evidence regarding the critical nature of folic acid pretreatment and physicians' practices support a finding that physicians cross the line from merely guiding or instructing patients to take folic acid to conditioning pemetrexed treatment on their administration of folic acid. If a patient does not take folic acid as instructed, a physician, in his or her discretion, need not provide pemetrexed treatment based on the patient's failure to perform the step of folic acid administration. Defendants also complain that there is no evidence that physicians go further to "verify compliance" with their instructions or to "threaten" denial of pemetrexed treatment. Appellants' Opening Br. 22. Conditioning, however, does not necessarily require double-checking another's performance or making threats.

HN4  We also reject Defendants' argument that an actor can only condition the performance of a step "by imposing a legal obligation to do so, by interposing that **[*1367]** step as an unavoidable technological prerequisite to participation, or, **[**16]** as in *[Akamai V]*, both." *Id.* In *Akamai V*, we found "conditioning" based on

evidence that the defendant required all of its customers to sign a standard contract delineating the steps that customers had to perform to use the defendant's service. [797 F.3d at 1024](#). But we did not limit "conditioning" to legal obligations or technological prerequisites.⁵ We cautioned that "principles of attribution are to be considered in the context of the particular facts presented" and even expressly held that § 271(a) infringement "is not limited solely to principal-agent relationships, contractual arrangements, and joint enterprise." [Id. at 1023](#).

[*1284]** The product labeling, combined with the testimony discussed above, provide sufficient evidence that physicians condition pemetrexed treatment on folic acid pre-treatment.

2


With respect to the second prong—establishing the manner or timing of performance—Defendants argue that the product labeling "gives patients wide berth to select the dose . . . , the dosage form . . . , and the timing . . . of folic acid self-administration." Appellants' Opening Br. 23. Eli Lilly submits that expert testimony and product labeling demonstrate that "physicians prescribe or specify a dose of folic **[**17]** acid, specify that patients must ingest the folic acid daily during a particular span of days, and withhold pemetrexed if patients do not follow orders." Appellee's Br. 25. We agree with Eli Lilly.

The product labeling is again informative. For instance, the Physician Prescription Information instructs physicians not only to tell patients to take folic acid orally, but also to take "400 [µg] to 1000 [µg] [of folic acid] once daily beginning 7 days before the first dose of [pemetrexed]," accompanied with warnings about the consequences of non-compliance. J.A. 11256. That dosage range and schedule overlaps with all of the asserted claims' dosage ranges and schedules.⁶ In

addition, Dr. Chabner testified that "it's the doctor" who "decides how much [folic acid] the patient will take and when the patient takes it." J.A. 2197. In view of the record evidence, the court's finding that physicians establish the manner and timing of patients' folic acid intake is not clearly erroneous. Even if, as Defendants argue, patients are able to seek additional outside assistance regarding folic acid administration, such guidance is beyond what is required here to establish the manner or timing of performance **[**18]** and is therefore immaterial.

We therefore see no reversible error in the district court's finding that physicians condition patient participation in an activity **[*1368]** or receipt of a benefit (pemetrexed treatment) on folic acid administration and also establish the manner or timing of performance. Our holding today does not assume that patient action is attributable to a prescribing physician solely because they have a physician-patient relationship. We leave to another day what other scenarios also satisfy the "direction or control" requirement. The two-prong test that we set forth in *Akamai V* is applicable to the facts of this case and resolves the existence of underlying direct infringement.

B

Although we conclude that the two-prong *Akamai V* test is met here, this does not end our inquiry. [HN5](#)  "The mere existence of direct infringement by physicians, while necessary to find liability for induced infringement, is not sufficient for inducement." [Takeda Pharms. U.S.A., Inc. v. West-Ward Pharm. Corp., 785 F.3d 625, 631 \(Fed. Cir. 2015\)](#). To show inducement, Eli Lilly carries the burden of further proving "specific intent and action to induce infringement." [Takeda, 785 F.3d at 631](#). Mere "knowledge of the acts alleged to constitute infringement" is not sufficient. [DSU Med., 471 F.3d at 1305](#).

As noted before, the district court **[**19]** found that the administration of folic acid before pemetrexed administration was "not merely a suggestion or recommendation, but a critical step." [Eli Lilly III, 126 F.](#)


⁵ As Eli Lilly points out, nor did we rely on legal obligations or technological prerequisites to reach our decision in *Akamai V*. The standard contract in that case was not significant for imposing potential civil liability but for "delineat[ing] the steps" that customers would have to perform "if [they] wish[ed] to use [defendant's] product." [Akamai V, 797 F.3d at 1024](#). And we did not focus on whether a customer's failure to perform certain steps might have made it technologically impossible for other steps to occur. *Id.*

⁶ Asserted claims 9, 12, 14, and 15 recite administering "about 350 µg to about 1000 µg" of folic acid. '209 patent col. 11 ll.

19-20, col. 11 l. 25-col. 12 l. 4, col. 12 ll. 7-11. Asserted claims 10, 18, and 19 recite administering "350 µg to 600 µg" of folic acid. *Id.* at col. 11 ll. 21-23, col. 12 ll. 16-20. Asserted claim 21 recites either of those folic acid dosage ranges. *Id.* at col. 12 ll. 24-27. Asserted claim 19 further recites a schedule for folic acid administration "wherein folic acid is administered 1 to 3 weeks prior to the first administration of the pemetrexed." *Id.* at col. 12 ll. 18-20.

[Supp. 3d at 1042](#). It further held that Defendants induce physicians' infringement because physicians act "in accordance with Defendants' proposed labeling." *Id.* Accordingly, the district court concluded that Defendants would induce infringement of the '209 patent.

Defendants submit that, even if there is direct infringement, their product labeling does not induce such infringement. They argue that Eli Lilly has not offered any evidence of what physicians do "*in general*," offering instead only "speculation about how physicians *may* act." Appellants' Opening Br. 24 (second emphasis added). Furthermore, they submit that physicians "who merely follow the product label" are not induced to infringe because physicians must go beyond the labeling instructions—such as by prescribing specific doses of folic acid or requiring patients to keep "pill counts" or "pill diaries"—to infringe. *Id.* at 23, 26. We agree with Eli Lilly that Defendants' arguments are unavailing.


[***1285] We make two observations at the outset. First, to be clear, [HNG](#) the intent for inducement must be with respect to the actions of [**20] the underlying direct infringer, here physicians. Second, we have not required evidence regarding the general prevalence of the induced activity. When the alleged inducement relies on a drug label's instructions, "[t]he question is not just whether [those] instructions describ[e] the infringing mode, . . . but whether the instructions teach an infringing use *such that* we are willing to infer from those instructions an affirmative intent to infringe the patent." [Takeda, 785 F.3d at 631](#) (internal quotation marks omitted). "The label must encourage, recommend, or promote infringement." *Id.* For purposes of inducement, "it is irrelevant that some users may ignore the warnings in the proposed label." [AstraZeneca LP v. Apotex, Inc., 633 F.3d 1042, 1060 \(Fed. Cir. 2010\)](#).

Depending on the clarity of the instructions, the decision to continue seeking FDA approval of those instructions may be sufficient evidence of specific intent to induce infringement. [Id. at 1059](#). With respect to those instructions, we held in [AstraZeneca](#) that a label that instructed users to follow the instructions in an infringing manner was sufficient even [**1369] though some users would not follow the instructions. [Id. at 1059-60](#). This was true even though the product in question had substantial noninfringing uses. *Id.*

Conversely, "vague" instructions that [**21] require one to "look outside the label to understand the alleged

implicit encouragement" do not, without more, induce infringement. [Takeda, 785 F.3d at 632, 634](#). Defendants try to analogize the product labeling here to the labeling in [Takeda](#) that we held did not provide clear enough instructions for the infringing use to show inducement. [Takeda](#), however, is distinguishable. The generic manufacturer in that case sought FDA approval for a generic drug to be used as a prophylaxis for gout flares—a use not covered by the patents that had been asserted. [Id. at 628](#). The only link between the proposed use described on the labeling and the patented use was an instruction stating, "[i]f you have a gout flare while taking [the drug], tell your healthcare provider." [Id. at 632](#) (first alteration in original) (internal quotation marks omitted). The patent owner argued that physicians who are accordingly consulted might prescribe the drug for the infringing, off-label use and that the accused infringer was willfully blind to this possibility. *Id.* We rejected the patent owner's reliance on such "vague label language" and "speculation about how physicians may act." *Id.* The product labeling here is not so tenuously related to the use covered by the [**22] asserted claims, and Eli Lilly does not need to rely on speculation about physician behavior.

Again, the product labeling includes repeated instructions and warnings regarding the importance of and reasons for folic acid treatment, and there is testimony that the Physician Prescribing Information, as the name indicates, is directed at physicians. See J.A. 2181, 11253, 11255, 11256, 11258, 11278. The instructions are unambiguous on their face and encourage or recommend infringement.

Defendants rely heavily on evidence that physicians as a matter of practice take steps beyond the instructions in the product labeling, such as asking patients to keep pill diaries or pill counts, or confirming compliance with folic acid administration. For example, they point to Dr. Chabner's testimony that he gives patients instructions "beyond what the instruction is in th[e] patient information." J.A. 2235-36. But the asserted claims do not recite additional steps such as pill diaries, pill counts, and compliance measures. [HNT](#) Where the product labeling already encourages infringement of the asserted claims, as it does here, a physician's decision to give patients even more specific guidance is irrelevant to the [**23] question of inducement.⁷

⁷ As Dr. Chabner testified, such additional instructions are rightfully "left to the medical judgment of [the] doctor," depending on the circumstances. J.A. 2231.

In sum, evidence that the product labeling that Defendants seek would inevitably lead some physicians to infringe establishes the requisite intent for inducement. The district court did not clearly err in concluding that Defendants would induce infringement of the asserted claims of the '209 patent.

II

We turn next to the district court's holding that the limitation "vitamin B12" was not indefinite. [HN8](#)⁸ Pursuant to [35 U.S.C. § 112](#), ¶ 2, a patent specification must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."⁸ The district [\[*1370\]](#) court considered the indefiniteness of [\[***1286\]](#) the asserted claims before the Supreme Court changed the relevant standard in [Nautilus, Inc. v. Biosig Instruments, Inc.](#), [134 S. Ct. 2120](#), [189 L. Ed. 2d 37](#) (2014), and held that "vitamin B12" was not indefinite.⁹ [Eli Lilly & Co. v. Teva Parenteral Meds., Inc.](#) ([Eli Lilly I](#)), [No. 1:10-cv-1376-TWP-DKL](#), [2012 U.S. Dist. LEXIS 85369](#), [2012 WL 2358102](#), at *11-12 (S.D. Ind. June 20, 2012). The district court further construed "vitamin B12" to mean "cyanocobalamin," a particular vitamin supplement. [2012 U.S. Dist. LEXIS 85369](#), [\[WL\] at *12](#).

[HN9](#)⁹ In *Nautilus*, the Supreme Court rejected our "not amenable to construction or insolubly ambiguous" standard for indefiniteness and articulated, instead, that "a patent is invalid for indefiniteness if its claims, [\[**24\]](#) read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." [134 S. Ct. at 2124](#). Indefiniteness is a question of law that we review de novo. [Teva Pharms. USA, Inc. v. Sandoz, Inc.](#), [789 F.3d 1335](#), [1341](#) (Fed. Cir. 2015). We have reiterated post-*Nautilus* that "general principles of claim construction

apply" to the question of indefiniteness. [Biosig Instruments, Inc. v. Nautilus, Inc.](#), [783 F.3d 1374](#), [1377](#) (Fed. Cir. 2015) (internal quotation marks omitted). Accordingly, we review subsidiary factual determinations made by the district court based on extrinsic evidence for clear error. *Id.*; see also [Teva](#), [789 F.3d at 1341-42](#) (reviewing subsidiary factual findings in the indefiniteness context for clear error).

The parties do not dispute that, depending on the context, "vitamin B12" can be used in the art to refer either to cyanocobalamin specifically or, more broadly, to a class of compounds including pharmaceutical derivatives of cyanocobalamin. The parties do not dispute that the written description of the '209 patent uses the term both ways.¹⁰ Defendants argue that, because "vitamin B12" is used in two different ways in the intrinsic record, "it is impossible to determine" which meaning applies to the claims "with any reasonable certainty," as required by *Nautilus*. [\[**25\]](#) Appellants' Opening Br. 31. Eli Lilly counters that the claims of the '209 patent "involve administering a vitamin B₁₂ supplement to a patient," and in that context, "the one and only meaning" of vitamin B12 to a person of ordinary skill is cyanocobalamin. Appellee's Br. 35.


The district court expressly "accept[ed]" the testimony of Eli Lilly's expert, Dr. O'Dwyer, who concluded that a person of ordinary skill would understand "vitamin B12" to mean cyanocobalamin in the context of the patent claims. [Eli Lilly I](#), [2012 U.S. Dist. LEXIS 85369](#), [2012 WL 2358102](#), at *11. We do not defer to Dr. O'Dwyer's "ultimate conclusion [\[*1371\]](#) about claim meaning in the context of th[e] patent," as that is a legal question. [Teva](#), [789 F.3d at 1342](#). But the district court's underlying determination, based on extrinsic evidence, of what a person of ordinary skill would understand "vitamin B12" to mean in different contexts is a question of fact. See *id.* ([HN10](#)¹⁰) "Understandings that lie outside the patent documents about the meaning of terms to one of skill in the art or the science or state of the knowledge of one of skill in the art are factual issues."). Dr. O'Dwyer testified that, although "vitamin

⁸ Paragraph 2 of [35 U.S.C. § 112](#) was replaced with [§ 112\(b\)](#) by [§ 4\(c\)](#) of the AIA, and [§ 4\(e\)](#) makes that change applicable "to any patent application that is filed on or after" September 16, 2012. [Pub. L. No. 112-29](#), [§ 4](#), [125 Stat. at 296-97](#). Because the application resulting in the '209 patent was filed before that date, we refer to the pre-AIA version of [§ 112](#).


⁹ Under the prevailing standard at the time, a term was indefinite only if it was "not amenable to construction" or was "insolubly ambiguous." [Datamize, LLC v. Plumtree Software, Inc.](#), [417 F.3d 1342](#), [1347](#) (Fed. Cir. 2005) (internal quotation marks omitted), *overruled by* [Nautilus](#), [134 S. Ct. at 2124](#).

¹⁰ The specification provides that "[t]he term 'vitamin B12' refers to vitamin B12 and its pharmaceutical derivatives," and that "[p]referably the term refers to vitamin B12, cobalamin, and chlorocobalamin." '209 patent col. 5 ll. 5-10. The district court held, and Defendants do not dispute on appeal, that this language did not signify that the patentee was redefining the term "vitamin B12." [Eli Lilly I](#), [2012 U.S. Dist. LEXIS 85369](#), [2012 WL 2358102](#), at *10-11.

B12" can refer to a class of compounds in other contexts, it refers specifically to cyanocobalamin when "vitamin B12" is prescribed **[**26]** in the medical field. See, e.g., J.A. 3571 ("Vitamin B12" is used by medical oncologists to mean a particular vitamin supplement, and medical oncologists refer to 'vitamin B12,' and prescribe 'vitamin B12,' without further explanation or definition."). We see no clear error in the district court's acceptance of the understanding that "vitamin B12," when used to refer to vitamin B12 supplementation in a medical context, refers to cyanocobalamin.¹¹ In view of this understanding, **[***1287]** and because the specification uses "vitamin B12" primarily in two ways, we do not face the problem that we did in *Teva*, in which the disputed term did "not have a plain meaning to one of skill in the art" that could be determined from context. [789 F.3d at 1345](#).

The claim language here would inform a person of ordinary skill that the term "vitamin B12," as used in the '209 patent claims, refers to "cyanocobalamin." First, the claims, on their face, are directed to administering vitamin supplements, including vitamin B12, followed by chemotherapy treatment. This context informs persons of ordinary skill that "vitamin B12" is being used to refer to the supplementation form of vitamin B12, cyanocobalamin. Second, the structure of the claims **[**27]** also supports such an understanding. Claim 1 requires administering a "methylmalonic acid lowering agent . . . selected from the group consisting of," inter alia, vitamin B12 and cyanocobalamin. '209 patent col. 10 ll. 61-65. Claim 2, which depends from claim 1, further requires that "the methylmalonic acid lowering agent is vitamin B12." *Id.* at col. 10 ll. 66-67. Eli Lilly asserts, and Defendants do not dispute, that if "vitamin B12" were to refer to a class of compounds, then claim 2 would be the same scope as claim 1, as claim 2 "would encompass the same methylmalonic acid lowering agents set forth in claim 1." Appellee's Br. 36. [HN11](#)  The doctrine of claim differentiation, however, presumes that dependent claims are "of narrower scope than the independent claims from which they depend." [AK Steel Corp. v. Sollac & Ugine, 344 F.3d 1234, 1242 \(Fed. Cir. 2003\)](#). Reading the claims to require "vitamin B12" to be a specific compound in the class of "methylmalonic acid lowering agents" would avoid this

problem, as it would render claim 2, and all of the claims that depend from it, narrower than claim 1.

Defendants submit that, if "vitamin B12" means "cyanocobalamin," then claim 1 recites a Markush group of "methylmalonic acid lowering agents" that lists the same compound **[**28]** twice. [HN12](#)  Although we have in some instances interpreted claim terms to avoid redundancy, "the rule is not inflexible." [Power Mosfet Techs., LLC v. Siemens AG, 378 F.3d 1396, 1409-10 \(Fed. \[*1372\] Cir. 2004\)](#); see also [Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp., 831 F.3d 1350, 1363-64 \(Fed. Cir. 2016\)](#); Manual of Patent Examining Procedure § 2173.05(h)(I) ("The mere fact that a compound may be embraced by more than one member of a Markush group recited in the claim does not necessarily render the scope of the claim unclear."). Here, the redundancy is supported by the prosecution history, during which the examiner stated that vitamin B12 and cyanocobalamin "are the same" agents. J.A. 4239. Therefore, faced with an interpretation that would read redundancy into claim 1 and another that would violate the doctrine of claim differentiation, we hold that the claims here support the former result over the latter.

We are not persuaded by Defendants' contention that the prosecution history fails to "provide reasonable confidence in any particular meaning of the term 'vitamin B12.'" Appellants' Opening Br. 30. In response to the examiner's statement that "vitamin B12" and "cyanocobalamin" are synonymous, the patentee initially removed the term "cyanocobalamin" from the proposed claims. See J.A. 4825-27, 4832-33. Later during prosecution, the patentee added "cyanocobalamin" back **[**29]** into the claim that eventually issued as claim 1. J.A. 4836. Defendants do not point to any reason, though, that a person of ordinary skill would understand the patentee's decision to ultimately include "cyanocobalamin" in the claim language to be a departure from the understanding expressed by the examiner that "vitamin B12" and "cyanocobalamin" refer to the same compound. The prosecution history here does not detract from, and is consistent with, the other intrinsic evidence that would inform a skilled artisan regarding the scope of the claim term "vitamin B12."

We therefore hold that a person of ordinary skill in the art would understand the scope of the claim term "vitamin B12" with reasonable certainty. Applying *Nautilus* in this case does not lead us to a different result from the district court's conclusion on the question of indefiniteness.

III

¹¹ Indeed, Defendants' expert, Dr. Green, agreed that "in the strict biochemical nomenclature, the term 'vitamin B12' is restricted to cyanocobalamin," J.A. 3767, and that it can refer specifically to cyanocobalamin in the context of vitamin B12 injections, J.A. 3748-49.

Next, we address Defendants' arguments that the asserted claims were obvious over several references that are not disputed to be prior art as of the critical date in June 1999. [HN13](#)¹² To prevail on obviousness, an alleged infringer must prove by clear and convincing evidence "that a skilled artisan would have been motivated to combine the teachings [\[**30\]](#) of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." [Procter & Gamble Co. v. Teva Pharm. USA, Inc.](#), 566 F.3d 989, 994 [\[***1288\]](#) (Fed. Cir. 2009) (internal quotation marks omitted). Obviousness is a question of law based on underlying facts, and "[o]n appeal from a bench trial, this court reviews the district court's conclusions of law de novo and findings of fact for clear error." [Prometheus Labs., Inc. v. Roxane Labs., Inc.](#), 805 F.3d 1092, 1097 (Fed. Cir. 2015) (internal quotation marks omitted).

In a thorough opinion, the district court found, inter alia, that a skilled artisan would not have been motivated to: (1) use folic acid pretreatment with pemetrexed; (2) use vitamin B12 pretreatment with pemetrexed; or (3) use the claimed doses and schedules of folic acid and vitamin B12 pretreatments with pemetrexed. The court also found that Eli Lilly had established several secondary considerations in favor of nonobviousness. On appeal, Defendants contend that all of those findings were erroneous. Eli Lilly submits that Defendants' [\[*1373\]](#) arguments "amount to nothing more than an effort to reargue the facts." Appellee's Br. 46.

We agree with Eli Lilly that Defendants' arguments fail to raise reversible error with respect to at least the findings that a skilled artisan [\[**31\]](#) would not have been motivated to use vitamin B12 pretreatment with pemetrexed, let alone the appropriate doses and schedules of such vitamin B12 pretreatment.

A

The district court found, based upon two abstracts published in 1998 by Dr. Niyikiza ("the Niyikiza abstracts"),¹² that a skilled artisan "would have concluded that vitamin B₁₂ deficiency was not the

problem in pemetrexed toxicity." [Eli Lilly & Co. v. Teva Parenteral Meds., Inc. \(Eli Lilly II\)](#), No. 1:10-cv-01376-TWP-DWL, 2014 U.S. Dist. LEXIS 43885, 2014 WL 1350129, at *10 (S.D. Ind. Mar. 31, 2014). It further found that a skilled artisan would not have used vitamin B12 supplementation to address antifolate toxicities because of "concern[] about . . . a reduction of efficacy of the antifolate" treatment. [2014 U.S. Dist. LEXIS 43885](#), [\[WL\]](#) at *11.

Dr. Niyikiza was an Eli Lilly scientist at the time and is the named inventor on the '209 patent. In 1997, he performed statistical analyses to try to determine which clinical trial patients were likely to develop toxicities from pemetrexed treatment. J.A. 1045, 1071-72. He published [\[**32\]](#) the results in the Niyikiza abstracts and reported a correlation between increased pemetrexed toxicities and elevated homocysteine levels. J.A. 7948, 7950-51. Elevated homocysteine levels serve as an indicator of either a folic acid or vitamin B12 deficiency, but they do not indicate which of those two vitamins is specifically lacking. J.A. 622, 719, 7910. Levels of another marker, methylmalonic acid ("MMA"), serve more specifically as an indicator of vitamin B12 deficiency. J.A. 720. But the Niyikiza abstracts reported that "no correlation between toxicity . . . and [MMA levels] was seen." J.A. 7948.

Given the toxicity correlations that Dr. Niyikiza observed with homocysteine levels but not with MMA levels, Eli Lilly's experts testified that the Niyikiza abstracts "present[ed] no evidence for a relationship of vitamin B12 and pemetrexed toxicity" and would not have motivated a skilled artisan to administer vitamin B12 to patients to address pemetrexed toxicity. J.A. 1466-67; see also J.A. 1475, 1942. Defendants' expert, Dr. Ratain, confirmed that if a patient exhibits elevated homocysteine but normal MMA levels, a skilled artisan "would conclude that that patient was folate deficient" but "not [\[**33\]](#) [vitamin] B12 deficient." J.A. 622-23.

To try to overcome this missing link between vitamin B12 deficiency and pemetrexed toxicity, Defendants turn to other prior art references. They argue that, based on those references and perhaps preexisting knowledge, a person of ordinary skill would have known that folate deficiency is correlated with pemetrexed toxicity and that vitamin B12 "directly affect[s] the amount of folate available to healthy cells." Appellants' Opening Br. 45 (citing J.A. 2482, 7894, 7910-11, 8086). As a result, they argue, skilled artisans would have been motivated to use vitamin B12, along with folic acid, to address pemetrexed toxicities. *Id.* Put another way, if

¹²C. Niyikiza et al., LY231514 (MTA): Relationship of Vitamin Metabolite Profile to Toxicity, 17 PROC. OF AM. SOCIETY OF CLINICAL ONCOLOGY 558a, Abstract 2139 (1998); C. Niyikiza et al., MTA (LY231514): Relationship of Vitamin Metabolite Profile, Drug Exposure, and Other Patient Characteristics to Toxicity, 9 ANNALS OF ONCOLOGY 126, Abstract 609P (4th Supp. 1998).

[*1374] we assume that the prior art would have motivated skilled artisans to use folic acid pretreatment to counter pemetrexed toxicity (an issue we do not reach), Defendants submit that those skilled artisans would have also used vitamin B12 as part of the pretreatment because the biochemical pathways for vitamin B12 and folic acid are related. Defendants further submit that other prior art "expressly teaches that folic acid supplementation *improves* the therapeutic index [***1289] of pemetrexed," so a skilled artisan would not have [**34] been concerned about using vitamin B12 supplementation to reduce pemetrexed toxicities. *Id.* at 46.

But the parties' experts agreed that nothing in the literature as of the critical date described "cancer patients being provided with vitamin B12 supplementation prior to receiving any antifolate," with or without folic acid. J.A. 597-98; see also J.A. 1957. Defendants fail to point to evidence that, even if folic acid supplementation were known to improve effects of pemetrexed treatment, a skilled artisan would have thought the same of vitamin B12. Indeed, Eli Lilly offered expert testimony that a skilled artisan would have viewed the use of vitamin B12 with antifolates as "a problem" based on "having to increase the [antifolate] dose to get the same activity" of cancer treatment. J.A. 1453-54.

We are therefore not convinced that the district court committed clear error in concluding that Defendants failed to carry their burden of proving that it would have been obvious to a person of ordinary skill to use vitamin B12 pretreatment to reduce pemetrexed toxicities.

B

Regarding the dose and schedule of vitamin B12, the district court reiterated that "there are no prior art references where *any amount* [**35] of vitamin B₁₂ pretreatment had been used with an antifolate in the treatment of cancer." *Eli Lilly II*, 2014 U.S. Dist. LEXIS 43885, 2014 WL 1350129, at *13 (emphasis added). The court also discounted Defendants' citations to literature outside the field of oncology. 2014 U.S. Dist. LEXIS 43885, [WL] at *13-14.

Defendants argue that, "[o]nce a [skilled artisan] is motivated to use vitamin B12 pretreatment," selecting a dose and schedule for vitamin B12 "would have been routine." Appellants' Opening Br. 47. Setting aside motivation to use vitamin B12 pretreatment in the first instance, Defendants only cite evidence of vitamin B12 doses and schedules that are "routine" in other medical

contexts. See, e.g., J.A. 8150, 8169, 756-57. There is no evidence that, considering the context of pemetrexed treatment and associated toxicity problems, a person of ordinary skill would have applied such doses and schedules wholesale.

We therefore also see no clear error in the court's finding that Defendants failed to carry their burden of proving that the prior art disclosed the claimed doses and schedules of vitamin B12 for purposes of pemetrexed pretreatment.

C

Defendants make two additional, overarching arguments that we also find unavailing.

First, Defendants cite *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342 (Fed. Cir. 2007), to argue that the district court erred by accepting [**36] expert testimony that was inconsistent with the express disclosures of the prior art. But *PharmaStem* is distinguishable. In that case, we discounted testimony regarding prior art references that "[could not] be reconciled with statements made by the inventors in the joint specification [of the asserted patents] and with the prior art references themselves." *Id.* at 1361. Here, despite Defendants' averments, we do not perceive any irreconcilable differences between [*1375] the prior art disclosures on their face and the testimony regarding whether a person of ordinary skill would have been motivated to use vitamin B12 pretreatment in the claimed doses and schedules with pemetrexed treatment.


Second, Defendants argue that the district court committed legal error by requiring an express prior art disclosure of the claimed combination because *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007), rejected such a "rigid" formula in favor of a more flexible inquiry. *Id.* at 402-03. While *KSR* did make the obviousness inquiry more flexible, it does not advance Defendants' position here. Defendants cite to two prior art references that would purportedly "motivate a [skilled artisan] to review literature regarding known doses and schedules for vitamin B12 supplementation." Appellants' [**37] Opening Br. 51. But those references merely note in passing that vitamin B12 can be related to homocysteine levels and folate biochemical pathways. See J.A. 7894, 7910. Defendants do not cite to any testimony to support their contention that those references would motivate a skilled artisan to arrive at the claimed use of vitamin B12 as a pretreatment for

pemetrexed, especially in view of the evidence of gaps and concerns regarding the prior art discussed above.

The district court did not commit reversible error in finding that the prior art fails to render obvious use of vitamin B12 pretreatment with pemetrexed, or use of the doses and schedules of vitamin B12 that are recited in the asserted claims. We therefore affirm the *****1290** determination of nonobviousness. We need not reach the other grounds put forth for obviousness.

IV

Finally, we address Defendants' argument that the district court erred in holding that the asserted claims are not invalid for obviousness-type double patenting over U.S. Patent No. 5,217,974 ("974 patent"), an earlier patent also owned by Eli Lilly.

HN14  The judicially-created "doctrine of obviousness-type double patenting is intended to 'prevent the extension of the term of a patent . . . by prohibiting the issuance *****38** of the claims in a second patent not patentably distinct from the claims of the first patent.'" *Eli Lilly & Co. v. Teva Parenteral Meds., Inc.*, 689 F.3d 1368, 1376 (Fed. Cir. 2012) (alteration in original) (quoting *In re Longi*, 759 F.2d 887, 892 (Fed. Cir. 1985)). After determining the differences in the claims of the earlier and later patents, the court must determine if the alleged infringer has proven by clear and convincing evidence that the claims are not patentably distinct. *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 962, 968 (Fed. Cir. 2001). "A later patent claim is not patentably distinct from an earlier claim if the later claim is obvious over, or anticipated by, the earlier claim." *Id.* Even where a patent is found invalid for obviousness-type double patenting, though, a patentee may file a terminal disclaimer. *Boehringer Ingelheim Int'l GmbH v. Barr Labs., Inc.*, 592 F.3d 1340, 1347 (Fed. Cir. 2010); see also *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (noting that there is no "prohibition on post-issuance terminal disclaimers" and that "[a] terminal disclaimer can indeed supplant a finding of invalidity for double patenting"). Obviousness-type double patenting is a question of law based on underlying facts, so "[o]n appeal from a bench trial, this court reviews the district court's conclusions of law de novo and findings of fact for clear error." *Prometheus*, 805 F.3d at 1097 (internal quotation marks omitted).

Defendants argued to the district court that the asserted claims of the '209 patent **[*1376]** are obvious variants of claim 20 of the '974 patent. The court *****39** found

that the asserted claims differ from claim 20 of the '974 patent "in that the Asserted Claims limit the drug to pemetrexed and the administration to a patient, use a dose range for folic acid of 350-1000 µg or 350-600 µg and add[] vitamin B12, whereas claim 20 of the '974 Patent discloses the use of a much greater amount of folic acid—500-30,000 µg—with an antifolate . . . administered to a mammal." *Eli Lilly II*, 2014 U.S. Dist. LEXIS 43885, 2014 WL 1350129, at *17. In particular, the '974 patent lacks any recitation of vitamin B12 pretreatment, let alone dosage ranges or schedules of such pretreatment.

For many of the same reasons it articulated in its obviousness analysis and with additional explanation, the district court found that the use of pemetrexed, use of vitamin B₁₂, and doses and schedules of the asserted claims were patentably distinct from claim 20 of the '974 patent. 2014 U.S. Dist. LEXIS 43885, [WL] at *17-18. In relevant part, the district court held that, "as previously discussed, there would have been no reason for a [skilled artisan] to add vitamin B12 to the folic acid pretreatment." 2014 U.S. Dist. LEXIS 43885, [WL] at *17. For the same reasons that we discussed with respect to nonobviousness, the court did not err in finding that those limitations regarding vitamin B12 would not have been obvious to a person of ordinary skill.

Therefore, we affirm *****40** the district court's conclusion that the asserted claims are not invalid for obviousness-type double patenting.

CONCLUSION

For the foregoing reasons, we affirm the district court's judgment.

AFFIRMED

End of Document

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

[Docket No. PTO-P-2018-0053]

2019 Revised Patent Subject Matter Eligibility Guidance

AGENCY: United States Patent and Trademark Office, Commerce.

ACTION: Examination Guidance; Request for comments.

SUMMARY: The United States Patent and Trademark Office (USPTO) has prepared revised guidance (2019 Revised Patent Subject Matter Eligibility Guidance) for use by USPTO personnel in evaluating subject matter eligibility. The 2019 Revised Patent Subject Matter Eligibility Guidance revises the procedures for determining whether a patent claim or patent application claim is directed to a judicial exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the USPTO's Subject Matter Eligibility Guidance in two ways. First, the 2019 Revised Patent Subject Matter Eligibility Guidance explains that abstract ideas can be grouped as, e.g., mathematical concepts, certain methods of organizing human activity, and mental processes. Second, this guidance explains that a patent claim or patent application claim that recites a judicial exception is not "directed to" the judicial exception if the judicial exception is integrated into a practical application of the judicial exception. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim. The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance.

DATES:

Applicable Date: The 2019 Revised Patent Subject Matter Eligibility Guidance is effective on January 7, 2019. The 2019 Revised Patent Subject Matter Eligibility Guidance applies to all applications, and to all patents resulting from applications, filed before, on, or after January 7, 2019.

Comment Deadline Date: Written comments must be received on or before March 8, 2019.

ADDRESSES: Comments must be sent by electronic mail message over the internet addressed to: *Eligibility2019@uspto.gov*.

Electronic comments submitted in plain text are preferred, but also may be submitted in ADOBE® portable document format or MICROSOFT WORD® format. Comments not submitted electronically should be submitted on paper in a format that facilitates convenient digital scanning into ADOBE® portable document format. The comments will be available for viewing via the USPTO's internet website (<http://www.uspto.gov>). Because comments will be made available for public inspection, information that the submitter does not desire to make public, such as an address or phone number, should not be included in the comments.

FOR FURTHER INFORMATION CONTACT: June E. Cohan, Senior Legal Advisor, at 571-272-7744 or Carolyn Kosowski, Senior Legal Advisor, at 571-272-7688, both with the Office of Patent Legal Administration.

SUPPLEMENTARY INFORMATION: Patent subject matter eligibility under 35 U.S.C. 101 has been the subject of much attention over the past decade. Recently, much of that attention has focused on how to apply the U.S. Supreme Court's framework for evaluating eligibility (often called the *Alice/Mayo* test).¹ Properly applying the *Alice/Mayo* test in a consistent manner has proven to be difficult, and has caused uncertainty in this area of the law. Among other things, it has become difficult in some cases for inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent-eligible. The legal uncertainty surrounding Section 101 poses unique

challenges for the USPTO, which must ensure that its more than 8500 patent examiners and administrative patent judges apply the *Alice/Mayo* test in a manner that produces reasonably consistent and predictable results across applications, art units and technology fields.

Since the *Alice/Mayo* test was announced and began to be extensively applied, the courts and the USPTO have tried to consistently distinguish between patent-eligible subject matter and subject matter falling within a judicial exception. Even so, patent stakeholders have expressed a need for more clarity and predictability in its application. In particular, stakeholders have expressed concern with the proper scope and application of the "abstract idea" exception. Some courts share these concerns, for example as demonstrated by several recent concurrences and dissents in the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit") calling for changes in the application of Section 101 jurisprudence.² Many stakeholders, judges, inventors, and practitioners across the spectrum have argued that something needs to be done to increase clarity and consistency in how Section 101 is currently applied.

To address these and other concerns, the USPTO is revising its examination procedure with respect to the first step of the *Alice/Mayo* test³ (Step 2A of the USPTO's Subject Matter Eligibility Guidance as incorporated into the Manual of Patent Examining Procedure ("MPEP") 2106)⁴ by: (1) Providing groupings of subject matter that is considered an abstract idea; and (2) clarifying that a claim is not "directed to" a judicial exception if the judicial exception is integrated into a practical application of that exception.

² See, e.g., *Interval Licensing LLC, v. AOL, Inc.*, 896 F.3d 1335, 1348 (Fed. Cir. 2018) (Plager, J., concurring in part and dissenting in part); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1377 (Fed. Cir. 2017) (Linn, J., dissenting in part and concurring in part); *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1376 (Fed. Cir. 2018) (Lourie, J., joined by Newman, J., concurring in denial of rehearing en banc).

³ The first step of the *Alice/Mayo* test is to determine whether the claims are "directed to" a judicial exception. *Alice*, 573 U.S. at 217 (citing *Mayo*, 566 U.S. at 77).

⁴ All references to the MPEP in the 2019 Revised Patent Subject Matter Eligibility Guidance are to the Ninth Edition, Revision 08-2017 (rev. Jan. 2018), unless otherwise indicated.

¹ *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217-18 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012)).

Section I of this 2019 Revised Patent Subject Matter Eligibility Guidance explains that the judicial exceptions are for subject matter that has been identified as the “basic tools of scientific and technological work,”⁵ which includes “abstract ideas” such as mathematical concepts, certain methods of organizing human activity, and mental processes; as well as laws of nature and natural phenomena. Only when a claim recites a judicial exception does the claim require further analysis in order to determine its eligibility. The groupings of abstract ideas contained in this guidance enable USPTO personnel to more readily determine whether a claim recites subject matter that is an abstract idea.

Section II explains that the USPTO has set forth a revised procedure, rooted in Supreme Court caselaw, to determine whether a claim is “directed to” a judicial exception under the first step of the *Alice/Mayo* test (USPTO Step 2A).

Section III explains the revised procedure that will be applied by the USPTO. The procedure focuses on two aspects of Revised Step 2A: (1) Whether the claim recites a judicial exception; and (2) whether a recited judicial exception is integrated into a practical application. Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim “directed to” a judicial exception, thereby triggering the need for further analysis pursuant to the second step of the *Alice/Mayo* test (USPTO Step 2B). Finally, if further analysis at Step 2B is needed (for example to determine whether the claim merely recites well-understood, routine, conventional activity), this 2019 Revised Patent Subject Matter Eligibility Guidance explains that the examiner or administrative patent judge will proceed in accordance with existing USPTO guidance as modified in April 2018.⁶

The USPTO is seeking public comment on its subject matter eligibility guidance, and particularly the 2019 Revised Patent Subject Matter Eligibility Guidance. The USPTO is determined to continue its mission to provide predictable and reliable patent rights in

accordance with this rapidly evolving area of the law. The USPTO’s ultimate goal is to draw distinctions between claims to principles in the abstract and claims that integrate those principles into a practical application. To that end, the USPTO may issue further guidance, or modify the current guidance, in the future based on its review of the comments received, further experience of the USPTO and its stakeholders, and additional judicial actions. Implementation of examination guidance on eligibility is an iterative process and may continue with periodic supplements. The USPTO invites the public to submit suggestions on eligibility-related topics to address in future guidance supplements as part of their comments on the USPTO’s subject matter eligibility guidance.

Impact on Examination Procedure and Prior Examination Guidance: This 2019 Revised Patent Subject Matter Eligibility Guidance supersedes MPEP 2106.04(II) (Eligibility Step 2A: Whether a Claim Is Directed to a Judicial Exception) to the extent it equates claims “reciting” a judicial exception with claims “directed to” a judicial exception, along with any other portion of the MPEP that conflicts with this guidance. A chart identifying portions of the MPEP that are affected by this guidance will be available for viewing via the USPTO’s internet website (<http://www.uspto.gov>). This 2019 Revised Patent Subject Matter Eligibility Guidance also supersedes all versions of the USPTO’s “Eligibility Quick Reference Sheet Identifying Abstract Ideas” (first issued in July 2015 and updated most recently in July 2018). Eligibility-related guidance issued prior to the Ninth Edition, R–08.2017, of the MPEP (published Jan. 2018) should not be relied upon. However, any claim considered patent eligible under prior guidance should be considered patent eligible under this guidance.

This guidance does not constitute substantive rulemaking and does not have the force and effect of law. The guidance sets out agency policy with respect to the USPTO’s interpretation of the subject matter eligibility requirements of 35 U.S.C. 101 in view of decisions by the Supreme Court and the Federal Circuit. The guidance was developed as a tool for internal USPTO management and does not create any right or benefit, substantive or procedural, enforceable by any party against the USPTO. Rejections will continue to be based upon the substantive law, and it is those rejections that are appealable to the Patent Trial and Appeal Board (PTAB) and the courts. All USPTO personnel

are, as a matter of internal agency management, expected to follow the guidance. Failure of USPTO personnel to follow the guidance, however, is not, in itself, a proper basis for either an appeal or a petition.

I. Groupings of Abstract Ideas

The Supreme Court has held that the patent eligibility statute, Section 101, contains an implicit exception for “[l]aws of nature, natural phenomena, and abstract ideas,” which are “the basic tools of scientific and technological work.”⁷ Yet, the Court has explained that “[a]t some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,” and has cautioned “to tread carefully in construing this exclusionary principle lest it swallow all of patent law.”⁸

Since the *Alice* case, courts have been “compare[ing] claims at issue to those claims already found to be directed to an abstract idea in previous cases.”⁹ Likewise, the USPTO has issued guidance to the patent examining corps about Federal Circuit decisions applying the *Alice/Mayo* test, for instance describing the subject matter claimed in the patent in suit and noting whether or not certain subject matter has been identified as an abstract idea.¹⁰

⁷ *Alice Corp.*, 573 U.S. at 216 (internal citation and quotation marks omitted); *Mayo*, 566 U.S. at 71.

⁸ *Id.* (internal citation and quotation marks omitted).

⁹ See *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016); see also *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (“[T]he decisional mechanism courts now apply [to identify an abstract idea] is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.”).

¹⁰ See, e.g., 2014 Interim Guidance on Subject Matter Eligibility, 79 FR 74618, 74628–32 (Dec. 16, 2014) (discussing concepts identified as abstract ideas); July 2015 Update: Subject Matter Eligibility (Jul. 30, 2015), at 3–5, available at <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf> (same); USPTO Memorandum of May 19, 2016, “Recent Subject Matter Eligibility Decisions (*Enfish, LLC v. Microsoft Corp.* and *TLI Communications LLC v. A.V. Automotive, LLC*),” at 2 (May 19, 2016), available at https://www.uspto.gov/sites/default/files/documents/ieg-may-2016_enfish_memo.pdf [hereinafter, “USPTO *Enfish* Memorandum”] (discussing the abstract idea in *TLI Communications LLC v. A.V. Automotive, LLC*, 823 F.3d 607 (Fed. Cir. 2016)); USPTO Memorandum of November 2, 2016, “Recent Subject Matter Eligibility Decisions,” at 2 (Nov. 2, 2016), available at <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf> [hereinafter, “USPTO *McRo* Memorandum”] (discussing how the claims in *McRo, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), were directed to an improvement instead of an abstract idea); USPTO Memorandum of April 2, 2018, “Recent Subject Matter Eligibility Decisions” (Apr. 2, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-recent-sme-ctdec-20180402.PDF> [hereinafter

Continued

⁵ *Mayo*, 566 U.S. at 71 (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work” (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

⁶ USPTO Memorandum of April 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (Apr. 19, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF> [hereinafter “USPTO *Berkheimer* Memorandum”].

While that approach was effective soon after *Alice* was decided, it has since become impractical. The Federal Circuit has now issued numerous decisions identifying subject matter as abstract or non-abstract in the context of specific cases, and that number is continuously growing. In addition, similar subject matter has been described both as abstract and not abstract in different cases.¹¹ The growing body of precedent has become increasingly more difficult for examiners to apply in a predictable manner, and concerns have been raised that different examiners within and between technology centers may reach inconsistent results.

The USPTO, therefore, aims to clarify the analysis. In accordance with judicial precedent and in an effort to improve consistency and predictability, the 2019 Revised Patent Subject Matter Eligibility Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation(s) (that is, when recited on their own or per se):

“USPTO *Finjan* Memorandum”] (discussing how the claims in *Finjan Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299 (Fed. Cir. 2018), and *Core Wireless Licensing, S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018), were directed to improvements instead of abstract ideas); USPTO *Berkheimer* Memorandum at 2 (discussing the abstract idea in *Berkheimer*); MPEP 2106.04(a) (reviewing cases that did and did not identify abstract ideas).

¹¹ E.g., compare *TLI Commc'ns*, 823 F.3d at 611, with *Enfish*, 822 F.3d at 1335, and *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1258 (Fed. Cir. 2017). While computer operations such as “output of data analysis . . . can be abstract,” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1056 (Fed. Cir. 2017), “software-based innovations can [also] make ‘non-abstract improvements to computer technology’ and be deemed patent-eligible subject matter at step 1 [of the *Mayo/Alice* test],” *Finjan*, 879 F.3d at 1304 (quoting *Enfish*, 822 F.3d at 1335). Indeed, the Federal Circuit has held that “improvements in computer-related technology” and “claims directed to software” are not “inherently abstract.” *Enfish*, 822 F.3d at 1335; see also *Visual Memory*, 867 F.3d at 1258. These developments in the caselaw can create complications for the patent-examination process. For example, claims in one application could be deemed to be abstract, whereas slightly different claims directed to the same or similar subject matter could be determined to reflect a patent eligible “improvement.” Alternatively, claims in one application could be found to be abstract, whereas claims to the same or similar subject matter in another application, containing additional or different embodiments in the specification, could be deemed eligible as not directed to an abstract idea. In other words, the finding that the subject matter claimed in a prior patent was “abstract” as claimed may not determine whether similar subject matter in another application, claimed somewhat differently or supported by a different disclosure, is directed to an abstract idea and therefore patent ineligible.

(a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;¹²

(b) Certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions);¹³ and

(c) Mental processes—concepts performed in the human mind¹⁴ (including an observation, evaluation, judgment, opinion).¹⁵

¹² *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“The concept of hedging . . . reduced to a mathematical formula . . . is an unpatentable abstract idea[.]”); *Diamond v. Diehr*, 450 U.S. 175, 191 (1981) (“A mathematical formula as such is not accorded the protection of our patent laws”) (citing *Benson*, 409 U.S. 63; *Parker v. Flook*, 437 U.S. 584, 594 (1978) (“[T]he discovery of [a mathematical formula] cannot support a patent unless there is some other inventive concept in its application.”); *Benson*, 409 U.S. at 71–72 (concluding that permitting a patent on the claimed invention “would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself”); *Mackay Radio & Telegraph Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939) (“[A] scientific truth, or the mathematical expression of it, is not patentable invention[.]”); *SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (holding that claims to a “series of mathematical calculations based on selected information” are directed to abstract ideas); *Digitex Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (holding that claims to a “process of organizing information through mathematical correlations” are directed to an abstract idea); *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1280 (Fed. Cir. 2012) (identifying the concept of “managing a stable value protected life insurance policy by performing calculations and manipulating the results” as an abstract idea).

¹³ *Alice*, 573 U.S. at 219–20 (concluding that use of a third party to mediate settlement risk is a “fundamental economic practice” and thus an abstract idea); *id.* (describing the concept of risk hedging identified as an abstract idea in *Bilski* as “a method of organizing human activity”); *Bilski*, 561 U.S. at 611–612 (concluding that hedging is a “fundamental economic practice” and therefore an abstract idea); *Bancorp*, 687 F.3d at 1280 (concluding that “managing a stable value protected life insurance policy by performing calculations and manipulating the results” is an abstract idea); *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378–79 (Fed. Cir. 2017) (holding that concept of “local processing of payments for remotely purchased goods” is a “fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (concluding that claimed concept of “offer-based price optimization” is an abstract idea “similar to other ‘fundamental economic concepts’ found to be abstract ideas by the Supreme Court and this court”); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (holding that concept of “creating a contractual relationship—a ‘transaction performance guaranty’” is an abstract idea); *In re Comiskey*, 554 F.3d 967, 981 (Fed. Cir. 2009) (claims directed to “resolving a legal dispute between two parties by the decision of a human arbitrator” are ineligible);

Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 715 (Fed. Cir. 2014) (holding that claim “describe[ing] only the abstract idea of showing an advertisement before delivering free content” is patent ineligible); *In re Ferguson*, 558 F.3d 1359, 1364 (Fed. Cir. 2009) (holding methods “directed to organizing business or legal relationships in the structuring of a sales force (or marketing company)” to be ineligible); *Credit Acceptance*, 859 F.3d 1044 at 1054 (“The Board determined that the claims are directed to the abstract idea of ‘processing an application for financing a purchase.’ . . . We agree.”); *Interval Licensing*, 896 F.3d at 1344–45 (concluding that “[s]tanding alone, the act of providing someone an additional set of information without disrupting the ongoing provision of an initial set of information is an abstract idea,” observing that the district court “pointed to the nontechnical human activity of passing a note to a person who is in the middle of a meeting or conversation as further illustrating the basic, longstanding practice that is the focus of the [patent ineligible] claimed invention.”); *Voter Verified, Inc. v. Election Systems & Software, LLC*, 887 F.3d 1376, 1385 (Fed. Cir. 2018) (finding the concept of “voting, verifying the vote, and submitting the vote for tabulation,” a “fundamental activity” that humans have performed for hundreds of years, to be an abstract idea); *In re Smith*, 815 F.3d 816, 818 (Fed. Cir. 2016) (concluding that “[a]pplicants’ claims, directed to rules for conducting a wagering game” are abstract).

¹⁴ If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind. See *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”); *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (holding that computer-implemented method for “anonymous loan shopping” was an abstract idea because it could be “performed by humans without a computer”); *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (“Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person’s mind.”); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375, 1372 (Fed. Cir. 2011) (holding that the incidental use of “computer” or “computer readable medium” does not make a claim otherwise directed to process that “can be performed in the human mind, or by a human using a pen and paper” patent eligible); *id.* at 1376 (distinguishing *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010), and *SIRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319 (Fed. Cir. 2010), as directed to inventions that “could not, as a practical matter, be performed entirely in a human’s mind”). Likewise, performance of a claim limitation using generic computer components does not necessarily preclude the claim limitation from being in the mathematical concepts grouping. *Benson*, 409 U.S. at 67, or the certain methods of organizing human activity grouping. *Alice*, 573 U.S. at 219–20.

¹⁵ *Mayo*, 566 U.S. at 71 (“[M]ental processes[] and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work”) (quoting *Benson*, 409 U.S. at 67); *Flook*, 437 U.S. at 589 (same); *Benson*, 409 U.S. at 67, 65 (noting that the claimed “conversion of [binary-coded decimal] numerals to pure binary numerals can be done mentally,” i.e., “as a person

Claims that do not recite matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas, except as follows: In the rare circumstance in which a USPTO employee believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

II. “Directed To” a Judicial Exception

The Supreme Court has long distinguished between principles themselves (which are not patent eligible) and the integration of those principles into practical applications (which are patent eligible).¹⁶ Similarly,

would do it by head and hand.”); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1139, (Fed. Cir. 2016) (holding that claims to the mental process of “translating a functional description of a logic circuit into a hardware component description of the logic circuit” are directed to an abstract idea, because the claims “read on an individual performing the claimed steps mentally or with pencil and paper”); *Mortg. Grader*, 811 F.3d, at 1324 (concluding that concept of “anonymous loan shopping” is an abstract idea because it could be “performed by humans without a computer”); *In re BRCA1 & BRCA2-Based Hereditary Cancer Test Patent Litig.*, 774 F.3d 755, 763 (Fed. Cir. 2014) (concluding that concept of “comparing BRCA sequences and determining the existence of alterations” is an “abstract mental process”); *In re Brown*, 645 F. App’x. 1014, 1017 (Fed. Cir. 2016) (non-precedential) (claim limitations “encompass the mere idea of applying different known hair styles to balance one’s head. Identifying head shape and applying hair designs accordingly is an abstract idea capable, as the Board notes, of being performed entirely in one’s mind”).

¹⁶ See, e.g., *Alice*, 573 U.S. at 217 (explaining that “in applying the § 101 exception, we must distinguish between patents that claim the ‘building block[s]’ of human ingenuity and those that integrate the building blocks into something more” (quoting *Mayo*, 566 U.S. at 89) and stating that *Mayo* “set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts”); *Mayo*, 566 U.S. at 80, 84 (noting that the Court in *Diehr* found “the overall process patent eligible because of the way the additional steps of the process integrated the equation into the process as a whole,” but the Court in *Benson* “held that simply implementing a mathematical principle on a physical machine, namely a computer, was not a patentable application of that principle”); *Bilski*, 561 U.S. at 611 (“*Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, ‘an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.’” (quoting *Diehr*, 450 U.S. at 187) (emphasis in original)); *Diehr*, 450 U.S. at 187, 192 n.14 (explaining that the process in *Flook* was ineligible not because it contained a mathematical formula, but because it did not provide an application of the formula); *Mackay Radio*, 306 U.S. at 94 (“While a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.”); *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1852) (“The elements of the [natural phenomena] exist; the

in a growing body of decisions, the Federal Circuit has distinguished between claims that are “directed to” a judicial exception (which require further analysis to determine their eligibility) and those that are not (which are therefore patent eligible).¹⁷ For example, an improvement in the functioning of a computer or other technology or technological field may render a claim patent eligible at step one of the *Alice/Mayo* test even if it recites an abstract idea, law of nature, or natural phenomenon.¹⁸ Moreover, recent Federal Circuit jurisprudence has indicated that eligible subject matter can often be identified either at the first or the second step of the *Alice/Mayo* test.¹⁹

invention is not in discovering them, but in applying them to useful objects.”).

¹⁷ See, e.g., MPEP 2106.06(b) (summarizing *Enfish*, *McRO*, and other cases that were eligible as improvements to technology or computer functionality instead of abstract ideas); USPTO *Finjan* Memorandum (discussing *Finjan*, and *Core Wireless*); USPTO Memorandum of June 7, 2018, “Recent Subject Matter Eligibility Decision: *Vanda Pharmaceuticals Inc. v. West-Ward Pharmaceuticals*,” available at <https://www.uspto.gov/sites/default/files/documents/memo-vanda-20180607.PDF> [hereinafter “USPTO *Vanda* Memorandum”]; *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016) (concluding that claims could be eligible if ordered combination of limitations “transform the abstract idea . . . into a particular, practical application of that abstract idea.”); *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056–57 (Fed. Cir. 1992) (“As the jurisprudence developed, inventions that were implemented by the mathematically-directed performance of computers were viewed in the context of the practical application to which the computer-generated data were put.”); *CLS Bank Int’l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1315 (Fed. Cir. 2013) (Moore, J., joined by Rader, C.J., and Linn and O’Malley, JJ., dissenting in part) (“The key question is thus whether a claim recites a sufficiently concrete and practical application of an abstract idea to qualify as patent-eligible.”), *aff’d*, 573 U.S. 208 (2014).

¹⁸ See, e.g., *McRO*, 837 F.3d at 1316; *Enfish*, 822 F.3d at 1336; *Core Wireless*, 880 F.3d at 1362.

¹⁹ See, e.g., *Vanda Pharm. Inc. v. West-Ward Pharm. Int’l Ltd.*, 887 F.3d 1117, 1134 (Fed. Cir. 2018) (“If the claims are not directed to a patent ineligible concept at step one, we need not address step two of the inquiry.”); *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016) (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two); *Enfish*, 822 F.3d at 1339 (noting that eligibility determination can be reached either because claims not directed to an abstract idea under step one or recite a concrete improvement under step two); *McRO*, 837 F.3d at 1313 (recognizing that the “court must look to the claims as an ordered combination” in determining patentability “[w]hether at step one or step two of the *Alice* test”); *Amdocs*, 841 F.3d at 1294 (observing that recent cases “suggest that there is considerable overlap between step one and step two, and in some situations [the inventive concept] analysis could be accomplished without going beyond step one”). See also *Ancora Techs. v. HTC Am.*, 908 F.3d 1343, 1349 (Fed. Cir. 2018) (noting, in accord with the “recognition of overlaps between

These revised patent examination procedures are designed to more accurately and consistently identify claims that recite a practical application of a judicial exception (and thus are not “directed to” a judicial exception), thereby increasing predictability and consistency in the patent eligibility analysis. This analysis is performed at USPTO Step 2A, and incorporates certain considerations that have been applied by the courts at step one and at step two of the *Alice/Mayo* framework, given the recognized overlap in the steps depending on the facts of any given case.

In accordance with judicial precedent, and to increase consistency in examination practice, the 2019 Revised Patent Subject Matter Eligibility Guidance sets forth a procedure to determine whether a claim is “directed to” a judicial exception under USPTO Step 2A. Under the procedure, if a claim recites a judicial exception (a law of nature, a natural phenomenon, or an abstract idea as grouped in Section I, above), it must then be analyzed to determine whether the recited judicial exception is integrated into a practical application of that exception. A claim is not “directed to” a judicial exception, and thus is patent eligible, if the claim as a whole integrates the recited judicial exception into a practical application of that exception. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.

III. Instructions for Applying Revised Step 2A During Examination

Examiners should determine whether a claim satisfies the criteria for subject matter eligibility by evaluating the claim in accordance with the criteria discussed in MPEP 2106, *i.e.*, whether the claim is to a statutory category (Step 1) and the *Alice/Mayo* test for judicial exceptions (Steps 2A and 2B). The procedure set forth herein (referred to as “revised Step 2A”) changes how examiners should apply the first step of the *Alice/Mayo* test, which determines whether a claim is “directed to” a judicial exception.

As before, Step 1 of the USPTO’s eligibility analysis entails considering whether the claimed subject matter falls within the four statutory categories of

some step one and step two considerations,” that its conclusion of eligibility at step one is “indirectly reinforced by some of [its] prior holdings under step two”).

patentable subject matter identified by 35 U.S.C. 101: Process, machine, manufacture, or composition of matter. The 2019 Revised Patent Subject Matter Eligibility Guidance does not change Step 1 or the streamlined analysis, which are discussed in MPEP 2106.03 and 2106.06, respectively. Examiners may continue to use a streamlined analysis (Pathway A) when the patent eligibility of a claim is self-evident.

Step 2A of the 2019 Revised Patent Subject Matter Eligibility Guidance is a two-prong inquiry. In Prong One, examiners evaluate whether the claim recites a judicial exception.²⁰ This prong is similar to procedures in prior guidance except that when determining if a claim recites an abstract idea, examiners now refer to the subject matter groupings of abstract ideas in Section I instead of comparing the claimed concept to the USPTO's prior "Eligibility Quick Reference Sheet Identifying Abstract Ideas."

- If the claim recites a judicial exception (*i.e.*, an abstract idea enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance, a law of nature, or a natural phenomenon), the claim requires further analysis in Prong Two.

- If the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas in Section I), then the claim is eligible at Prong One of revised Step 2A. This concludes the eligibility analysis, except in the rare circumstance described below.²¹

- In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

In Prong Two, examiners evaluate whether the claim recites additional elements that integrate the exception into a practical application of that

exception. This prong adds a more detailed eligibility analysis to step one of the *Alice/Mayo* test (USPTO Step 2A) than was required under prior guidance.

- If the recited exception is integrated into a practical application of the exception, then the claim is eligible at Prong Two of revised Step 2A. This concludes the eligibility analysis.

- If, however, the additional elements do not integrate the exception into a practical application, then the claim is directed to the recited judicial exception, and requires further analysis under Step 2B (where it may still be eligible if it amounts to an "inventive concept").²²

The following discussion provides additional detail on this revised procedure.

A. Revised Step 2A

1. Prong One: Evaluate Whether the Claim Recites a Judicial Exception

In Prong One, examiners should evaluate whether the claim recites a judicial exception, *i.e.*, an abstract idea, a law of nature, or a natural phenomenon. If the claim does not recite a judicial exception, it is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the claim does recite a judicial exception, then it requires further analysis in Prong Two of Revised Step 2A to determine whether it is directed to the recited exception, as explained in Section III.A.2 of the 2019 Revised Patent Subject Matter Eligibility Guidance.

For abstract ideas, Prong One represents a change as compared to prior guidance. To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) Identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea; and (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I of the 2019 Revised Patent Subject Matter Eligibility Guidance. If the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section I, analysis should proceed to Prong Two in order to evaluate whether the claim integrates the abstract idea into a

practical application. When evaluating Prong One, examiners are no longer to use the USPTO's "Eligibility Quick Reference Sheet Identifying Abstract Ideas," which has been superseded by this document.

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in Section III.C for analyzing the claim should be followed.

For laws of nature and natural phenomena, Prong One does not represent a change. Examiners should continue to follow existing guidance to identify whether a claim recites one of these exceptions,²³ and if it does, proceed to Prong Two of the 2019 Revised Patent Subject Matter Eligibility Guidance in order to evaluate whether the claim integrates the law of nature or natural phenomenon into a practical application.

2. Prong Two: If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application

In Prong Two, examiners should evaluate whether the claim as a whole integrates the recited judicial exception into a practical application of the exception. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. When the exception is so integrated, then the claim is not directed to a judicial exception (Step 2A: NO) and is eligible. This concludes the eligibility analysis. If the additional elements do not integrate the exception into a practical application, then the claim is directed to the judicial exception (Step 2A: YES), and requires further analysis under Step 2B (where it may still be eligible if it amounts to an inventive concept), as explained in Section III.B of the 2019 Revised Patent Subject Matter Eligibility Guidance.

Prong Two represents a change from prior guidance. The analysis under Prong Two is the same for all claims reciting a judicial exception, whether the exception is an abstract idea, a law of nature, or a natural phenomenon.

Examiners evaluate integration into a practical application by: (a) Identifying whether there are any additional elements recited in the claim beyond

²⁰ This notice does not change the type of claim limitations that are considered to recite a law of nature or natural phenomenon. For more information about laws of nature and natural phenomena, including products of nature, see MPEP 2106.04(b) and (c).

²¹ Even if a claim is determined to be patent eligible under section 101, this or any other step of the eligibility analysis does not end the inquiry. The claims must also satisfy the other conditions and requirements for patentability, for example, under section 102 (novelty), 103 (nonobviousness), or 112 (enablement, written description, definiteness). *Bilski*, 561 U.S. at 602. Examiners should take care not to confuse or intermingle patentability requirements of these separate sections with patent eligibility analysis under section 101.

²² See, e.g., *Amdocs*, 841 F.3d at 1300, 1303; *BASCOM*, 827 F.3d at 1349–52; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014); USPTO *Berkheimer* Memorandum; see also *Rapid Litig.*, 827 F.3d at 1050 (holding that claimed invention is patent eligible because it is not directed to a patent-ineligible concept under step one or is an inventive application of the patent-ineligible concept under step two).

²³ See MPEP 2106.04(b)–(c).

the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application, using one or more of the considerations laid out by the Supreme Court and the Federal Circuit, for example those listed below. While some of the considerations listed below were discussed in prior guidance in the context of Step 2B, evaluating them in revised Step 2A promotes early and efficient resolution of patent eligibility, and increases certainty and reliability. Examiners should note, however, that revised Step 2A specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. Instead, analysis of well-understood, routine, conventional activity is done in Step 2B. Accordingly, in revised Step 2A examiners should ensure that they give weight to all additional elements, whether or not they are conventional, when evaluating whether a judicial exception has been integrated into a practical application.

In the context of revised Step 2A, the following exemplary considerations are indicative that an additional element (or combination of elements)²⁴ may have integrated the exception into a practical application:

- An additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field;²⁵
- an additional element that applies or uses a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition;²⁶

²⁴ USPTO guidance uses the term “additional elements” to refer to claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception. Again, whether an additional element or combination of elements integrate the exception into a practical application should be evaluated on the claim as a whole.

²⁵ For example, a modification of internet hyperlink protocol to dynamically produce a dual-source hybrid web page. See MPEP 2106.05(a) for more information concerning improvements in the functioning of a computer or to any other technology or technical field, including a discussion of the exemplar provided herein, which is based on *DDR Holdings*, 773 F.3d at 1258–59. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

²⁶ For example, an immunization step that integrates an abstract idea into a specific process of immunizing that lowers the risk that immunized patients will later develop chronic immune-mediated diseases. See, e.g., *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1066–68 (Fed. Cir. 2011). See also *Vanda Pharm. Inc. v. West-Ward Pharm. Int'l Ltd.*, 887 F.3d 1117, 1135 (Fed. Cir. 2018) (holding claims to the practical application of the natural relationships between iloperidone, CYP2D6 metabolism, and QTc prolongation to treat schizophrenia, not merely the recognition of those relationships, to be patent

• an additional element implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim;²⁷

• an additional element effects a transformation or reduction of a particular article to a different state or thing;²⁸ and

• an additional element applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception.²⁹

This is not an exclusive list, and there may be other examples of integrating the exception into a practical application.

The courts have also identified examples in which a judicial exception has not been integrated into a practical application:

- An additional element merely recites the words “apply it” (or an equivalent) with the judicial exception, or merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea;³⁰

eligible at *Mayo/Alice* step 1 (USPTO Step 2A)), and USPTO *Vanda* Memorandum (discussing *Vanda*).

²⁷ For example, a Fourdrinier machine (which is understood in the art to have a specific structure comprising a headbox, a paper-making wire, and a series of rolls) that is arranged in a particular way that uses gravity to optimize the speed of the machine while maintaining quality of the formed paper web. See MPEP 2106.05(b) for more information concerning use of a judicial exception with, or in conjunction with, a particular machine or manufacture, including a discussion of the exemplar provided herein, which is based on *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 64–65 (1923).

²⁸ For example, a process that transforms raw, uncured synthetic rubber into precision-molded synthetic rubber products by using a mathematical formula to control operation of the mold. See MPEP 2106.05(c) for more information concerning transformation or reduction of a particular article to a different state or thing, including a discussion of the exemplar provided herein, which is based on *Diehr*, 450 U.S. at 184.

²⁹ For example, a combination of steps including installing rubber in a press, closing the mold, constantly measuring the temperature in the mold, and automatically opening the press at the proper time, all of which together meaningfully limited the use of a mathematical equation to a practical application of molding rubber products. See MPEP 2106.05(e) for more information on this consideration, including a discussion of the exemplar provided herein, which is based on *Diehr*, 450 U.S. at 184, 187. See also USPTO *Finjan* Memorandum (discussing *Finjan* and *Core Wireless*).

³⁰ For example, a limitation indicating that a particular function such as creating and maintaining electronic records is performed by a computer, without specifying how. See MPEP 2106.05(f) for more information concerning mere instructions to apply a judicial exception, including a discussion of the exemplar provided herein, which is based on *Alice*, 573 U.S. at 222–26. See

• an additional element adds insignificant extra-solution activity to the judicial exception;³¹ and

• an additional element does no more than generally link the use of a judicial exception to a particular technological environment or field of use.³²

It is critical that examiners consider the claim as a whole when evaluating whether the judicial exception is meaningfully limited by integration into a practical application of the exception. Some elements may be enough on their own to meaningfully limit an exception, but other times it is the combination of elements that provide the practical application. When evaluating whether an element (or combination of elements) integrates an exception into a practical application, examiners should give careful consideration to both the element and how it is used or arranged in the claim as a whole. Because revised Step 2A does not evaluate whether an additional element is well-understood, routine, conventional activity, examiners are reminded that a claim that includes conventional elements may still integrate an exception into a practical application, thereby satisfying the subject matter eligibility requirement of Section 101.³³

also *Benson*, 409 U.S. 63 (holding that merely implementing a mathematical principle on a general purpose computer is a patent ineligible abstract idea); *Credit Acceptance Corp. v. Westlake Services*, 859 F.3d 1044 (Fed. Cir. 2017) (using a computer as a tool to process an application for financing a purchase).

³¹ For example, a mere data gathering such as a step of obtaining information about credit card transactions so that the information can be analyzed in order to detect whether the transactions were fraudulent. See MPEP 2106.05(g) for more information concerning insignificant extra-solution activity, including a discussion of the exemplar provided herein, which is based on *CyberSource*, 654 F.3d at 1375. See also *Mayo*, 566 U.S. at 79 (concluding that additional element of measuring metabolites of a drug administered to a patient was insignificant extra-solution activity, which was insufficient to confer patent eligibility); *Flook*, 437 U.S. at 590 (step of adjusting an alarm limit based on the output of a mathematical formula was “post-solution activity” and did not render method patent eligible).

³² For example, a claim describing how the abstract idea of hedging could be used in the commodities and energy markets, or a claim limiting the use of a mathematical formula to the petrochemical and oil-refining fields. See MPEP 2106.05(h) concerning generally linking use of a judicial exception to a particular technological environment or field of use, including a discussion of the exemplars provided herein, which are based on *Bilski*, 561 U.S. at 612, and *Flook*, 437 U.S. at 588–90. Thus, the mere application of an abstract method of organizing human activity in a particular field is not sufficient to integrate the judicial exception into a practical application.

³³ Of course, such claims must also satisfy the other conditions and requirements of patentability, for example, under section 102 (novelty), 103 (nonobviousness), and 112 (enablement, written description, definiteness). *Bilski*, 561 U.S. at 602.

B. Step 2B: If the Claim Is Directed to a Judicial Exception, Evaluate Whether the Claim Provides an Inventive Concept

It is possible that a claim that does not “integrate” a recited judicial exception is nonetheless patent eligible. For example the claim may recite additional elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.³⁴ Along these lines, the Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO Step 2B) because the additional elements recited in the claims provided “significantly more” than the recited judicial exception (e.g., because the additional elements were unconventional in combination).³⁵ Therefore, if a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements individually and in combination under Step 2B to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself). If the examiner determines that the element (or combination of elements) amounts to significantly more than the exception itself (Step 2B: YES), the claim is eligible, thereby concluding the eligibility analysis. If the examiner determines that the element and combination of elements does not amount to significantly more than the exception itself, the claim is ineligible (Step 2B: NO) and the examiner should reject the claim for lack of subject matter eligibility.

While many considerations in Step 2A need not be reevaluated in Step 2B, examiners should continue to consider in Step 2B whether an additional element or combination of elements:

- Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present; or
- simply appends well-understood, routine, conventional activities previously known to the industry,

specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.³⁶

For this reason, if an examiner had previously concluded under revised Step 2A that, e.g., an additional element was insignificant extra-solution activity, they should reevaluate that conclusion in Step 2B. If such reevaluation indicates that the element is unconventional or otherwise more than what is well-understood, routine, conventional activity in the field, this finding may indicate that an inventive concept is present and that the claim is thus eligible.³⁷ For example, when evaluating a claim reciting an abstract idea such as a mathematical equation and a series of data gathering steps that collect a necessary input for the equation, an examiner might consider the data gathering steps to be insignificant extra-solution activity in revised Step 2A, and therefore find that the judicial exception is not integrated into a practical application.³⁸ However, when the examiner reconsiders the data gathering steps in Step 2B, the examiner could determine that the combination of steps gather data in an unconventional way and therefore include an “inventive concept,” rendering the claim eligible at Step 2B.³⁹ Likewise, a claim that does

³⁶ In accordance with existing guidance, an examiner’s conclusion that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with a factual determination. For more information concerning evaluation of well-understood, routine, conventional activity, see MPEP 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum.

³⁷ *Mayo*, 566 U.S. at 82 (“[S]imply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable.”); *but see id.* at 85 (“[T]he claimed process included not only a law of nature but also several unconventional steps (such as inserting the receptacle, applying heat to the receptacle externally, and blowing the air into the furnace) that confined the claims to a particular, useful application of the principle.” (discussing the old English case, *Neilson v. Harford*, Webster’s Patent Cases 295 (1841))).

³⁸ *See supra* note 34; *see also OIP Techs.*, 788 F.3d at 1363 (finding that gathering statistics generated based on customer testing for input to a pricing calculation “fail[s] to ‘transform’ the claimed abstract idea into a patent-eligible invention”).

³⁹ *Compare Flook*, 437 U.S. at 585–86 (holding claimed method of updating alarm limits to be ineligible because: “In essence, the method consists of three steps: an initial step which merely measures the present value of the process variable (e.g., the temperature); an intermediate step which uses an algorithm to calculate an updated alarm-limit value; and a final step in which the actual alarm limit is adjusted to the updated value. The only difference between the conventional methods of changing alarm limits and that described in respondent’s application rests in the second step—the mathematical algorithm or formula.”); *with Exergen Corp. v. Kaz USA, Inc.*, 725 F. App’x 959,

not meaningfully integrate a judicial exception into a practical application of the exception sufficient to pass muster at Step 2A, may nonetheless include additional subject matter that is unconventional and thus an “inventive concept” at Step 2B.⁴⁰

C. Treating a Claim Limitation That Does Not Fall Within the Enumerated Groupings of Abstract Ideas as Reciting an Abstract Idea

In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should

966 (Fed. Cir. 2018) (holding claimed body temperature detector to be eligible because: “Here, the patent is directed to the measurement of a natural phenomenon (core body temperature). Even if the concept of such measurement is directed to a natural phenomenon and is abstract at step one, the measurement method here was not conventional, routine, and well-understood. Following years and millions of dollars of testing and development, the inventor determined for the first time the coefficient representing the relationship between temporal-arterial temperature and core body temperature and incorporated that discovery into an unconventional method of temperature measurement.”).

⁴⁰ *Compare Berkheimer*, 881 F.3d at 1370 (holding independent claim 1 to be ineligible at *Alice* step 2: “The[] conventional limitations of claim 1, combined with limitations of analyzing and comparing data and reconciling differences between the data, fail to transform the abstract idea into a patent-eligible invention. The limitations amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components”) (internal quotation marks and citation omitted); *with id.* (concluding that dependent claims 4–7 may be eligible: “Claims 4–7, in contrast, contain limitations directed to the arguably unconventional inventive concept described in the specification. Claim 4 recites ‘storing a reconciled object structure in the archive without substantial redundancy.’ The specification states that storing object structures in the archive without substantial redundancy improves system operating efficiency and reduces storage costs. It also states that known asset management systems did not archive documents in this manner. Claim 5 depends on claim 4 and further recites ‘selectively editing an object structure, linked to other structures to thereby effect a one-to-many change in a plurality of archived items.’ The specification states one-to-many editing substantially reduces effort needed to update files because a single edit can update every document in the archive linked to that object structure. This one-to-many functionality is more than ‘editing data in a straightforward copy-and-paste fashion,’ as characterized by the district court. According to the specification, conventional digital asset management systems cannot perform one-to-many editing because they store documents with numerous instances of redundant elements, rather than eliminate redundancies through the storage of linked object structures. Claims 6–7 depend from claim 5 and accordingly contain the same limitations. These claims recite a specific method of archiving that, according to the specification, provides benefits that improve computer functionality. . . . [T]here is at least a genuine issue of material fact in light of the specification regarding whether claims 4–7 archive documents in an inventive manner that improves these aspects of the disclosed archival system.”) (internal quotation marks and citations omitted).

³⁴ *See, e.g., Diehr*, 450 U.S. at 187 (“Our earlier opinions lend support to our present conclusion that a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer.”); *id.* at 185 (“Our conclusion regarding respondents’ claims is not altered by the fact that in several steps of the process a mathematical equation and a programmed digital computer are used.”).

³⁵ *See, e.g., Amdocs*, 841 F.3d at 1300, 1303; *BASCOM*, 827 F.3d at 1349–52; *DDR Holdings*, 773 F.3d at 1257–59.

nonetheless be treated as reciting an abstract idea (“tentative abstract idea”), the examiner should evaluate whether the claim as a whole integrates the recited tentative abstract idea into a practical application as explained in Section III.A.2. If the claim as a whole integrates the recited tentative abstract idea into a practical application, the claim is not directed to a judicial exception (Step 2A: NO) and is eligible (thus concluding the eligibility analysis). If the claim as a whole does not integrate the recited tentative abstract idea into a practical application, then the examiner should evaluate the additional elements individually and in combination to determine whether they provide an inventive concept as explained in Section III.B. If an additional element or combination of additional elements provides an inventive concept as explained in Section III.B (Step 2B: YES), the claim is eligible (thus concluding the eligibility analysis). If the additional element or combination of additional elements does not provide an inventive concept as explained in Section III.B (Step 2B: NO), the examiner should bring the application to the attention of the Technology Center Director. Any rejection in which a claim limitation, which does not fall within the enumerated abstract ideas (tentative abstract idea), is nonetheless treated as reciting an abstract idea must be approved by the Technology Center Director (which approval will be indicated in the file record of the application), and must provide a justification⁴¹ for why such claim limitation is being treated as reciting an abstract idea.⁴²

D. Compact Prosecution

Regardless of whether a rejection under 35 U.S.C. 101 is made, a complete examination should be made for every claim under each of the other patentability requirements: 35 U.S.C. 102, 103, 112, and 101 (utility, inventorship and double patenting) and non-statutory double patenting.⁴³ Compact prosecution, however, does not mandate that the patentability

requirements be analyzed in any particular order.

Dated: December 20, 2018.

Andrei Iancu,

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

[FR Doc. 2018–28282 Filed 1–4–19; 8:45 am]

BILLING CODE 3510–16–P

DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

[Docket No. PTO–P–2018–0059]

Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112

AGENCY: United States Patent and Trademark Office, Commerce.

ACTION: Examination guidance; request for comments.

SUMMARY: This guidance will assist United States Patent and Trademark Office (USPTO) personnel in the examination of claims in patent applications that contain functional language, particularly patent applications where functional language is used to claim computer-implemented inventions. Part I of this guidance addresses issues related to the examination of computer-implemented functional claims having means-plus-function limitations. Part II of this guidance addresses written description and enablement issues related to the examination of computer-implemented functional claims that recite only the idea of a solution or outcome to a problem but fail to recite details of how the solution or outcome is accomplished.

DATES:

Applicable Date: The Computer-Implemented Functional Claim Limitations Guidance is effective on January 7, 2019. The Computer-Implemented Functional Claim Limitations Guidance applies to all applications, and to all patents resulting from applications, filed before, on or after January 7, 2019.

Comment Deadline Date: Written comments must be received on or before March 8, 2019.

ADDRESSES: Comments must be sent by electronic mail message over the internet addressed to:

112Guidance2019@uspto.gov.

Electronic comments submitted in plain text are preferred, but also may be submitted in ADOBE® portable document format or MICROSOFT

WORD® format. Comments not submitted electronically should be submitted on paper in a format that facilitates convenient digital scanning into ADOBE® portable document format. The comments will be available for viewing via the USPTO's internet website (<http://www.uspto.gov>). Because comments will be made available for public inspection, information that the submitter does not desire to make public, such as an address or phone number, should not be included in the comments.

FOR FURTHER INFORMATION CONTACT:

Nicole D. Haines, Senior Legal Advisor, at 571–272–7717 or Jeffrey R. West, Senior Legal Advisor, at 571–272–2226, both with the Office of Patent Legal Administration.

SUPPLEMENTARY INFORMATION: The patent examination process must ensure that: (1) The claims of an application have proper written description and enablement support under 35 U.S.C. 112(a)¹ in the disclosure of the application, and (2) functional limitations (*i.e.*, claim limitations that define an element in terms of the function it performs without reciting the structure, materials, or acts that perform the function) are properly treated as means (or step) plus function limitations under 35 U.S.C. 112(f), and are sufficiently definite under 35 U.S.C. 112(b), as appropriate. These requirements are particularly relevant to computer-implemented functional claims.

The U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) has recognized a problem with broad functional claiming without adequate structural support in the specification. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc) (overruling the Federal Circuit’s previous application of a “strong” presumption that claim limitations lacking the word “means” are not subject to § 112(f) to address the resulting “proliferation of functional claiming untethered to [§ 112(f)] and free of the strictures set forth in the statute”); *Function Media, LLC v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013) (“Section [112(f)] is intended

⁴¹ Such justification may include, for example, an explanation of why the element contains subject matter that, *per se*, invokes eligibility concerns similar to those expressed by the Supreme Court with regard to the judicial exceptions. *See supra* note 5.

⁴² Similarly, in the rare circumstance in which a panel of administrative patent judges (or panel majority) believes that a claim reciting a tentative abstract idea should be treated as reciting an abstract idea, the matter should be brought to the attention of the PTAB leadership by a written request for clearance.

⁴³ *See* MPEP 2103 *et seq.* and 2106(III).

¹ Section 4 of the Leahy-Smith America Invents Act (AIA) designated pre-AIA 35 U.S.C. 112, ¶ 1 through 6, as 35 U.S.C. 112(a) through (f), effective as to applications filed on or after September 16, 2012. *See* Public Law 112–29, 4(c), 125 Stat. 284, 296 (2011). AIA 35 U.S.C. 112(a) and pre-AIA 35 U.S.C. 112, ¶ 1 are collectively referred to in this notice as 35 U.S.C. 112(a); AIA 35 U.S.C. 112(b) and pre-AIA 35 U.S.C. 112, ¶ 2 are collectively referred to in this notice as 35 U.S.C. 112(b); and AIA 35 U.S.C. 112(f) and pre-AIA 35 U.S.C. 112, ¶ 6 are collectively referred to in this notice as 35 U.S.C. 112(f).

Subject Matter Eligibility Examples: Abstract Ideas

The following examples should be used in conjunction with the [2019 Revised Patent Subject Matter Eligibility Guidance \(2019 PEG\)](#). The examples below are hypothetical and only intended to be illustrative of the claim analysis under the 2019 PEG. These examples should be interpreted based on the fact patterns set forth below as other fact patterns may have different eligibility outcomes. That is, it is not necessary for a claim under examination to mirror an example claim to be subject matter eligible under the 2019 PEG. All of the claims are analyzed for eligibility in accordance with their broadest reasonable interpretation.

Note that the examples herein are numbered consecutively beginning with number 37, because 36 examples were previously issued.

The examples are illustrative only of the patent-eligibility analysis under the 2019 PEG. All claims must be ultimately analyzed for compliance with every requirement for patentability, including 35 U.S.C. 102, 103, 112, and 101 (utility, inventorship and double patenting) and non-statutory double patenting. The analyses provided below do not address considerations other than subject matter eligibility under Section 101.

Example 37 – Relocation of Icons on a Graphical User Interface

Background:

Traditionally, computer users are limited in the ways in which they can organize icons on their display. Additionally, computer users may have a large number of icons on their display, making it difficult to find the icons most used. The typically available ways to organize icons are alphabetically, by file size, and by file type. If a computer user wants a non-typical arrangement of icons, the user would need to manually manipulate the icons on their display. For example, traditional software does not automatically organize icons so that the most used icons are located near the “start” or “home” icon, where they can be easily accessed. Therefore, what is needed is a method that allows for such non-traditional arrangements to be performed automatically.

Accordingly, applicant’s invention addresses this issue by providing a method for rearranging icons on a graphical user interface (GUI), wherein the method moves the most used icons to a position on the GUI, specifically, closest to the “start” icon of the computer system, based on a determined amount of use. In a first preferred embodiment, the amount of use of each icon is automatically determined by a processor that tracks the number of times each icon is selected or how much memory has been allocated to the individual processes associated with each icon over a period of time (*e.g.*, day, week, month, etc.). In another embodiment, the user can choose to manually enter which icons are used most often using any of a number of ordering and/or ranking systems known to those skilled in the art.

Subject Matter Eligibility Examples: Abstract Ideas

Claim 1:

A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;

determining, by a processor, the amount of use of each icon over a predetermined period of time; and

automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	Yes. The claim recites the limitation of determining the amount of use of each icon over a predetermined period of time. This limitation, as drafted, is a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting “by a processor,” nothing in the claim element precludes the step from practically being performed in the mind. For example, but for the “by a processor” language, the claim encompasses the user manually calculating the amount of use of each icon. The mere nominal recitation of a generic processor does not take the claim limitation out of the mental processes grouping. Thus, the claim recites a mental process.
2A - Prong 2: Integrated into a Practical Application?	Yes. The claim recites the combination of additional elements of receiving, via a GUI, a user selection to organize each icon based on the amount of use of each icon, a processor for performing the determining step, and automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use. The claim as a whole integrates the mental process into a practical application. Specifically, the additional elements recite a specific manner of automatically displaying icons

Subject Matter Eligibility Examples: Abstract Ideas

	to the user based on usage which provides a specific improvement over prior systems, resulting in an improved user interface for electronic devices. Thus, the claim is eligible because it is not directed to the recited judicial exception.
2B: Claim provides an Inventive Concept?	N/A.

Claim 2:

A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;

determining the amount of use of each icon using a processor that tracks how much memory has been allocated to each application associated with each icon over a predetermined period of time; and

automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	No. The claim does not recite any of the judicial exceptions enumerated in the 2019 PEG. For instance, the claim does not recite a mental process because the claim, under its broadest reasonable interpretation, does not cover performance in the mind but for the recitation of generic computer components. For example, the “determining step” now requires action by a processor that cannot be practically applied in the mind. . In particular, the claimed step of determining the amount of use of each icon by tracking how much memory has been allocated to each application associated with each icon over a predetermined period of time is not practically performed in the human mind, at least because it requires a processor accessing computer memory indicative of application usage. Further, the claim does not recite any

Subject Matter Eligibility Examples: Abstract Ideas

	method of organizing human activity, such as a fundamental economic concept or managing interactions between people. Finally, the claim does not recite a mathematical relationship, formula, or calculation. Thus, the claim is eligible because it does not recite a judicial exception.
2A - Prong 2: Integrated into a Practical Application?	N/A.
2B: Claim provides an Inventive Concept?	N/A.

Claim 3:

A method of ranking icons of a computer system, the method comprising:

determining, by a processor, the amount of use of each icon over a predetermined period of time; and

ranking the icons, by the processor, based on the determined amount of use.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	<p>Yes. The claim recites the limitations of determining the amount of use of each icon over a predetermined period of time and ranking the icons based on the determined amount of use. The determining limitation, as drafted, is a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting “by a processor,” nothing in the claim precludes the determining step from practically being performed in the human mind. For example, but for the “by a processor” language, the claim encompasses the user manually calculating the amount of use of each icon. This limitation is a mental process.</p> <p>The ranking limitations, as drafted, is also a process that, under its broadest reasonable</p>

Subject Matter Eligibility Examples: Abstract Ideas

	<p>interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting “by a processor,” nothing in the claim precludes the ranking step from practically being performed in the human mind. For example, but for the “by a processor” language, the claim encompasses the user thinking that the most-used icons should be ranked higher than the least-used icons. Thus, this limitation is also a mental process.</p>
2A - Prong 2: Integrated into a Practical Application?	<p>No. The claim recites one additional element: that a processor is used to perform both the ranking and determining steps.</p> <p>The processor in both steps is recited at a high level of generality, i.e., as a generic processor performing a generic computer function of processing data (the amount of use of each icon, or the ranking of the icons based on the determined amount of use). This generic processor limitation is no more than mere instructions to apply the exception using a generic computer component. Accordingly, this additional element does not integrate the abstract idea into a practical application because it does not impose any meaningful limits on practicing the abstract idea.</p> <p>The claim is directed to the abstract idea.</p>
2B: Claim provides an Inventive Concept?	<p>No. As discussed with respect to Step 2A Prong Two, the additional element in the claim amounts to no more than mere instructions to apply the exception using a generic computer component.</p> <p>The same analysis applies here in 2B, i.e., mere instructions to apply an exception using a generic computer component cannot integrate a judicial exception into a practical application at Step 2A or provide an inventive concept in Step 2B. The claim is ineligible.</p>

Example 38 – Simulating an Analog Audio Mixer

Background:

Audiophiles are people interested in high-fidelity audio reproduction. For many, this means listening to music in its analog form, as digital audio files are considered to “lose” much of the sound quality in the conversion from analog to digital. Prior inventions attempted to create digital simulations of analog audio mixers to simulate the sounds from analog circuits. However, the prior art audio mixer simulations do not produce the same sound quality as the actual analog circuits.

Applicant’s invention seeks to more closely replicate the sound quality of an analog audio mixer by accounting for the slight variances in analog circuit values that are generated during the circuit’s manufacturing. By simulating these variances, a more authentic sound can be created that is preferential for the listener. The method begins with a model of an analog circuit representing an audio mixing console. The model includes a location of all the circuit elements within the circuit, an initial value for each of the circuit elements, and a manufacturing tolerance range for each of the circuit elements. A randomized working value of each element is then determined using a normally distributed pseudo random number generator (PRNG) based on the initial value of the circuit element and the manufacturing tolerance range. The model is then simulated using a bilinear transformation to create a digital representation of the analog circuit. This digital representation is then presented to the user through a graphical user interface as an operational digital audio mixer. The user can use the graphical user interface to test the sound quality of the digital representation. If the sound quality is not acceptable to the user, the user can generate new randomized working values for all the circuit elements and simulate another digital representation of the analog audio mixer.

Claim:

A method for providing a digital computer simulation of an analog audio mixer comprising:

- initializing a model of an analog circuit in the digital computer, said model including a location, initial value, and a manufacturing tolerance range for each of the circuit elements within the analog circuit;

- generating a normally distributed first random value for each circuit element, using a pseudo random number generator, based on a respective initial value and manufacturing tolerance range; and

- simulating a first digital representation of the analog circuit based on the first random value and the location of each circuit element within the analog circuit.

Subject Matter Eligibility Examples: Abstract Ideas

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	No. The claim does not recite any of the judicial exceptions enumerated in the 2019 PEG. The claim does not recite a mathematical relationship, formula, or calculation. While some of the limitations may be based on mathematical concepts, the mathematical concepts are not recited in the claims. With respect to mental processes, the claim does not recite a mental process because the steps are not practically performed in the human mind. Finally, the claim does not recite a certain method of organizing human activity such as a fundamental economic concept or commercial and legal interactions. The claim is eligible because it does not recite a judicial exception.
2A - Prong 2: Integrated into a Practical Application?	N/A.
2B: Claim provides an Inventive Concept?	N/A.

Example 39 - Method for Training a Neural Network for Facial Detection

Background:

Facial detection is a computer technology for identifying human faces in digital images. This technology has several different potential uses, ranging from tagging pictures in social networking sites to security access control. Some prior methods use neural networks to perform facial detection. A neural network is a framework of machine learning algorithms that work together to classify inputs based on a previous training process. In facial detection, a neural network classifies images as either containing a human face or not, based upon the model being previously trained on a set of facial and non-facial images. However, these prior methods suffer from the inability to robustly detect human faces in images where there are shifts, distortions, and variations in scale and rotation of the face pattern in the image.

Applicant's invention addresses this issue by using a combination of features to more robustly detect human faces. The first feature is the use of an expanded training set of facial images to train the neural network. This expanded training set is developed by applying mathematical transformation functions on an acquired set of facial images. These transformations can include affine transformations, for example, rotating, shifting, or mirroring or filtering transformations, for example, smoothing or contrast reduction. The neural networks are then trained with this expanded training set using stochastic learning with backpropagation which is a type of machine learning algorithm that uses the gradient of a mathematical loss function to adjust the weights of the network. Unfortunately, the introduction of an expanded training set increases false positives when classifying non-facial images. Accordingly, the second feature of applicant's invention is the minimization of these false positives by performing an iterative training algorithm, in which the system is retrained with an updated training set containing the false positives produced after face detection has been performed on a set of non-facial images. This combination of features provides a robust face detection model that can detect faces in distorted images while limiting the number of false positives.

Claim:

A computer-implemented method of training a neural network for facial detection comprising:

- collecting a set of digital facial images from a database;
- applying one or more transformations to each digital facial image including mirroring, rotating, smoothing, or contrast reduction to create a modified set of digital facial images;
- creating a first training set comprising the collected set of digital facial images, the modified set of digital facial images, and a set of digital non-facial images;
- training the neural network in a first stage using the first training set;

Subject Matter Eligibility Examples: Abstract Ideas

creating a second training set for a second stage of training comprising the first training set and digital non-facial images that are incorrectly detected as facial images after the first stage of training; and

training the neural network in a second stage using the second training set.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	No. The claim does not recite any of the judicial exceptions enumerated in the 2019 PEG. For instance, the claim does not recite any mathematical relationships, formulas, or calculations. While some of the limitations may be based on mathematical concepts, the mathematical concepts are not recited in the claims. Further, the claim does not recite a mental process because the steps are not practically performed in the human mind. Finally, the claim does not recite any method of organizing human activity such as a fundamental economic concept or managing interactions between people. Thus, the claim is eligible because it does not recite a judicial exception.
2A - Prong 2: Integrated into a Practical Application?	N/A.
2B: Claim provides an Inventive Concept?	N/A.

Example 40 – Adaptive Monitoring of Network Traffic Data

Background:

Network visibility tools enable close monitoring of computer network traffic, applications, performance, and resources. The data acquired through these network visibility tools is extremely useful in optimizing network performance, resolving network issues, and improving network security. One industry standard network visibility protocol is NetFlow. In a typical setup, a NetFlow exporter generates and exports network traffic statistics (in the form of NetFlow records) to at least one NetFlow collector that analyzes the statistics. Because NetFlow records are very large, the continual generation and export of NetFlow records in such a setup substantially increases the traffic volume on the network, which hinders network performance. Moreover, continual analysis of the network is not always necessary when the network is performing under normal conditions.

Applicant's invention addresses this issue by varying the amount of network data collected based on monitored events in the network. That is, the system will only collect NetFlow protocol data and export a NetFlow record when abnormal network conditions are detected. In practice, during normal network conditions, a network appliance collects network data relating to network traffic passing through the network appliance. This network data, for example, could include network delay, packet loss, or jitter. Periodically, the network data is compared to a predefined quality threshold. If this network data is greater than the predefined quality threshold, an abnormal condition is detected. When an abnormal condition is present, the system begins collecting NetFlow protocol data, which can later be used for analyzing the abnormal condition. During this time, the network appliance continues to monitor the network conditions (*i.e.*, comparing collected network data to the predetermined quality threshold) and when the abnormal condition no longer exists, NetFlow protocol data is no longer collected.

Claim 1:

A method for adaptive monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

- collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter;

- comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold; and

- collecting additional traffic data relating to the network traffic when the collected traffic data is greater than the predefined threshold, the additional traffic data comprising Netflow protocol data.

Subject Matter Eligibility Examples: Abstract Ideas

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	Yes. The claim recites the limitation of comparing at least one of the collected traffic data to a predefined threshold. This limitation, as drafted, is a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting “by the network appliance,” nothing in the claim element precludes the step from practically being performed in the mind. For example, but for the “by the network appliance” language, the claim encompasses a user simply comparing the collected packet loss data to a predetermined acceptable quality percentage in his/her mind. The mere nominal recitation of a generic network appliance does not take the claim limitation out of the mental processes grouping. Thus, the claim recites a mental process.
2A - Prong 2: Integrated into a Practical Application?	Yes. The claim recites the combination of additional elements of collecting at least one of network delay, packet loss, or jitter relating to the network traffic passing through the network appliance, and collecting additional Netflow protocol data relating to the network traffic when the collected network delay, packet loss, or jitter is greater than the predefined threshold. Although each of the collecting steps analyzed individually may be viewed as mere pre- or post-solution activity, the claim as a whole is directed to a particular improvement in collecting traffic data. Specifically, the method limits collection of additional Netflow protocol data to when the initially collected data reflects an abnormal condition, which avoids excess traffic volume on the network and hindrance of network performance. The collected data can then be used to analyze the cause of the abnormal condition. This provides a specific improvement over prior systems, resulting in improved network monitoring. The claim as a whole integrates the mental process into a practical application. Thus, the claim is eligible because it is not directed to the recited judicial exception.
2B: Claim provides an Inventive Concept?	N/A.

Subject Matter Eligibility Examples: Abstract Ideas

Claim 2:

A method for monitoring of traffic data through a network appliance connected between computing devices in a network, the method comprising:

collecting, by the network appliance, traffic data relating to the network traffic passing through the network appliance, the traffic data comprising at least one of network delay, packet loss, or jitter; and

comparing, by the network appliance, at least one of the collected traffic data to a predefined threshold.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	Yes. The claim recites the limitation of comparing at least one of the collected traffic data to a predefined threshold. This limitation, as drafted, is a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting “by the network appliance,” nothing in the claim element precludes the step from practically being performed in the mind. For example, but for the “by the network appliance” language, the claim encompasses a user simply comparing the collected packet loss data to a predetermined acceptable quality percentage in his/her mind. The mere nominal recitation of a generic network appliance does not take the claim limitation out of the mental processes grouping. Thus, the claim recites a mental process.
2A - Prong 2: Integrated into a Practical Application?	No. The claim recites two additional elements: collecting at least one of network delay, packet loss, or jitter relating to the network traffic passing through the network appliance, and that a generic network appliance performs the comparing step. The collecting step is recited at a high level of generality (i.e., as a general means of gathering network traffic data for use in the comparison step), and amounts to mere data gathering, which is a form of insignificant extra-solution activity. The network appliance that performs the comparison step is also recited at a high level of generality, and merely automates the comparison step. Each of the additional limitations is no more than mere instructions to apply the exception using a generic computer component (the network appliance).

Subject Matter Eligibility Examples: Abstract Ideas

	<p>The combination of these additional elements is no more than mere instructions to apply the exception using a generic computer component (the network appliance). Accordingly, even in combination, these additional elements do not integrate the abstract idea into a practical application because they do not impose any meaningful limits on practicing the abstract idea.</p> <p>The claim is directed to the abstract idea.</p>
2B: Claim provides an Inventive Concept?	<p>No. As discussed with respect to Step 2A Prong Two, the additional elements in the claim amount to no more than mere instructions to apply the exception using a generic computer component. The same analysis applies here in 2B, i.e., mere instructions to apply an exception on a generic computer cannot integrate a judicial exception into a practical application at Step 2A or provide an inventive concept in Step 2B.</p> <p>Under the 2019 PEG, a conclusion that an additional element is insignificant extra-solution activity in Step 2A should be re-evaluated in Step 2B. Here, the collecting step was considered to be extra-solution activity in Step 2A, and thus it is re-evaluated in Step 2B to determine if it is more than what is well-understood, routine, conventional activity in the field. The background of the example does not provide any indication that the network appliance is anything other than a generic, off-the-shelf computer component, and the <i>Symantec</i>, <i>TLI</i>, and <i>OIP Techs.</i> court decisions cited in MPEP 2106.05(d)(II) indicate that mere collection or receipt of data over a network is a well-understood, routine, and conventional function when it is claimed in a merely generic manner (as it is here). Accordingly, a conclusion that the collecting step is well-understood, routine, conventional activity is supported under <i>Berkheimer</i> Option 2.</p> <p>For these reasons, there is no inventive concept in the claim, and thus it is ineligible.</p>

Example 41 – Cryptographic Communications

Background:

Security of information is of increasing importance in computer technology. It is critical that data being sent from a sender to a recipient is unable to be intercepted and understood by an intermediate source. In addition, authentication of the source of the message must be ensured along with the verification of and security of the message content. Various cryptographic encoding and decoding methods are available to assist with these security and authentication needs. However, many of them require expensive encoding and decoding hardware as well as a secure way of sharing the private key used to encrypt and decrypt the message. There is a need to perform these same security and authentication functions efficiently over a public key system so that information can be shared easily between users who do not know each other and have not shared the key used to encrypt and decrypt the information.

To solve these problems, applicants have invented a method for establishing cryptographic communications using an algorithm to encrypt a plaintext into a ciphertext. The invention includes at least one encoding device and at least one decoding device, which are computer terminals, and a communication channel, where the encoding and decoding devices are coupled to the communication channel. The encoding device is responsive to a precoded message-to-be-transmitted M and an encoding key E to provide a ciphertext word C for transmission to a particular decoding device. The message-to-be-transmitted is precoded by converting it to a numerical representation which is broken into one or more blocks M_A of equal length. This precoding may be done by any conventional means. The resulting message M_A is a number representative of a message-to-be-transmitted, where $0 \leq M_A \leq n-1$, where n is a composite number of the form $n=p*q$, where p and q are prime numbers. The encoding key E is a pair of positive integers e and n , which are related to the particular decoding device. The encoding device distinctly encodes each of the n possible messages. The transformation provided by the encoding device is described by the relation $C_A = M_A^e \pmod{n}$ where e is a number relatively prime to $(p-1)*(q-1)$. The encoding device transmits the ciphertext word signal C_A to the decoding device over the communications channel. The decoding device is responsive to the received ciphertext word C_A and a decoding key to transform the ciphertext to a received message word M_A' .

The invention improves upon prior methods for establishing cryptographic communications because by using only the variables n and e (which are publicly known), a plaintext can be encrypted by anyone. The variables p and q are only known by the owner of the decryption key d and are used to generate the decryption key (private key d is not claimed below). Thus, the security of the cipher relies on the difficulty of factoring large integers by computers, and there is no known efficient algorithm to recover the plaintext given the ciphertext and the public information (n, e) (assuming that p and q are sufficiently large).

Claim:

A method for establishing cryptographic communications between a first computer terminal and a second computer terminal comprising:

Subject Matter Eligibility Examples: Abstract Ideas

receiving a plaintext word signal at the first computer terminal;
transforming the plaintext word signal to one or more message block word signals M_A ;
encoding each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$;
where C_A is a number representative of an encoded form of message word M_A ;
where M_A corresponds to a number representative of a message and $0 \leq M_A \leq n-1$;
where n is a composite number of the form $n=p*q$;
where p and q are prime numbers;
where e is a number relatively prime to $(p-1)*(q-1)$; and
transmitting the ciphertext word signal C_A to the second computer terminal over a communication channel.

Step	Analysis
1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
2A - Prong 1: Judicial Exception Recited?	Yes. The claim recites a mathematical formula or calculation that is used to encode each of the message block word signals M_A to produce a ciphertext word signal C_A , whereby $C_A = M_A^e \pmod{n}$. Thus, the claim recites a mathematical concept. Note that, in this example, the “encoding” step is determined to recite a mathematical concept because the claim explicitly recites a mathematical formula or calculation.
2A - Prong 2: Integrated into a Practical Application?	Yes. The combination of additional elements in the claim (receiving the plaintext word signal at the first computer terminal, transforming the plaintext word signal to one or more message block word signals M_A , and transmitting the encoded ciphertext word signal C_A to the second computer terminal over a communication channel) integrates the exception into a practical application. In particular, the combination of additional elements use the mathematical formulas and calculations in a specific manner that sufficiently limits the use of the mathematical concepts to the practical application of transmitting the ciphertext word signal to a computer terminal over a communication channel. Thus, the mathematical concepts are integrated into a process that secures private

Subject Matter Eligibility Examples: Abstract Ideas

	<p>network communications, so that a ciphertext word signal can be transmitted between computers of people who do not know each other or who have not shared a private key between them in advance of the message being transmitted, where the security of the cipher relies on the difficulty of factoring large integers by computers. Thus, the claim is not directed to the recited judicial exception, and the claim is eligible.</p> <p>Note that well-understood, routine, conventional subject matter can integrate an abstract idea into a practical application. Thus, even though receiving a signal at a first computer, transforming it and transmitting the transformed signal to a second computer are described in the background as being conventional, Step 2A – Prong 2 does not evaluate whether the additional elements are conventional to determine whether the abstract idea is integrated into a practical application.</p>
2B: Claim provides an Inventive Concept?	N/A.

Example 42 – Method for Transmission of Notifications When Medical Records Are Updated

Background:

Patients with chronic or undiagnosed illnesses often must visit several different medical providers for diagnosis and treatment. These physicians may be physically separate from each other and unaware of each other. During a visit, each medical provider records information about the patient's condition in their own local patient records. These records are often stored locally on a computer in a non-standard format selected by whichever hardware or software platform is in use in the medical provider's local office. It is difficult for medical providers to share updated information about a patient's condition with other health care providers using current patient management systems, due to the above challenges. This can lead to problems with managing prescriptions or having patients duplicate tests, for example. Currently, medical providers must continually monitor a patient's medical records for updated information, which is often-times incomplete since records in separate locations are not timely or readily-shared or cannot be consolidated due to format inconsistencies as well as physicians who are unaware that other physicians are also seeing the patient for varying reasons.

To solve this problem, applicant has invented a network-based patient management method that collects, converts and consolidates patient information from various physicians and health-care providers into a standardized format, stores it in network-based storage devices, and generates messages notifying health care providers or patients whenever that information is updated. The method provides a graphical user interface (GUI) by a content server, which is hardware or a combination of both hardware and software. A user, such as a health care provider or patient, is given remote access through the GUI to view or update information about a patient's medical condition using the user's own local device (e.g., a personal computer or wireless handheld device). When a user wants to update the records, the user can input the update in any format used by the user's local device. Whenever the patient information is updated, it will first be converted into the standardized format and then stored in the collection of medical records on one or more of the network-based storage devices. After the updated information about the patient's condition has been stored in the collection, the content server, which is connected to the network-based storage devices, immediately generates a message containing the updated information about the patient's condition. This message is transmitted in a standardized format over the computer network to all physicians and health-care providers that have access to the patient's information (e.g., to a medical specialist to review the updated information about the patient's medical condition) so that all users can quickly be notified of any changes without having to manually look up or consolidate all of the providers' updates. This ensures that each of a group of health care providers is always given immediate notice and access to changes so they can readily adapt their own medical diagnostic and treatment strategy in accordance with other providers' actions. The message can be in the form of an email message, text message, or other type of message known in the art.

Subject Matter Eligibility Examples: Abstract Ideas

Claim 1:

A method comprising:

a) storing information in a standardized format about a patient's condition in a plurality of network-based non-transitory storage devices having a collection of medical records stored thereon;

b) providing remote access to users over a network so any one of the users can update the information about the patient's condition in the collection of medical records in real time through a graphical user interface, wherein the one of the users provides the updated information in a non-standardized format dependent on the hardware and software platform used by the one of the users;

c) converting, by a content server, the non-standardized updated information into the standardized format,

d) storing the standardized updated information about the patient's condition in the collection of medical records in the standardized format;

e) automatically generating a message containing the updated information about the patient's condition by the content server whenever updated information has been stored; and

f) transmitting the message to all of the users over the computer network in real time, so that each user has immediate access to up-to-date patient information.

Step	Analysis
Step 1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
Step 2A - Prong 1: Judicial Exception Recited?	Yes. The claim as a whole recites a method of organizing human activity. The claimed invention is a method that allows for users to access patients' medical records and receive updated patient information in real time from other users which is a method of managing interactions between people. Thus, the claim recites an abstract idea.
Step 2A—Prong 2: Integrated into a Practical Application?	Yes. The claim recites a combination of additional elements including storing information, providing remote access over a network, converting updated information that was input by a user in a non-standardized form to a standardized format, automatically generating a message whenever updated information is stored, and transmitting the message to all of the users. The claim as a whole integrates the method of organizing human activity into a practical application. Specifically, the additional elements recite a specific improvement over prior art systems by allowing remote users to share information in real time in a standardized

Subject Matter Eligibility Examples: Abstract Ideas

	format regardless of the format in which the information was input by the user. Thus, the claim is eligible because it is not directed to the recited judicial exception (abstract idea).
Step 2B: Inventive Concept?	N/A.

Claim 2:

A method comprising:

a) storing information about a patient's condition in a plurality of network-based non-transitory storage devices having a collection of medical records stored thereon;

b) providing access, by a content server, to users so that any one of the users can update the information about the patient's condition in the collection of medical records, and;

c) storing the updated information about the patient's condition in the collection of medical records in the plurality of network-based non-transitory storage devices.

Step	Analysis
Step 1: Statutory Category?	Yes. The claim recites a series of steps and, therefore, is a process.
Step 2A - Prong 1: Judicial Exception Recited?	Yes. The claim as a whole recites a method of organizing human interactions. The claimed invention is a method that allows for users to access and update patients' medical records and store the updated information which is a method of managing interactions between people. The mere nominal recitation of a generic content server and generic network-based storage devices does not take the claim out of the methods of organizing human interactions grouping. Thus, the claim recites an abstract idea.
Step 2A—Prong 2: Integrated into a Practical Application?	No. The claim as a whole merely describes how to generally “apply” the concept of storing and updating patient information in a computer environment. The claimed computer components are recited at a high level of generality and are merely invoked as tools to perform an existing medical records update process. Simply implementing the abstract idea on a generic computer is not a practical application of the abstract idea.
Step 2B: Inventive Concept?	No. As noted previously, the claim as a whole merely describes how to generally “apply” the concept of updating medical records in a computer environment. Thus, even when viewed as a whole, nothing in the claim adds

Subject Matter Eligibility Examples: Abstract Ideas

	significantly more (i.e., an inventive concept) to the abstract idea. The claim is ineligible .
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Patents in the New Media

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AIMeCAST

NYSBA Annual Meeting 2019

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4:10 pm

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Agenda	Media Delivery
Media Delivery	New Media Patent Wars
Patent Wars	Patent Challenges
Patent Challenges	

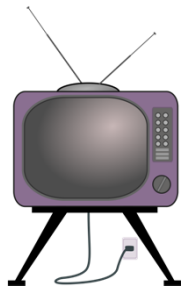
-3

Agenda	Media Delivery
Media Delivery	<ul style="list-style-type: none"> + Old Media Delivery + New Media Delivery + New Media Delivery Participants + New Media OTT Apps
Patent Wars	New Media Patent Wars
Patent Challenges	Patent Challenges

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Media Delivery

Old Media Delivery



TV



VCR



DVD

-5

Media Delivery

New Media Delivery



Internet
website



Smart Phone,
Computer and
Tablets Apps



Apple TV (and other
set top boxes) with TV

-6

Media Delivery

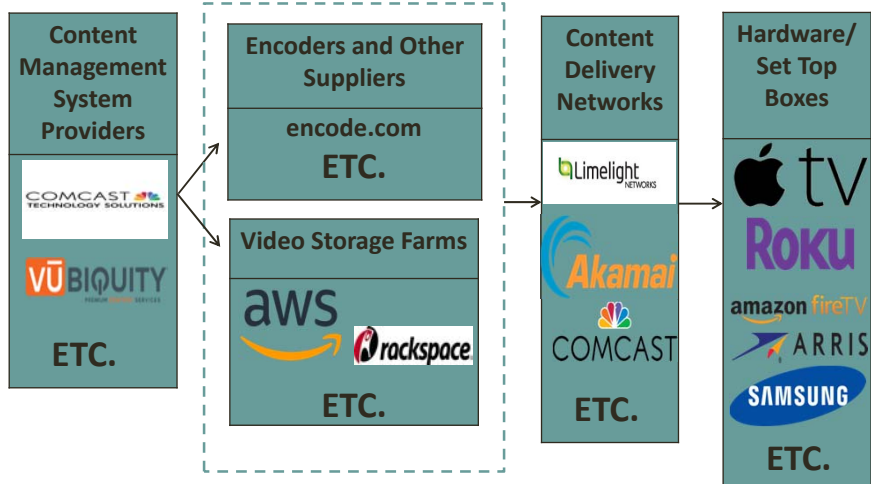
New Media Delivery Participants



-7

Media Delivery

New Media Delivery Participants



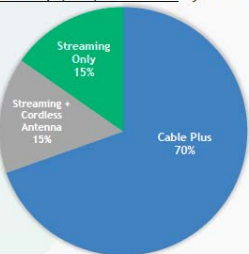
-8

Media Delivery

The Overwhelming Majority Of OTT Users Also Have A Cable or Satellite Subscription

Looking at those households that have OTT capabilities, 70% also have a Cable+ subscription

Over-the-Top (OTT) Households by Service Type



VAB: YOU DOWN WITH OTT?



Source: comScore Total Home Custom Reporting, U.S., December 2016; comScore Single-Source (TV+OTT) Custom Reporting, U.S., December 2016

<http://www.thevab.com/wp-content/uploads/2018/03/OTT-Ecosystem-Overview-Final.pdf>
(downloaded Dec. 31, 2018, p. 17)

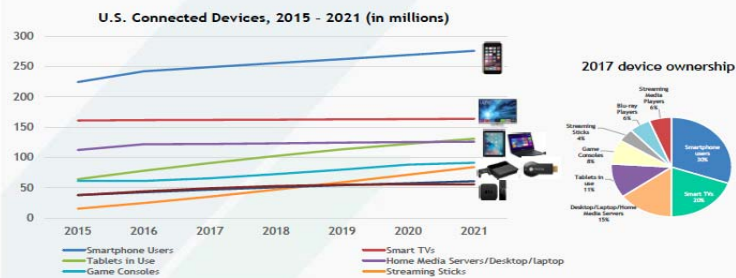
TAKEAWAY:
70% of Cable homes have OTT capabilities

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Media Delivery

There Are Currently 820 Million Connected Video Devices in the U.S.

The largest segments are smartphones (30% of devices), smart TVs (20%) and PCs/Home Media Servers (15%)



Source: 2017 SHL Kagan, a division of SHL Global Market Intelligence. As of October 2017.

(1) Gaming Consoles - Includes the subset of game consoles that are connected to the Internet such as Sony Playstation, Microsoft Xbox and Nintendo Wii.
(2) Streaming Media Players - Includes installed base of Internet-connected standalone set-tops designed for online video viewing such as AppleTV, Roku, GoogleTV, standalone TiVo and other devices. (3) Streaming Sticks - Includes installed base of streaming sticks designed for online content viewing such as Chromecast and the Roku Streaming Stick, often in conjunction with another connected device. (4) Tablets - Excludes enterprise tablets in use.



<http://www.thevab.com/wp-content/uploads/2018/03/OTT-Ecosystem-Overview-Final.pdf>
(downloaded Dec. 31, 2018, p. 17)

TAKEAWAY:

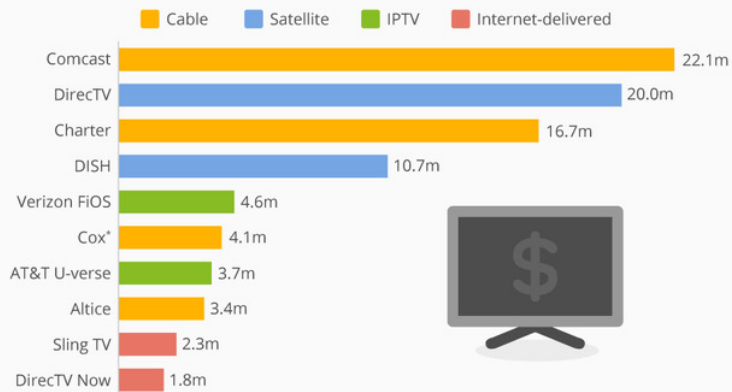
- 20% Smart TVs,
- 30% Smart Phone,
- 15% Desktop, Laptop, Home Media Servers,
- 11% Tablets
- 8% Game Consoles
- 4% Streaming Sticks
- 6% Streaming Media Players

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Media Delivery

The State of the U.S. Pay-TV Landscape

Subscribers of the largest multichannel Pay-TV providers in the U.S. (at end of Q2 2018)



© StatistaCharts

* LRG estimate
Source: Leichtman Research Group

statista

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Agenda

Media Delivery

Patent Wars

Patent Challenges

Media Delivery

New Media Patent Wars

Patent Challenges

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New Media Patent Wars

Patent Owners: Realtime Adaptive Streaming LLC	
PTAB	7 IPRs (Netflix, Sony Corporation, Cisco Systems, Sling TV, Amazon.com, Hulu, Unified Patents, Inc.)
Cases in E.D. Tex.	5 (Cisco Systems, LG Electronics, Amazon.com, Samsung Electronics, Echostar Technologies)
Cases in C.D. Cal.	4 (Adobe Systems, Cox, Google, Hulu)
Cases in D. Colo.	8 (Comcast d/b/a Xfinity, Charter Advanced Micro Devices, Intel, Mitel, Avaya, Broadcom Wowza Media, Apple, Polycom, Sling TV)
Cases in D. Del.	4 (Netflix, Sony Electronics, Brightcove, Haivision)
Cases in D. Mass.	1 (Adobe Systems)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Patent Owners: Blue Spike, LLC	
PTAB	1 IPR (Kyocera)
Cases in E.D. Tex.	Over 140 cases (Altice, Charter, DISH, Comcast, Suddenlink, Roku, Rovi, Yahoo, Google, Shazam, etc.)
Cases in S.D.N.Y.	1 (Soundmouse)
Cases in D. N.J.	1 (Iris ID Systems)
Cases in D. Del.	5 (Charter, Comcast, SoundCloud, Roku)
Cases in D. Mass.	1 (Kronos)
Cases in C.D. Cal.	9 (SoundCloud, Deezer, Aspiro AB, Pandora Music, Spotify, Visual Land, Media Science, Vizio, 3M Cogent)
Cases in N.D. Cal.	8 (Toshiba, Facebook, Gracenote, Adobe Systems, Zeitera, SoundHound, Google, Juniper Networks)
Cases in S.D. Cal.	2 (ImageWare, Juniper Networks)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Patent Owners: Roku, Inc./TiVo, Inc.	
PTAB	3 IPRs (Samsung, Convergent Media Solutions, Hera)
ITC	4 (Macronix, Microsoft, STMicroelectronics, Rovi et al.)
Cases in C.D. Cal.	4 (Digital CBT, Sonicblue, Forgent Networks, Microsoft)
Cases in N.D. Cal.	2 (Echostar Communication, Digital CBT)
Cases in N.D. Ga.	1 (Echostar Communications)
Cases in N.D. Ill.	2 (Premier International Associates, Wild Cat Licensing)
Cases in D. Mass.	3 (Hybrid Auto, Lycos, Pause Technology)
Cases in S.D.N.Y.	2 (Asip, Digital Devel. Corp.)
Cases in E.D. Tex.	5 (Verizon, Samsung, Echostar, Cisco, AT&T)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Patent Owners: OpenTV, Inc.	
PTAB	5 IPRs (NFL Enterprises, Comcast, Apple, Netflix, Cisco Systems) and 1 CBM (Apple)
ITC	1 (ARRIS, Comcast, Gemstar, etc.)
Cases in E.D. Tex.	2 (NFL Enterprises, Verizon)
Cases in N.D. Cal.	3 (Apple, Netflix, Liberate Technologies)
Cases in D. Del.	1 (Netflix)
Cases in C.D. Cal.	1 (Hulu)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Patent Owners: Sprint Communications Company	
PTAB	2 IPRs (TC Technology, AIP Acquisition)
Cases in E.D. Va.	1 (Charter)
Cases in D. Del.	9 (WideOpenWest, TGP Global, Mediacom, IDT, Frontier Communications, Comcast, Charter, Crequel d/b/a Suddenlink, Atlantic Broadband Finance)
Cases in D. Kan.	9 (Vonage, TWC, Paetec, Nuvox, Cox, Cable One, Broadvox, Big River Telephone Company, Gammino)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Patent Owners: Broadband iTV, Inc.	
PTAB	1 CBM (Hawaiian Telecom) + 1 IPR (Unified Patents)
Cases in D. Haw.	2 (Time Warner Cable, Hawaiian Telecom)
Cases in N.D. Cal.	1 (OpenTV, Inc. - Contract dispute)

*All figures are estimates taken from Docket Navigator on January 7, 2019

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New Media Patent Wars

Sample of Serial Defendants	
Apple	<u>100s</u> of cases including IPRs (PTAB, ITC, E.D. Va., W.D. Tex., N.D. Tex., E.D. Tex. , D. Ut., W.D. Wa., N.D. Ill., D. Del., S.D. Cal., N.D. Cal., etc.)
Charter (also formerly Time Warner Cable)	About <u>20</u> cases plus <u>2</u> IPRs (PTAB, E.D. Va., E.D. Tex., D. Kan., D. Del.)
Altice (also Suddenlink/Cablevision)	Over <u>30</u> cases plus <u>1</u> IPR (PTAB, D. Del. , E.D. Tex., N.D. Ill., S.D.N.Y.)
Netflix	About <u>75</u> cases plus <u>10</u> IPRs and <u>1</u> CBM (PTAB, ITC, E.D. Tex., N.D. Tex., W.D. Tex., W.D. Wa., E.D. Va., D. Del. , N.D. Cal., D. Mass., C.D. Cal., ITC)
Hulu	About <u>40</u> cases plus <u>8</u> IPRs (PTAB, E.D. Tex. , N.D. Tex., E.D. Va., N.D. Ill., D. Del., S.D. Cal., C.D. Cal. , etc.)
Key jurisdictions for suits against serial defendants include E.D. Tex. and D. Del. Key issues involve patent invalidity and infringement.	

*All figures are estimates taken from Docket Navigator on January 7, 2019

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Agenda

Media Delivery

Patent Wars

Patent Challenges

Media Delivery

New Media Patent Wars

Patent Challenges

- +Venue
- + Patent Eligibility
- + Divided Infringement
- + Indemnification

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Patent Challenges

Venue

Defendant State of Incorporation

OR

Where the defendant has committed acts of infringement and has a regular and established place of business

28 U.S.C. § 1400(b)

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Patent Challenges

Venue

Seven Networks, LLC v. Google LLC,
315 F. Supp. 3d 933, 960-61, 966 (E.D. Tex. 2018),
writ denied, 2018 U.S. App. LEXIS 31000 (Fed. Cir. Oct. 29, 2018)

“Here, the GGC [Google Global Cache] servers are best characterized as local data warehouses, storing information in local districts to provide Google’s users with quick access to the cached data, avoiding the delays associated with distant data retrieval from Google Data Centers.”

“The court concludes that the GGC servers and their locations within the various ISPs within this district are 'places of Google' sufficient to meet the statutory requirement of [U.S. Code Chapter 28 Section] 1400(b).”

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Patent Challenges

ITC — Domestic Industry

19 U.S.C. § 1337(a)(2)-(3)

(2) Subparagraphs (B), (C), (D), and (E) of paragraph (1) apply only if an industry in the United States, relating to the articles protected by the patent, copyright, trademark, mask work, or design concerned, exists or is in the process of being established.

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned—

- (A) significant investment in plant and equipment;
- (B) significant employment of labor or capital; or
- (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

May be met by:

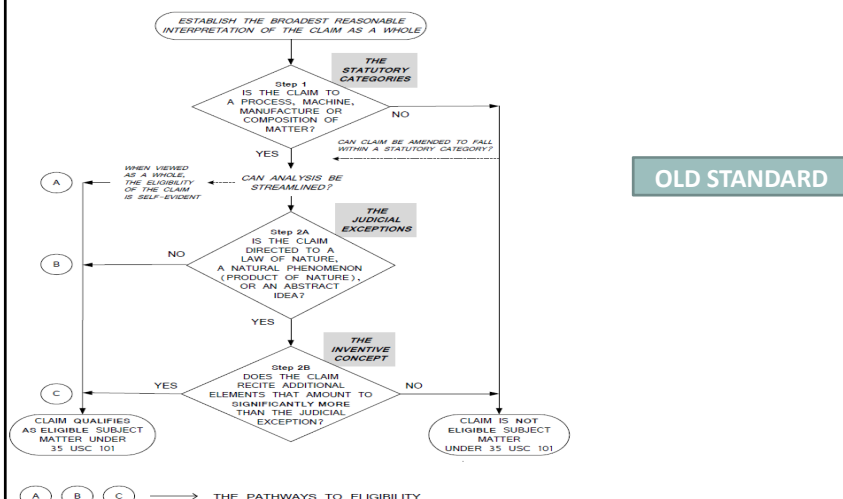
- Complainants own activities
- Licensee's activities

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Patent Challenges

Patent Eligibility

SUBJECT MATTER ELIGIBILITY TEST FOR PRODUCTS AND PROCESSES

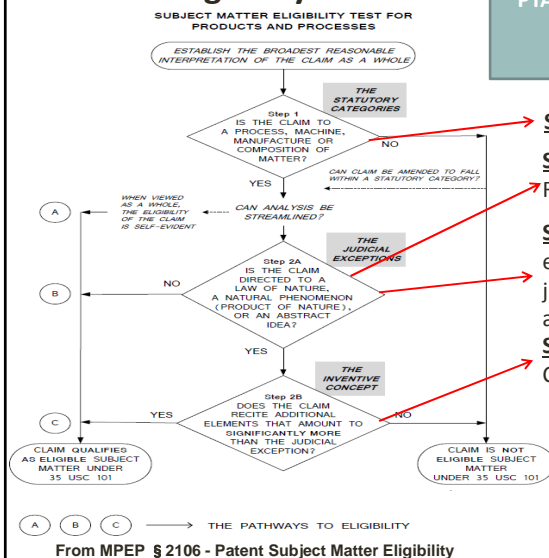


From MPEP § 2106 - Patent Subject Matter Eligibility

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Patent Challenges

Patent Eligibility



PTAB Guidance on Patent Subject Matter Eligibility
(January 7, 2019)

Step 1: Statutory Category?

Step 2A Prong 1: Judicial Exception Recited?

Step 2A Prong 2: Are there additional elements that integrate the identified judicial exception into a practical application?

Step 2B: Claim provides an Inventive Concept?

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Patent Challenges

Step 1 & Step 2

Patent Eligibility

Trading Techs. Int'l v. CQG, Inc.,

675 Fed. Appx. 1001, 1004 (Fed. Cir. 2017) (unpublished)

- The patent claims cover a computerized method and system used for trading stocks and similar products.
- Under *Alice* step one, the Federal Circuit held that the patents solve problems of prior graphical user interface devices used for computerized trading. Specifically, the Federal Circuit stated that “the patents describe a trading system in which a graphical user interface ‘display[s] the market depth of a commodity traded in a market’ including various static and dynamic displays and this graphical user interface solves ‘problems of prior graphical user interface devices...relating to speed, accuracy and usability.’” The Federal Circuit found that the patents presented patent-eligible subject matter.
- Under *Alice* step two, the court “determined that the challenged claims recite an ‘inventive concept.’” The Federal Circuit agreed with the District Court’s identification of the feature of “the static price index as an inventive concept” that permits more efficient and accurate trade placement when using electronic trading systems.

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Patent Challenges

Step 1

Patent Eligibility

Finjan, Inc. v. Blue Coat Sys.,

879 F.3d 1299 (Fed. Cir. 2018)

- Finjan filed a lawsuit against Blue Coat for infringement of four patents relating to computer software for identifying and protecting against malware. Claims were directed to behavior-based virus scanning, as opposed to the traditional code-matching method.
- The Federal Circuit affirmed the district court's finding that the claims were not directed toward an abstract idea for two reasons. First, the claims were drawn to behavior-based virus scanning which analyzes a downloadable's code and determines whether it performs potentially dangerous or unwanted operations. This was different than the traditional method of code-matching virus scanning. The Federal Circuit also determined that this was an improvement in computer functionality.
- Second, the results of the behavior-based virus scan are attached to a new type of file which enables a computer security system to perform tasks that it could not do before. Also, the claims recited more than a mere result and provided specific steps of generating a security profile that identifies suspicious code and links it to a downloadable.

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Patent Challenges

Step 1

Patent Eligibility

Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.,

880 F.3d 1356 (Fed. Cir. 2018)

- Core Wireless sued LG alleging infringement of patent claims directed to improved display interfaces, particularly for electronic devices with small screens. The improved interfaces allow a user to more quickly access data and applications in electronic devices.
- The Federal Circuit acknowledged that the generic idea of summarizing information existed prior to the invention. However, the Federal Circuit noted that the claims recite a specific improvement over conventional user interface methods, resulting in an improved user interface for electronic devices. In its analysis, the Federal Circuit pointed to claim limitations that disclose the specific manner of displaying a limited set of information to the user. It also highlighted language in the specification which indicates that the claims are directed to an improvement in the functioning of computers, particularly those with small screens. Because the Federal Circuit held that the asserted claims are not directed to an abstract idea, it did not proceed to the second step of the inquiry under *Alice*.

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Patent Challenges

Step 1 & Step 2

Patent Eligibility

Data Engine Techs. LLC v. Google LLC,
906 F.3d 999, 1008-09 (Fed. Cir. 2018)

- The “Tab Patents” claims relate to techniques for making complex, 3-D spreadsheets more navigable via the use of familiar, user-friendly interface objects like notebook tabs.
- Applying *Alice* step one, the opinion describes how a representative claim was not directed to an abstract idea, but to “a specific method for navigating through three-dimensional electronic spreadsheets.” It describes how the Tab Patents solved a known technological problem, in a particular way, and required a specific interface and implementation to do so. For the § 101 analysis, the opinion emphasizes the “functional improvement achieved by the specifically recited notebook tabs in the claimed methods.”
- One Tab Patents claim was patent-ineligible however. Unlike the other claims, it did not recite the specific tab implementation of a notebook tab interface, and “cover[ed] any means for identifying electronic spreadsheet pages.” This was directed to an abstract idea at *Alice* step one, and lacked any inventive concept at *Alice* step two.

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Patent Challenges

Patent Eligibility

PTAB Guidance on Patent Subject Matter Eligibility (January 7, 2019)

EXAMPLE 37

Claim 1:

A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

- receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;
- determining, by a processor, the amount of use of each icon over a predetermined period of time; and
- automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

Step 1: Yes.
Step 2A - Prong 1: Yes.
Step 2A - Prong 2: Yes.
Step 2B: N/A

Claim 2:

A method of rearranging icons on a graphical user interface (GUI) of a computer system, the method comprising:

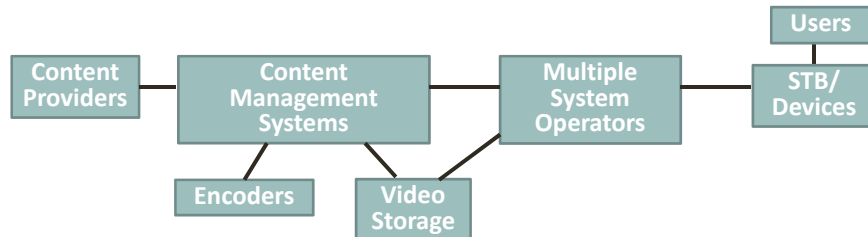
- receiving, via the GUI, a user selection to organize each icon based on a specific criteria, wherein the specific criteria is an amount of use of each icon;
- determining the amount of use of each icon using a processor **that tracks how much memory has been allocated to each application associated with each icon** over a predetermined period of time; and
- automatically moving the most used icons to a position on the GUI closest to the start icon of the computer system based on the determined amount of use.

Step 1: Yes.
Step 2A - Prong 1: No.
Step 2A - Prong 2: N/A
Step 2B: N/A

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Patent Challenges

Divided Infringement



Because there are so many participants in a typical distribution of new media, it is important to understand who the infringer is.

Consider relationship of participants, passive claiming, necessary steps or equipment, etc.

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Patent Challenges

Divided Infringement

Akamai Techs., Inc. v. Limelight Networks, Inc.,
797 F.3d 1020, 1022-23 (Fed. Cir. 2015)

"We will hold an entity responsible for others' performance of method steps in two sets of circumstances:

- (1) where that entity directs or controls others' performance, and
- (2) where the actors form a joint enterprise."

Liability can also be found "when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance."

"**Direction or control**" can be found where "an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance."

A controlling "mastermind" is still required to meet "direction or control" test, after *Akamai*.

A joint enterprise requires proof of four elements:

- 1) an agreement, express or implied, among members of the group;
- 2) a common purpose to be carried out by the group;
- 3) a community of pecuniary interest in that purpose, among the members; and
- 4) equal right to a voice in the direction of the enterprise, which gives an equal right of control.

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Patent Challenges

Divided Infringement

Eli Lilly & Co. v. Teva Parenteral Medicines, Inc.,
845 F.3d 1357 (Fed. Cir. 2017)

- The Federal Circuit affirmed district court decision finding liability even though no single actor performed all steps.
- Under *Akamai*, the Court held physicians directly infringed the '209 patent by conditioning receipt of a benefit — receiving pemetrexed treatment — on patients' taking a specified dose of folic acid at a specified time (daily).
- The Federal Circuit rejected Defendants' argument that "mere guidance or instruction is insufficient to show 'conditioning' under *Akamai*," finding that conditioning "does not necessarily require double-checking another's performance or making threats."
- The Federal Circuit also rejected the defendants' argument that "an actor can only condition the performance of a step 'by imposing a legal obligation to do so, by interposing that step as an unavoidable technological prerequisite to participation,'" or both.

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Patent Challenges

Indemnification Statute

UCC § 2-312(3). Warranty of Title Against Infringement; Buyer's
Obligation Against Infringement:

(3) Unless otherwise agreed a seller who is a merchant regularly dealing in goods of the kind warrants that the goods shall be delivered free of the rightful claim of any third person by way of infringement or the like but a buyer who furnishes specifications to the seller must hold the seller harmless against any such claim which arises out of compliance with the specifications.

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Patent Challenges

Indemnification Language & Negotiation

“Indemnitor hereby indemnifies Indemnitee against all and any damages that arise or result from claims of patent infringement brought by a third party subject to limitations as found in this agreement.”

Details & Points of Negotiation:

Notice

Indemnitee must notify Indemnitor of the claim.

Right to Control Defense & Settlement

Indemnitor will likely require the right to control the litigation.
Does Indemnitee have input or veto power on settlement?

Limit on Amount

Cap amount of indemnification? Fixed cap? Cap at monies received from Indemnitee under the license?

Exclusions

No indemnity if claims arise from modifications to the products as delivered?

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Questions?

QUESTIONS

?

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