No. 19-____

IN THE

Supreme Court of the United States

STRIKEFORCE TECHNOLOGIES, INC.,

Petitioner,

v.

SECUREAUTH CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

In *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), this Court explained a two-step test for determining whether a patent claim is directed to patent eligible subject matter under 35 U.S.C. § 101. First, "we determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id*. at 2355. Second, if so, "we must examine the elements of the claim to determine whether it contains an 'inventive concept," 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*. at 2355, 2357 (internal quotation marks omitted).

In *Berkheimer v. HP Inc., fka Hewlett-Packard Co*., 881 F.3d 1360 (Fed. Cir. 2018) ("*Berkheimer CAFC*"), the panel stated, among other things, that the inquiry under step two of *Alice*, "whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field *is a question of fact*." App., *infra*, 32a (emphasis added). This Court is currently considering whether to grant a petition for writ of certiorari in *HP Inc., fka Hewlett-Packard Company, Petitioner v. Steven E. Berkheimer, Respondent,* 18-415 (petition filed September 28, 2018) ("*Berkheimer SCT*"), to address the proper analysis under step two of *Alice*. The issues in this case are the same as in *Berkheimer SCT*. The question presented in this case is:

Whether the Federal Circuit conducted the proper analysis under step two of *Alice,* as this Court will explain it, should certiorari be granted in *Berkheimer SCT*.

PARTIES TO THE PROCEEDINGS BELOW

Petitioner StrikeForce Technologies, Inc. was plaintiff in the district court and appellant in the court of appeals. Respondent SecureAuth Corporation was defendant in the district court and appellee in the court of appeals.

CORPORATE DISCLOSURE STATEMENT

Pursuant to this Court's Rule 29.6, petitioner StrikeForce Technologies, Inc. states that it has no parent corporation, and that no publicly held company owns 10% or more of StrikeForce's stock.

RELATED PROCEEDINGS

Strikeforce Technologies, Inc. v. Secureauth Corporation, 18-1470 (Fed. Cir.) (February 19, 2019)

Strikeforce Technologies, Inc. v. Secureauth Corporation, 2:17-cv-04314-JAK-SK (C.D. Cal.) (December 28, 2017)

Strikeforce Technologies, Inc. v. Secureauth Corporation, 1:17-cv-00307-CMH-TCB (E.D. Va.) (Transferred to C.D. Cal. June 12, 2017)

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PETITION FOR A WRIT OF CERTIORARI

StrikeForce Technologies, Inc. ("StrikeForce") respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The court of appeals' judgment under Federal Circuit Rule 36 (App., *infra*, 1a-2a) and the district court's order granting SecureAuth Corporation's ("SecureAuth's") motion to dismiss (App., *infra*, 3a-20a) are unreported.

JURISDICTION

The court of appeals entered judgment on February 19, 2019 (App., *infra*, 1a-2a). On May 9, 2019, the Chief Justice extended the time to file a petition for writ of certiorari to and including July 19, 2019. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISION INVOLVED

The relevant provision of the Patent Act, 35 U.S.C. § 101, is set forth in the Appendix (App., *infra*, 72a).

STATEMENT OF THE CASE

This case concerns the proper analysis under step two of *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), for determining whether a claim directed to abstract subject matter is nonetheless patent eligible because the claim adds "additional elements" that "as an ordered combination" reflect an "inventive concept." *Id.* at 2355.

As explained below, there is currently much confusion in the United States Court of Appeals for the Federal Circuit regarding the proper analysis for determining whether an otherwise abstract claim includes

an "inventive concept" under step two of *Alice*. This Court is currently considering whether to grant a petition for writ of certiorari in *HP Inc., fka Hewlett-Packard Company, Petitioner v. Steven E. Berkheimer, Respondent*, 18-415 (petition filed September 28, 2018) ("*Berkheimer SCT*"), to address these same issues.

More specifically, both cases raise the question of whether determining "inventive concept," the second prong under *Alice*, is a question of law or a question of fact, and, equally as important, how that determination is properly implemented. On January 7, 2019, the Court invited the Solicitor General to file a brief expressing the views of the United States. To date, the Solicitor General has not yet filed a brief in response to the invitation.

This Court's resolution of the issues raised by *Berkheimer SCT,* should the certiorari petition be granted, almost certainly will require the Federal Circuit to revisit its decision in this case. Because this case and *Berkheimer SCT* present essentially the same issues, the Court should hold the petition in this case pending *Berkheimer SCT* and then dispose of it as appropriate in light of its decision in *Berkheimer SCT*.

I. Legal Background

In the Patent Act, Congress—exercising its power "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries," U.S. Const., art. I, § 8, cl. 8—provided 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.

Section 101 contains an implicit exception: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice*, 134 S. Ct. at 2354. In *Alice*, this Court discussed patents concerning abstract ideas and explained a two-step test. First, "we determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id*. at 2355. Second, if so, "we must examine the elements of the claim to determine whether it contains an inventive concept," 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*. at 2355, 2357 (internal quotation marks omitted).

II. Proceedings Below

A. The Claimed Invention

This case involves U.S. Patent Nos. 7,870,599; 8,484,698; and 8,713,701 ("the Asserted Patents") directed to a novel system and method for conducting completely "out of band" authentication. Rather than using a single channel for accessing protected information (*e.g.,* a user's bank account on the bank's website), the Asserted Patents describe two separate channels: an "access channel" for accessing the protected information and an "authentication channel" for authenticating the user seeking access over the access channel. The user's user name and password are intercepted on the access channel (*e.g.,* via the Internet) and sent to a security computer on the authentication channel. The security computer sends a prompt for information to the user on the separate authentication channel (*e.g.,* via a telephone call placed to the user over the telephone communication system) and the user responds to the prompt on the separate authentication channel. Once the security

computer verifies the authenticity of the user based on the response received over the authentication channel, an instruction is sent from the authentication channel to the access channel to allow the user access to the protected information.

B. Before *Berkheimer CAFC* was decided, the district court granted SecureAuth's motion to dismiss under § 101

SecureAuth moved to dismiss the complaint on the ground that the Asserted Patents are invalid under 35 U.S.C. § 101. The district court found the asserted claims are directed to an abstract idea, under step one of *Alice*. The district court then noted that to defeat the motion under step two of *Alice,* "the claims must include features that are significantly beyond 'well-understood, routine, conventional activity,' or a simple 'instruction to implement or apply the abstract idea on a computer.'" App., *infra*, 9a (citations omitted).

StrikeForce described the Asserted Claims as reciting the following ordered combination:

> 1. Separation of the access and authentication channels;
>
> 2. Interception of the login identification and demand for access, which are routed to a security computer in the second channel;
>
> 3. Initial verification of the user's login identification;
>
> 4. Transmission of a prompt by the security computer through a second, separate transmission channel;

> 5. Receipt by the security computer of a response through that same authentication channel; and
>
> 6. Transmission of an instruction from the authentication channel (*e.g.,* the security computer) to the access channel (*e.g.,* host computer) to grant access to the user.

App., *infra*, 11a-12a.

StrikeForce explained this ordered combination offered enhanced security over prior art systems by preventing the type of hacking attacks to which prior art systems were vulnerable. StrikeForce also pointed to the specification as denigrating prior art authentication systems and describing the advantages of the ordered combination over the prior art. App., *infra*, 13a. SecureAuth argued that the ordered combination was not an additional feature but a necessary element of any out-of-band authentication process. App., *infra*, 14a.

The district court resolved this dispute in SecureAuth's favor, concluding that the ordered combination is "nothing more than an obvious and logical structure for the step-by-step process for sending and receiving information through a system that has an authenticating feature." App., *infra*, 16a. In so ruling, the district court did not state whether it was applying a clear and convincing or preponderance of the evidence standard. Finding that neither step of *Alice* was met, the district court granted the motion to dismiss on December 1, 2017.

C. The *Berkheimer CAFC* decision

Two months after the district court granted SecureAuth's motion to dismiss, the Federal Circuit decided *Berkheimer CAFC* on February 8, 2018. There, the district court, following this Court's two-

step test from *Alice,* granted summary judgment against the patent holder finding the patent invalid under § 101. The district court found the claims were abstract under *Alice* step one. When it reached *Alice* step two, the district court found that the claims recited nothing more than the performance of well-understood, routine and conventional activities previously known to the industry. App., *infra*, 34a.

The Federal Circuit reversed. It held that while patent eligibility is a question of law, it may contain underlying factual issues. App., *infra*, 26a. The panel stated that the inquiry under step two of *Alice*, "whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field *is a question of fact*." App., *infra*, 32a (emphasis added). The panel also stated this question of fact, like any fact "pertinent to the invalidity conclusion, must be proven by clear and convincing evidence." *Id*. (citing *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011)).

In *Berkheimer CAFC,* the Federal Circuit further explained that "improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities." App., *infra*, 36a. *Berkheimer CAFC* ultimately found there was a genuine issue of material fact as to whether four asserted claims (claims 4-7), which recited the improvements described in the specification, perform well-understood, routine, and conventional activities to a skilled artisan, and thus,

summary judgment was inappropriate as to those claims. App., *infra*, 37a-38a.[1]

D. StrikeForce's Appeal to the Federal Circuit and the Rule 36 Decision

On appeal, StrikeForce relied on *Berkheimer CAFC* to argue that, at the very least, the case should be remanded to the district court for further fact finding regarding whether the ordered combination was well-understood, routine, and conventional. StrikeForce pointed to relevant portions of the specification and the complaint describing improvements of the invention over the prior art, to support its position that the ordered combination was not well-understood, routine, and conventional. As required by *Berkheimer CAFC*, the ordered combination is captured in the claims. StrikeForce argued that because the claimed improvements created a genuine dispute of material fact regarding whether the invention describes "well-understood, routine, and conventional activities," the district court erred in granting SecureAuth's motion to dismiss.

In response, SecureAuth argued that the alleged improvements were not material facts because they describe the use of two separate channels, which is part of the abstract idea. This ignored that the ordered combination includes more than just two channels, but also includes an interception device controlling the way information flows between the two channels. As the specification explains, this controlling of the information between the two separate channels is an improvement over the prior art and goes to the heart

[1] The Federal Circuit affirmed for those claims that did not include the arguable inventive concept. App., *infra*, 36a-38a.

of why the invention is not "well-understood, routine, and conventional."

Oral argument was heard on February 4, 2019, and on February 19, 2019, the Federal Circuit issued a Judgment under Federal Circuit Rule 36, affirming the district court's judgment without opinion. App., *infra*, 1a-2a.

III. THE RESOLUTION OF *BERKHEIMER SCT* WILL ALMOST CERTAINLY IMPACT THIS CASE

A. Issues Raised By *Berkheimer CAFC*

Almost immediately after the Federal Circuit decided *Berkheimer CAFC,* there was considerable discussion and divisions about the impact of the decision and how it was changing the legal landscape. Many of these divisions surfaced in the three written opinions from the Federal Circuit's denial of rehearing and rehearing *en banc*. For example, Judge Reyna, in dissenting from the denial of rehearing *en banc*, believed that the entire § 101 analysis should be a legal determination focused on the claims. In his view, this issue should be akin to contract interpretation or claim construction.

Like claim construction, he explained, the patent eligibility determination can, in the vast majority of instances, be decided by a review of the four corners of the patent. A factual dispute beyond that would be the exception and "should only occur in exceptional circumstances." App., *infra*, 70a. In this sense, he believed it was important to resolve whether a § 101 analysis is more akin to a § 102 or § 103 analysis (predominately factual) or to contract interpretation or claim construction (predominantly legal). App., *infra*, 70a.

Judge Reyna also identified the enormous amount of issues that arise from what he characterized as a "profound change." He noted that, in his view, this change raises issues of: (a) to what extent will discovery be allowed; (b) does this factual inquiry extend to other aspects of the § 101 inquiry; (c) can expert opinion supplement the written description; (d) does the court or jury decide factual issues; and (e) what deference is due to the fact finder. App., *infra*, 59a-60a. Likewise, Judge Reyna expressed his view that *Berkheimer CAFC* will make it the rare case where § 101 disputes will be resolved early in the case, and that this change by the Federal Circuit (in *Berkheimer CAFC* and the companion case, *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018)) would reduce the § 101 inquiry into a novelty analysis.[2] App., *infra*, 65a.

Judge Lourie, in his concurring opinion denying rehearing, was even more sweeping in his view of the changes needed to § 101 jurisprudence. Expressing his view that "the law needs clarification by a higher authority," Judge Lourie goes on to assert that there is no need for a two-step approach. In his view, if something is truly an abstract idea, it remains so. And if something inventive is added by the claims (the step-

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[2] Judge Reyna also noted that *Berkheimer CAFC* has already had a profound effect, both in patent prosecution and in the courts. Judge Reyna noted that a USPTO memorandum now provides that "an examiner should conclude that an element (or combination of elements) represents well-understood, routine, conventional activity **only** when the examiner can readily conclude that the element(s) is widely prevalent or in common use in the relevant industry' in step two of the *Mayo/Alice* test." Likewise, Judge Reyna noted that "district courts immediately started relying on these decisions to deny summary judgment motions." App., *infra*, 59a-60a (emphasis in original).

two aspect of the test), then it is not an abstract idea, and its patentability can be viewed under established patentability provisions such as §§ 102 and 103. App., *infra*, 55a.

Judge Moore, the author of the original *Berkheimer CAFC* decision, offered another concurring opinion. Unlike Judge Reyna, her opinion asserted that the underlying factual issues were more akin to other invalidity defenses (anticipation, obviousness, § 112 defenses) rather than the issues in claim construction.

According to Judge Moore, whether activities were well-understood, routine and conventional in the relevant field is an issue of historical fact, while construing claims in light of the specification (performed in claim construction) is a legal matter. While Judge Moore did not specifically address the cases which have denied summary judgment in light of *Berkheimer CAFC* or the USPTO Memorandum referenced by Judge Reyna, she did characterize *Berkheimer CAFC* as a narrow decision and noted that since *Berkheimer CAFC* was decided, the Federal Circuit has upheld the granting of motions for summary judgment or motions to dismiss on § 101 grounds. App., *infra*, 49a-50a.

On September 28, 2018, HP filed its Petition for Writ of Certiorari ("Petition"), followed by the Opposition and Reply and a number of amici supporting the grant of certiorari. Not only did those submissions restate the above-described different views between the Federal Circuit judges, different views within the intellectual property community and the impact of *Berkheimer CAFC* both in prosecution and in litigation, but they expanded upon them and identified still additional issues.

For example, in the Petition, *HP Inc., fka Hewlett-Packard Company, Petitioner v. Steven E. Berkheimer, Respondent,* No. 18-415 (Sept. 28, 2018), HP outlined still another Federal Circuit view arising from its recent decision in *BSG Tech LLC v. Buyseasons, Inc.,* 899 F3d 1281 (Fed. Cir. 2018). In that case, the panel (J. Reyna, J. Wallach, J. Hughes) acknowledged that the specification, like the specification in *Berkheimer CAFC*, described features in the claim as "unconventional improvements over conventional systems." Although the panel recognized that this may create a factual dispute as to whether the claimed features were non-routine or unconventional, the panel called that dispute irrelevant because, in its view, those non-routine features were "abstract features." Because of these wholly disparate views, the Petition observed that under the current law "the outcome of an appeal will depend entirely on the membership of the panel." Petition at 34.

The Petition also raised other aspects of *Berkheimer CAFC* that it believed to be problematic. HP argued that adopting a "clear and convincing" standard has no support in Supreme Court precedent and was a significant departure from past case law. Petition at 14-15. Most recently, the Federal Circuit took this "clear-and-convincing" standard a step further, finding that patent eligibility under § 101 is presumed much like patent validity under §§ 102, 103 and 112. *See Cellspin Soft, Inc. v. Fitbit, Inc.*, No. 2018-2178, slip op. at 23 (June 25, 2019).

HP also contended that the *Berkheimer CAFC* test changed the focus of step two of *Alice* from whether there was an inventive step to a factually intense inquiry whether the specification disclosed (and the claims included) concepts that were non-routine. According

to HP, inventiveness and non-routine (a mere novelty concept) are not the same things. Petition at 15-19. Finally, HP asserted that *Berkheimer CAFC* improperly made the relevant time of inquiry when the patent is filed. In HP's view, whether subject matter is patent eligible does not change over time (although the anticipation/obviousness inquiry can change over time). If subject matter is ineligible for a patent, that result should be the same regardless of when the patent was filed.

While the Certiorari Opposition challenged many of the arguments set forth in the Petition (both on the merits and whether it raised issues that should be reviewed by this Court), the Opposition acknowledged that the Petition appeared to raise both "the *procedural* question of whether patent eligibility is a question of fact or law," and the "*substantive* question of whether the Federal Circuit set the bar for patent eligibility too low." Brief of Respondent in Opposition, *HP Inc., fka Hewlett-Packard Company, Petitioner v. Steven E. Berkheimer, Respondent* No. 18-415 (Dec. 5, 2018), at 23 (emphasis in original).

In Reply, HP agreed that both the procedural and substantive aspects of *Berkheimer CAFC* were raised by the question presented in the Petition. Reply of Petitioner, *HP Inc., fka Hewlett-Packard Company, Petitioner v. Steven E. Berkheimer, Respondent* No. 18-415 (Dec. 17, 2018), at 3. HP also stated its view in the Reply that by changing the focus of the *Alice* step two inquiry to historic facts, the "fate of patents will now depend on a factfinder's resolution of credibility determinations between dueling experts, with a defendant bearing the clear-and-convincing evidence burden." *Id.* at 4. The Reply also cited the numerous amici who argued it will be difficult to resolve § 101 inquiries at

early stages of the litigation and thus, will inevitably prolong litigation time and expense. *Id.* at 4-5.

B. This Court's Resolution of the Issues Raised by *Berkheimer CAFC* Almost Certainly Will Require the Federal Circuit to Revisit this Case

At this juncture, it is impossible to know how this Court will resolve the *Berkheimer CAFC* issues should it grant certiorari. What is all but certain, however, is that this Court's resolution of the issues raised by the *Berkheimer SCT* Petition should require the Federal Circuit to reexamine the result in this case. This is even more likely because, in this case, the Federal Circuit resolved the appeal under Rule 36. We simply have no idea the basis upon which the Federal Circuit decided this appeal adversely against StrikeForce. Nor do we have any idea how the Federal Circuit conducted its analysis in light of the many contrasting views about *Berkheimer CAFC*.

For example, this Court may examine what HP and Berkheimer have called the "substantive" question of what the bar should be for patent eligibility. Will the inquiry be focused on whether there is evidence that the specification discloses (and the claims include) information that might be considered non-routine, nonconventional solutions? If so, will it mean that early disposition will be inappropriate if there is an arguable position that the claims include such non-routine, non-conventional solutions? Or will this Court offer a more restrictive test? Will it adopt an approach more akin to what is discussed in *BSG*, where there is an inquiry as to whether the alleged non-conventional disclosure in the specification is nonetheless abstract? Or will it follow the path suggested by Judge Lourie in his concurring opinion

denying rehearing in *Berkheimer CAFC*, and offer an entirely new approach, rather than the two-step approach set forth in *Alice*?

What we do know for certain is that whatever standard the Court adopts, it should require the Federal Circuit to reexamine this case. Without question, there was a dispute in this case as to whether the claims included patent-eligible subject matter and whether the specification and the claims included material that was non-routine, non-conventional or not well-understood. But we have no idea of the basis on which the Federal Circuit decided those issues against StrikeForce because the decision was rendered under Rule 36. A remand will be required to have the Federal Circuit review the case under whatever standard is articulated by this Court.

Indeed, this case puts front and center the concern expressed by HP that the outcome of appeals "will depend entirely on the membership on the panel." In this case, the panel included Judge Lourie, who has already expressed his view that the entire § 101 jurisprudence needs to be revisited and that the standards to apply are unclear and in need of clarification. The panel also included Judge Wallach, who joined in the *BSG* opinion that applied an extremely limited view of *Berkheimer CAFC*. This is all the more reason that this case will need to be remanded after this Court renders its opinion in *Berkheimer SCT*.

This Court may also rule upon the level of proof to be used in deciding the §101 issue, namely whether the clear and convincing burden, or a mere preponderance of evidence, is required. The district court never stated what, if any, burden of proof it applied. As for the Court of Appeals, again we simply do not know what standard was applied. Once again, a remand will

be required, particularly if this Court rules that the higher clear and convincing evidence standard is the correct one.

Likewise, there is a significant dispute arising from *Berkheimer CAFC* as to the role of novelty in deciding the second *Alice* prong. HP, on the one hand, believes that novelty plays a limited role in this § 101 inquiry, while Berkheimer believes the second *Alice* prong and novelty inquiry are closely entwined. We do know that the district court in the instant case concluded that the ordered combination was "logical and conventional," even though the specification states the combination was novel and a great improvement over the prior art. And once again, the Federal Circuit was silent on this issue. This Court's views on this subject will have to be considered at least by the Federal Circuit in the instant case.

An opinion by this Court on the "procedural" aspects of *Berkheimer CAFC* should also require a remand. As an initial matter, this Court will be called upon to rule whether patent eligibility (or some aspect of it) is resolved as a matter of fact or as a matter of law. In the instant case, the issue of whether the ordered combination recited in the claims was well-known, routine, or conventional was hotly contested in the district court. StrikeForce pointed to the operative language of the claims and argued that these aspects of the claims were not well known, routine or conventional. SecureAuth did not dispute that StrikeForce had correctly identified the operative language of the claims, but contended that these aspects of the claims did not meet the operative requirements of the second prong of *Alice*. The district court (in a decision rendered before the Federal Circuit's decision in *Berkheimer CAFC*) resolved that question adversely to

StrikeForce. Although the district court did not explicitly state whether it was resolving a factual dispute, the district court plainly believed it was its prerogative and obligation to decide the dispute between the parties regardless of whether it was resolving a factual dispute.

In the Federal Circuit briefing (submitted after the *Berkheimer CAFC* decision), StrikeForce did argue that, at a minimum, whether these claim limitations were well-known, routine or conventional was a question of fact which should not have been decided by the district court on a motion to dismiss. Once again, it is not possible to know the Federal Circuit's view on this question because it affirmed under Rule 36. Particularly given the panel (*see supra* at 14), it is impossible to know if the Court even considered the issue, let alone its reasoning.

Should this Court rule that the resolution of this issue is a factual determination, there are a host of other issues that this Court may consider and for which it may provide guidance. For example, as Judge Reyna stated in his dissent (and echoed by HP in its Petition), these issues include what discovery will be allowed, does this factual inquiry extend to other aspects of the § 101 inquiry, can expert opinions supplement the written description, does the court or jury decide the factual issues, and what deference is due to the fact finder. (App., *infra*, 59a-60a; Petition at 9). There is also the issue of what is the relevant time frame, if any, for the inquiry. We do know that none of these issues were addressed either by the district court or the Federal Circuit in the instant case and, to the extent they are addressed by this Court, they will need to be addressed on remand.

Finally, even if the Court decides that prong two of *Alice* can be decided as a matter of law, there can also be underlying factual issues (as even Judge Reyna acknowledges). For example, in deciding claim construction, an issue of law, courts often hear evidence (for example, from experts about how claim terms are understood to a person of ordinary skill in the art), and then the court makes its determination of the proper claim construction. Similarly, even if the Court decides in this case that prong two issues are decided as a matter of law, it well may be that evidentiary submissions from experts or other forms of evidence as to what is well-known, routine or conventional should be considered. None of that happened in this case, and the guidance of this Court on these issues will most likely impact the instant case.

CONCLUSION

The Petition for Writ of Certiorari should be held pending this Court's decision whether to grant certiorari in *Berkheimer SCT* and if so, held pending this Court's decision in *Berkheimer SCT* and disposed of as appropriate in light of the Court's decision in that case.

Respectfully submitted,

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July 19, 2019

APPENDIX

APPENDIX A

NOTE: This disposition is nonprecedential.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2018-1470

STRIKEFORCE TECHNOLOGIES, INC.,

Plaintiff-Appellant,

v.

SECUREAUTH CORPORATION,

Defendant-Appellee.

Appeal from the United States District Court for the Central District of California in No. 2:17-cv-04314-JAK-SK, Judge John A. Kronstadt.

DOUGLAS HALLWARD-DRIEMEIER, Ropes & Gray LLP, Washington, DC, argued for plaintiff-appellant. Also represented by SAMUEL LAWRENCE BRENNER, Boston, MA; STEVEN PEPE, KEVIN JOHN POST, JOSEF B. SCHENKER, New York, NY.

JEREMY ANGUS ANAPOL, Knobbe, Martens, Olson & Bear, LLP, Irvine, CA, argued for defendant-appellee. Also represented by JON W. GURKA, STEPHEN W. LARSON; GABRIEL BELL, Latham & Watkins LLP, Washington, DC.

JUDGMENT

THIS CAUSE having been heard and considered, it is ORDERED and ADJUDGED:

PER CURIAM (NEWMAN, MAYER, and DYK, *Circuit Judges*).

AFFIRMED. See Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

February 19, 2019
Date

APPENDIX B

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES – GENERAL

Case No. LA CV17-04314 JAK (SKx)

Date December 1, 2017

Title Strikeforce Technologies, Inc. v. SecureAuth Corporation

Present: The Honorable JOHN A. KRONSTADT, UNITED STATES DISTRICT JUDGE

Andrea Keifer
Deputy Clerk

Not Reported
Court Reporter / Recorder

Attorneys Present for Plaintiffs:
Not Present

Attorneys Present for Defendants:
Not Present

Proceedings: (IN CHAMBERS) ORDER RE MOTION TO DISMISS FIRST AMENDED COMPLAINT (DKT. 87)

I. Introduction

StrikeForce Technologies ("Plaintiff") brought this patent infringement action against SecureAuth Corporation ("Defendant"). The First Amended Complaint ("FAC" (Dkt. 85)), alleges that Defendant infringed U.S. Patent No. 7,870,599 (the "'599 Patent"), U.S. Patent No. 8,484,698 (the "'698 Patent") and U.S. Patent No. 8,713,701 (the "'701 Patent") (collectively,

the "Asserted Patents"). On July 21, 2017, Defendant moved to dismiss the FAC ("Motion" (Dkt. 87)), on the ground that the Asserted Patents are invalid under 35 U.S.C. § 101. Plaintiff opposed the Motion (Dkt. 104), and Defendant replied. Dkt. 106. A hearing on the Motion was held on October 2, 2017, and the matter was taken under submission. For the reasons stated in this Order, the Motion is GRANTED.

II. Background

Plaintiff holds all rights to the Asserted Patents, which were issued between January 2011 and April 2014, and are a continuation of certain earlier patents. FAC ¶¶ 10-12. The Asserted Patents are directed to multichannel security systems and methods for authenticating a user seeking to gain access to a secure network. *Id*. ¶ 13. Such networks include those used for online banking, social networking and business activities. *Id*. This field of technology is related to "out-of-band" authentication, or "two-factor" or "multi-factor" authentication. *Id*.

Plaintiff markets ProtectID®, which is a product that performs out-of-band authentication pursuant to the teachings of one or more of the Asserted Patents. *Id*. ¶ 14. Plaintiff has offered this product since 2003. *Id*. Since February 2011, the statutory patent notice for the existing Patents has been displayed on the ProtectID® website, www.strikeforcetech.com. *Id*. This invention "provides a solution to problems caused by the proliferation of data across the Internet by enhancing the functionality of computer systems compared to prior art authentication systems through improved security of the channels used for authentication and access." *Id.* ¶ 13.

It is undisputed that Defendant offers certain two-factor authentication products for use on Android and iOS devices. *Id*. ¶ 18. These products include SecureAuth IdP, SecureAuth Cloud Access and SecureAuth 2-Factor as a Service, alone or in conjunction with the SecureAuth Authenticate mobile application (collectively, "SecureAuth Products"). *Id*. Plaintiff argues that each of the SecureAuth Products infringes one or more claims of each of the Asserted Patents. In support of this position, Plaintiff has identified the following claims: 1, 7, 11, 17-19, 21, 22, 28, 31, 37 and 38 of the '599 Patent; 1-6, 8, 10-16, 20-22, 46-48 and 50-54 of the '698 Patent; and 1, 7, 11 and 17-19 of the '701 Patent (collectively, the "Asserted Claims"). *Id.* ¶¶ 35, 36, 51, 52, 69, 70. The FAC alleges that Defendant infringed the Asserted Patents both directly and indirectly, by inducing and contributing to infringement by third parties.

III. Analysis

A. Legal Standards

1. Motion to Dismiss

The Federal Circuit has "repeatedly affirmed § 101 rejections at the motion to dismiss stage, before claim construction or significant discovery has commenced." *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360 (Fed. Cir. 2017). In general, a cause of action may be dismissed pursuant to Fed. R. Civ. P. 12(b)(6) if it fails to state a claim upon which relief can be granted. "To survive a motion to dismiss, a complaint must contain sufficient factual matter, accepted as true, to state a claim to relief that is plausible on its face." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (citing *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)) (internal quotation marks omitted).

Plausibility is shown by factual allegations sufficient to allow a reasonable inference that the alleged misconduct occurred. *Id*. When considering a motion to dismiss, a court should first separate the "recitals of the elements of [an] action" from the factual allegations. *Id.* The court should then assume the factual allegations are true, and ignore the legal conclusions. *Id.* The court should then examine the factual allegations and "determine whether they plausibly give rise to an entitlement to relief." *Id.* at 679.

2. Section 101 Eligibility

a. In General

"Section 101 defines the subject matter that may be patented under the Patent Act . . . ." *Bilski v. Kappos*, 561 U.S. 593, 601 (2010). A patent may be issued to a person who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. "Section 101 thus specifies four independent categories of inventions or discoveries that are eligible for patent protection: processes, machines, manufactures, and compositions of matter." *Bilski*, 561 U.S. at 601.

Although acknowledging that "[i]n choosing such expansive terms . . . Congress plainly contemplated that the patent laws would be given wide scope," the Supreme Court has identified three areas that do not satisfy the requirements of Section 101: "laws of nature, physical phenomena, and abstract ideas." *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09 (1980). These exceptions are consistent with the principles that certain discoveries "are part of the storehouse of knowledge of all men" and are "free to all men and reserved exclusively to none." *Funk Bros. Seed Co. v.*

Kalo Inoculant Co., 333 U.S. 127, 130 (1948). The Supreme Court has required that "[i]f there is to be invention from . . . a hitherto unknown phenomenon of nature . . ., it must come from the application of the law of nature to a new and useful end." *Funk Bros.*, 333 U.S. at 130. These rules apply to both product and process claims. *Gottschalk v. Benson*, 409 U.S. 63, 67-68 (1972).

Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014), clarified the two-step test that a district court is to apply in connection with the § 101 analysis described in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012). The first step requires a determination whether the asserted claims improve technology or are directed to an abstract idea. The second step requires a determination whether claims that recite an abstract idea nevertheless present an inventive concept that is patent eligible. The degree to which a patent will preempt the use by others of underlying processes, methods or solutions in related applications is the "concern that drives this exclusionary principle." *Alice*, 134 S. Ct. at 2354 (citation omitted). Accordingly, "questions on preemption are inherent in and resolved by the § 101 analysis" such that "preemption concerns are fully addressed and made moot" by the § 101 analysis. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

b. *Alice* Step One

In performing the analysis under the first step, a court must "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 77). Therefore, the question presented is whether the claims "focus on a specific means or method that improves the relevant technology" or are "directed to a result or

effect that itself is the abstract idea and merely invoke generic processes and machinery." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

A district court is to review claims in their entirety to determine "whether 'their character as a whole is directed to excluded subject matter.'" *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). This requires "look[ing] to the claims as an ordered combination" and reviewing "the requirements of the individual steps." *McRo*, 837 F.3d at 1313. For claims that concern actions that involve the use of a computer, the Federal Circuit has explained that it is "relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea." *Enfish*, 822 F.3d at 1335. "Abstraction is avoided or overcome when a proposed new application or computer-implemented function is not simply the generalized use of a computer as a tool to conduct a known or obvious process, but instead is an improvement to the capability of the system as a whole." *Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001, 1005 (Fed. Cir. 2017) (citing *Enfish*, 822 F.3d at 1336).

c. *Alice* Step Two

As noted, even if it is determined that the claims are directed to an abstract idea, the inquiry continues. Thus, in the second step the court must consider "[w]hat else is there in the claims." *Alice*, 134 S. Ct. at 2355 (citing Mayo, 566 U.S. at 76-77). This requires a consideration of "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." *Id.*

(citing *Mayo*, 566 U.S. at 78-79). In this second step, a court must "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.* (citing *Mayo*, 566 U.S. at 72-73). This inquiry determines whether claims directed to an abstract idea nevertheless include an inventive concept that is sufficient to transform the abstract idea into a patent-eligible subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). To meet this standard, the claims must include features that are significantly beyond "well-understood, routine, conventional activity," *id*. (quoting *Mayo*, 566 U.S. at 79), or a simple "instruction to implement or apply the abstract idea on a computer." *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2358).

Routine, conventional, or generic elements or combinations of elements do not satisfy the second step. *Alice*, 134 S. Ct. at 2359 (claim steps requiring "electronic recordkeeping" and "use of a computer to obtain data, adjust account balances, and issue automated instructions" do "no more than require a generic computer to perform generic computer functions"). Similarly, "claiming the improved speed or efficiency inherent with applying the abstract idea on a computer provide[s] a sufficient inventive concept" is not sufficient to meet the standards that apply to the step two analysis. *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015).

B. Application

1. Representative Claim

Plaintiff has asserted 43 claims from the three Asserted Patents. Defendants have identified Claim 53 of the '698 Patent as representative. Claim 53 provides as follows:

> A software method for employing a multi-channel security system to control access to a computer, comprising the steps of:
>
> receiving in a first channel a login identification demand to access a host computer also in the first channel;
>
> verifying the login identification;
>
> receiving at a security computer in a second channel the demand for access and the login identification;
>
> outputting from the security computer a prompt requesting a transmission of data; receiving the transmitted data at the security computer; comparing the transmitted data to predetermined data; and
>
> depending on the comparison of the transmitted and the predetermined data, outputting an instruction from the security computer to the host computer to grant access to the host computer or deny access thereto.

'698 Patent, Claim 53.

Plaintiff argues that Claim 53 is not representative because it does not include an express "interception" element that appears in "nearly every other claim." Dkt. 104 at 18 n.3. Because Plaintiff does not propose

an alternative claim as representative and the interception element can be considered in conjunction with the other components of the representative claim, Claim 53 is used to frame the *Alice* inquiry.

2. *Alice* Step One

Plaintiff argues that the Asserted Claims address a technology-specific problem by providing a technology-specific solution. It then contends that, when the sequence and combination of the claims of the Asserted Patents are considered, a non-abstract invention is presented that is patent eligible. Thus, it contends that the invention is directed to "a specific system for implementing out-of-band authentication in a particular way . . . that overcomes the problems faced in the prior art." Dkt. 104 at 20.

In support of these positions, Plaintiff states that the underlying claims "send[] a prompt for data using the out-of-band channel and receive[] the user's response through the *same* channel." *Id.* at 21 (emphasis in original). As noted, Plaintiff argues that the "novel arrangement" of the "interception element and separate channels for access and authentication" creates an "improved 'out-of-band' security system" that is not abstract. *Id.* at 19. Plaintiff describes this ordered combination through the following sequential steps:

1. Separation of the access and authentication channels;
2. Interception of the login identification and demand for access, which are routed to a security computer in the second channel;
3. Initial verification of the user's login identification;

4. Transmission of a prompt by the security computer through a second, separate transmission channel;

5. Receipt by the security computer of a response through that same authentication channel; and

6. Transmission of an instruction from the authentication channel (e.g., the security computer) to the access channel (e.g., host computer) to grant access to the user.

Id. at 19-20.

Plaintiff also contends that its invention provides a novel solution to the growing threat of data hacking, which presents a problem unique to computers. Thus, "stolen credentials can be used by an undetected hacker for extended periods, making large amounts of data susceptible to theft and destruction." *Id.* at 20. Plaintiff adds that this problem was not widespread prior to the growth in the use of computers on the internet. *Id.*

Plaintiff adds that its invention is distinct from prior out-of-band systems that would prompt a user for data using the out-of-band channel and require the user to transmit the requested data through the in-band access channel. Plaintiff claims that its invention sends a prompt for data using the out-of-band channel and receives the user's response through that same channel so that the request and response occur outside the access channel. *Id.* at 21. Plaintiff argues that this design provides enhanced security by preventing the type of hacking attacks to which prior art systems were vulnerable. *Id.* Plaintiff argues that the claimed two-channel solution is "necessarily rooted in computer technology in order to overcome a problem

specifically arising in the realm of computer networks." *Id.* (quoting *DDR Holdings*, 773 F.3d at 1257).

Plaintiff also argues that the invention improves existing technology and is not abstract. Thus, it claims that the use of a separate channel to send and receive authentication data is an improvement over the prior art systems, which were vulnerable to online hacking. *Id.* at 22. Plaintiff argues that the Asserted Patents' specification overcame the "structural deficiencies" of prior art in-band and out-of-band authentication systems that made them susceptible to hacking. *Id.*

Defendant argues that the Asserted Patents recite a well-known method of organizing human activity to address a problem that is not unique to computers or online access. It contends that out-of-band authentication was used to transmit sensitive information well before the advent of the internet and computers. Dkt. 106 at 10 (describing U.S. Navy tactics during World War II and ancient Greek methods for decoding and transmitting messages); Dkt. 88 at 7, 21-22 (describing a system for verifying identity of visitors at preschool that utilizes an "out-of-band" system). Defendant also argues that the threat of large scale data theft, prolonged security breaches without detection and security issues inherent to in-band authentication, are not novel or technology-specific problems. *Id.*

Defendant also contends that the Asserted Patents are directed simply to out-of-band authentication, which is an abstract idea. In support of this position it relies on Plaintiff's prior admissions in this litigation, in prior litigation and in its public disclosures.[1]

---

[1] Plaintiff has stated that the "separate, out-of-band authentication of the user is the essence of the invention." Dkt. 89-1 at 16 (Parties' Joint Claim Construction Brief, *Strikeforce*

Defendant argues that these admissions establish that the Asserted Patents are directed only to out-of-band authentication. Dkt. 106 at 8; Dkt. 88 at 12.

Defendant next argues that Plaintiff's list of the six steps that are necessary is not an additional feature of Plaintiff's system, but a necessary element of any out-of-band authentication process. Dkt. 106 at 8-9. Defendant also responds to Plaintiff's argument that prior art out-of-band systems prompted a user for data using the out-of-band channel, but then required the user to transmit the requested data through the in-band access channel. Dkt. 104 at 21. Defendant argues that the "prompt for data" is not a necessary element to all of the Asserted Claims, and that Claim 53 does not specify the channel through which the prompt is transmitted. *See* Dkt. 106 at 9.

Defendant also relies on *Prism Technologies LLC v. T-Mobile USA, Inc.*, 696 F. App'x 1014 (Fed. Cir. 2017). *Prism* invalidated a patent relating to "systems and methods that control access to protected computer resources by authenticating identity data." *Id.* at 1016. In reaching this conclusion, the Federal Circuit reviewed the following representative claim:

> A method for controlling access, by at least one authentication server, to protected computer resources provided via an Internet Protocol network, the method comprising:

Technologies, Inc. v. PhoneFactor, Inc., No. 13-CV-00490-RGA-MPT (D. Del. 2014)); *see also* Dkt. 36 at 7 (Plaintiff's Opposition to Motion to Transfer) ("As StrikeForce's Complaint explains, the patented inventions are directed to multichannel security systems and methods for authenticating a user through 'out-of-band' authentication").

> receiving, at the at least one authentication server from at least one access server, identity data associated with at least one client computer device, the identity data forwarded to the at least one access server from the at least one client computer device with a request from the at least one client computer device for the protected computer resources;
>
> authenticating, by the at least one authentication server, the identity data received from the at least one access server, the identity data being stored in the at least one authentication server;
>
> authorizing, by the at least one authentication server, the at least one client computer device to receive at least a portion of the protected computer resources requested by the at least one client computer device, based on data associated with the requested protected computer resources stored in at least one database associated with the at least one authentication server; and
>
> permitting access, by the at least one authentication server, to the at least the portion of the protected computer resources upon successfully authenticating the identity data and upon successfully authorizing the at least one client computer device.

Id. at 1016.

It its analysis of step one of *Alice*, the Federal Circuit rejected the argument that "these claims cover a concrete, specific solution to a real-world problem" and instead concluded that the patents "are directed to the

abstract idea of providing restricted access to resources." *Id.* at 1017. Specifically, those claims "are directed to an abstract process that includes: (1) receiving identity data from a device with a request for access to resources; (2) confirming the authenticity of the identity data associated with that device; (3) determining whether the device identified is authorized to access the resources requested; and (4) if authorized, permitting access to the requested resources." *Id.*

A consideration of the competing positions of the parties shows that the Asserted Patents, like those at issue in *Prism,* address an "abstract idea of providing restricted access to resources." *Id.* at 1017. They are also "directed to a result or effect that . . . merely invoke[s] generic processes and machinery" that are not specific to computer technology. *McRO*, 837 F.3d at 1314. Considering the Asserted Claims in light of their "ordered combination" does not change this conclusion. Instead, the "ordered combination" on which Plaintiff relies is nothing more than an obvious and logical structure for the step-by-step process for sending and receiving information through a system that has an authenticating feature.

The Asserted Patents concern a long-established means of transmitting sensitive information. Plaintiff has not shown that they present ideas that are distinct from any out-of-band authentication process. A consideration of the existing in-band and out-of-band authentication systems and long-established, non-computer-based methods for transmitting, processing and authenticating sensitive data shows that the Asserted Claims are not specifically directed to an improvement in computer functionality. Instead, they simply apply these familiar processes in the context of

the use of computers that are connected to the internet. *See Enfish*, 822 F.3d at 1335.

3. *Alice* Step Two

Plaintiff concedes that some of the individual elements that constitute the Asserted Claims were known in prior art, but argues that, because their ordered combination is unconventional, it is inventive. *See* Dkt. 104 at 26-28. Thus, it contends that "the ordered combination of the claim elements establishes that the claims go beyond routine, fundamental practices and are a specific improvement over traditional access control systems." *Id.* at 26. In support of this argument, Plaintiff relies on two recent decisions by the Federal Circuit. The first, *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016), considered a "system, method, and computer program for merging data in a network-based filtering and aggregating platform as well as a related apparatus for enhancing networking accounting data records." *Id.* at 1291. *Amdocs* concluded that an inventive concept was shown because the term "enhance" was "dependent upon the invention's distributed architecture," and that this "distributed enhancement was a critical advancement over the prior art." *Id.* at 1300. Plaintiff argues that the use of separated channels that permit access and authentication information to be carried bi-directionally through separate facilities, frequency channels or time slots constitutes an analogous advancement over prior art. Dkt. 104 at 27.

The second decision on which Plaintiff relies is *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016). There, the Federal Circuit found an inventive concept within a "particular arrangement of elements" that were a "technical improvement over prior art ways of filtering

such content," even though "[f]iltering content on the internet was already a known concept." *Id.* at 1350. *Bascom* acknowledged that "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." *Id.* Plaintiff argues that as to the Asserted Claims, authentication was known in the prior art, but that the use of an unconventional arrangement, *i.e.*, having an out-of-band network outside the host computer's network that is used both to transmit and receive authentication information, is a technical improvement over prior art that recites an inventive concept. Dkt. 104 at 28.

An ordered combination of conventional elements may be inventive. However, as noted above, the ordered combination of the Asserted Claims is logical and conventional. Step 1 (separation of the access and authentication channels) is a necessary starting point. Step 2 (interception of the login identification and demand for access) must also occur at the beginning of the process because there must be some triggering event. Thus, any attempt to access information must occur prior to any responsive transmission of information. Step 3 (initial verification of the user's login identification) is the next logical step in this process and is conventional. Until a user successfully inputs this information, there is no need to verify that person's authenticity through the use of an out-of-band channel because no access can be obtained without accurate log in credentials. Step 4 (contacting the user through the authentication channel) must precede Step 5 (receiving a response from the computer through the authentication channel), which must precede Step 6 (communicating the results from the authentication channel to the access channel).

Although several of the Asserted Claims do not include an "interception device," Plaintiff nonetheless suggests that this element and its placement within the structure of the invention are inventive. However, Plaintiff previously acknowledged in other litigation that the interception device is simply "a device that prevents the host computer from" receiving what the interception device received. Dkt. 88 at 27. The intended function of preventing access is an "abstract functional description" that is insufficient to show an inventive concept. *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613-15 (Fed. Cir. 2016). Further, the interception device performs the "purely functional and generic" role of a router. *Alice*, 134 S. Ct. at 2360. Thus, it simply receives information from one channel and controls access to information in another. For these reasons, the interception device does not provide a computer-specific solution sufficient to satisfy the second step in *Alice*. *Id.*

Prism also supports the conclusion that the Asserted Patents fail under step two of *Alice*. As noted, *Prism* concluded that authentication system patents were "non-inventive because they recite generic computer hardware running generic computer software that performs the abstract functions routine to the process of restricting access." 696 F. App'x at 1017. *Prism* also determined that "the asserted claims merely recite a host of elements that are indisputably generic computer components." *Id.* These included "authentication server," "access server," "Internet Protocol network," "client computer device" and "database." *Id.* Viewed in context, the Asserted Patents are no different. They recite what are "indisputably generic computer components." *See id.* Similarly, the out-of-band authentication "performs the abstract functions routine to the process of restricting access." *Id.*

Although structuring an authentication so that it has a bi-directional second channel for information transmission could reflect some inventiveness, the Asserted Patents do not meet the standard described in *Alice*. That the channels recited in the Asserted Claims need not be physically distinct, but only separate "frequency channels" or "time slots" does not reflect sufficient inventiveness. Dkt. 104 at 27. Similarly, the interception element is similar to the process for diverting identity data from the access server to the authentication server that was addressed and rejected in *Prism*.

IV. Conclusion

For the reasons stated in this Order, the Motion is GRANTED with prejudice. Because it has been determined that the Asserted Patents are invalid, the challenge to the claims of willful infringement is MOOT. In light of this ruling, the hearing scheduled for December 11, 2017 and all other scheduled dates are vacated. On or before December 11, 2017, and after conferring with Plaintiff's counsel to seek agreement as to the form of a judgment, Defendant shall lodge a proposed judgment that is consistent with this Order. The notice of lodging shall include whether the form of judgment is agreed upon or whether objections will be filed in accordance with the Local Rules by December 18, 2017.

IT IS SO ORDERED.

_____:_____

Initials of Preparer ak

APPENDIX C

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1437

STEVEN E. BERKHEIMER,

Plaintiff-Appellant,

v.

HP INC., FKA HEWLETT-PACKARD COMPANY,

Defendant-Appellee.

Appeal from the United States District Court for the Northern District of Illinois in No. 1:12-cv-09023, Judge John Z. Lee.

Decided: February 8, 2018

JAMES P. HANRATH, Much Shelist, PC, Chicago, IL, argued for plaintiff-appellant. Also represented by MICHAEL JOHN FEMAL; PAUL SKIERMONT, Skiermont Derby LLP, Dallas, TX.

WILLIAM R. PETERSON, Morgan, Lewis & Bockius LLP, Houston, TX, argued for defendant-appellee. Also represented by THOMAS R. DAVIS, DAVID JACK LEVY; JASON C. WHITE, NICHOLAS A. RESTAURI, Chicago, IL.

Before MOORE, TARANTO, and STOLL, *Circuit Judges*.

MOORE, *Circuit Judge*.

Steven E. Berkheimer appeals the United States District Court for the Northern District of Illinois' summary judgment holding claims 1–7 and 9 of U.S. Patent No. 7,447,713 ('713 patent) invalid as ineligible under 35 U.S.C. § 101. Mr. Berkheimer also appeals the district court's decision holding claims 10–19 of the '713 patent invalid for indefiniteness. For the reasons discussed below, we affirm-in-part, vacate-in-part, and remand for further proceedings.

BACKGROUND

The '713 patent relates to digitally processing and archiving files in a digital asset management system. '713 patent at 1:11–12. The system parses files into multiple objects and tags the objects to create relationships between them. *Id.* at 1:13–18, 16:26–36. These objects are analyzed and compared, either manually or automatically, to archived objects to determine whether variations exist based on predetermined standards and rules. *Id.* at 13:14–20, 16:37–51. This system eliminates redundant storage of common text and graphical elements, which improves system operating efficiency and reduces storage costs. *Id.* at 2:53–55, 16:52–54. The relationships between the objects within the archive allow a user to "carry out a one-to-many editing process of object-oriented data," in which a change to one object carries over to all archived documents containing the same object. *Id.* at 15:65–16:2, 16:52–60.

Mr. Berkheimer sued HP Inc. in the Northern District of Illinois, alleging infringement of claims 1–7 and 9–19 of the '713 patent. Following a *Markman* hearing, the district court concluded that the term "archive exhibits minimal redundancy" in claim 10 is indefinite and renders claim 10 and its dependents invalid. HP moved for summary judgment that claims

1–7 and 9 are patent ineligible under 35 U.S.C. § 101, and the district court granted the motion. Mr. Berkheimer appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Indefiniteness

We review indefiniteness determinations de novo except for necessary subsidiary fact findings, which we review for clear error. *Cox Commc'ns v. Sprint Commc'n Co.*, 838 F.3d 1224, 1228 (Fed. Cir. 2016). Under 35 U.S.C. § 112, patent claims must "particularly point[] out and distinctly claim[] the subject matter" regarded as the invention. A lack of definiteness renders the claims invalid. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2125 (2014). Claims, viewed in light of the specification and prosecution history, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Id.* at 2129; *see Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) ("The claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art."). This standard "mandates clarity, while recognizing that absolute precision is unattainable." *Nautilus*, 134 S. Ct. at 2129. "Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention." *Interval Licensing*, 766 F.3d at 1370.

The district court analyzed the term "archive exhibits minimal redundancy" in claim 10 and determined that the intrinsic evidence "leaves a person skilled in the art with a highly subjective meaning of 'minimal redundancy.'" *Berkheimer v. Hewlett-Packard Co.*, 2015 WL 4999954, at *9–10 (N.D. Ill. Aug. 21, 2015).

It relied on the declaration of HP's expert, Dr. Schonfeld, to find that an ordinarily skilled artisan would not have known what the term "minimal redundancy" meant in claim 10. *Id.* at *10. We hold that the district court's subsidiary factual finding based on Dr. Schonfeld's declaration was not clearly erroneous and affirm its indefiniteness determination for claims 10–19.

We look first to the language of the claim to determine whether the meaning of "minimal redundancy" is reasonably clear. Claim 10 recites "a storage medium, and a set of executable instructions for establishing an archive of documents represented by linked object oriented elements stored in the medium, wherein the archive exhibits minimal redundancy with at least some elements linked to pluralities of the elements." Claims 11–19 depend from claim 10 and therefore include the same limitation. This claim language is not reasonably clear as to what level of redundancy in the archive is acceptable.

The specification uses inconsistent terminology to describe the level of redundancy that the system achieves. For example, it describes "minimiz[ing] redundant objects," '713 patent at 16:50–51, "eliminating redundancy," *id.* at 16:52, and "reducing redundancies," *id.* at 15:18–19. The only example included in the specification is an archive that exhibits no redundancy. '713 patent at 13:5–13. The claim language, however, does not require elimination of all redundancies from the archive. For example, the specification discloses providing users with "user interfaces and tools for examining and *choosing* the elimination of document and document element redundancies." *Id.* at 6:60–65 (emphasis added). Indeed, Mr. Berkheimer acknowledges that "the invention attempts to minimize redundancy but may not in all cases achieve

absolute [elimination of] redundancy." Appellant Br. at 64. The specification contains no point of comparison for skilled artisans to determine an objective boundary of "minimal" when the archive includes *some* redundancies. *Sonix Tech. Co., Ltd. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1379 (Fed. Cir. 2017) (holding that specific examples in the specification provided "points of comparison" that helped form an objective standard of the claim's scope).

The prosecution history does not add clarity. In response to an indefiniteness rejection during prosecution, Mr. Berkheimer explained that the claim "desires to eliminate redundancy" but includes the word "minimal" because "to eliminate all redundancy in the field of the claimed invention is not likely." J.A. 656. This does not explain how much redundancy is permitted.

In light of the lack of objective boundary or specific examples of what constitutes "minimal" in the claims, specification, and prosecution history, the district court properly considered and relied on extrinsic evidence. Relying on the specification's lack of explanation and specific examples of this term, HP's expert Dr. Schonfeld opined that the patent does not inform a skilled artisan of the meaning of "archive exhibits minimal redundancy" with reasonable certainty. Mr. Berkheimer did not provide the court with expert testimony of his own. While Dr. Schonfeld's explanation for his opinion was brief, it was not clear error for the district court to find that a skilled artisan would not have known the meaning of "minimal redundancy" with reasonable certainty.

Mr. Berkheimer's argument that "the archive" provides an objective baseline to measure what exhibits "minimal redundancy" misses the point. He is correct that it is "the archive" that must exhibit "minimal redundancy," but the issue is not *what* must exhibit

minimal redundancy, but rather *how much* is minimal. Mr. Berkheimer's only arguments on this point are that terms of degree are not required to have an objective boundary and a contrary holding would invalidate a large swath of patents relying on terms of degree such as "minimal" or "substantial." Our case law is clear that the objective boundaries requirement applies to terms of degree. In *Sonix*, we held that the term "visually negligible" had an objective baseline to interpret the claims. 844 F.3d at 1378. In *Interval Licensing*, we held that the phrase "unobtrusive manner" lacked objective boundaries. 766 F.3d at 1371. We do not hold that all terms of degree are indefinite. We only hold that the term "minimal redundancy" is indefinite in light of the evidence in this case.

Accordingly, we affirm the district court's determination that claims 10–19 are invalid as indefinite.

II. Patent Eligibility

In patent appeals, we apply the law of the regional circuit, here the Seventh Circuit, to issues not unique to patent law. *AbbVie Deutschland GmbH & Co., KG v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1295 (Fed. Cir. 2014). The Seventh Circuit reviews a grant of summary judgment de novo, drawing all reasonable inferences in the light most favorable to the non-movant. *Arnett v. Webster*, 658 F.3d 742, 757 (7th Cir. 2011). Summary judgment is appropriate when "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R. CIV. P. 56(a). Patent eligibility under 35 U.S.C. § 101 is ultimately 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). The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325

(Fed. Cir. 2016).

First, we address whether Mr. Berkheimer waived his ability to argue that the dependent claims are separately patent eligible. Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1352 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1316 & n.9 (Fed. Cir. 2016). Because Mr. Berkheimer maintained that limitations included in dependent claims 4–7 bear on patent eligibility and never agreed to make claim 1 representative, we hold that arguments going specifically to claims 4–7 are properly preserved on appeal.

Mr. Berkheimer never agreed to make claim 1 representative. In his opposition brief to HP's motion for summary judgment, he argued that claim 1 is not representative of the limitations found in the dependent claims. J.A. 1280. In particular, he argued that limitations in claim 5 drawn to effecting a one-to-many change add inventive concepts. *Id.* Other portions of his brief below argued that reducing redundancy and enabling one-to-many editing are patent eligible concepts. *See*, *e.g.*, J.A. 1278 ("The innovative aspects of the claims improve computerized digital asset and content management systems by enabling control of object and object relationship integrity, reducing redundancy, [and] linking objects to enable one to many editing . . . . Such improvements to computer functionality are precisely the kind of improvements that have been found patent eligible under *Alice*." (internal citations omitted)). Because claim 1 does not recite reduc-

ing redundancy or enabling one-to-many editing, we interpret these arguments as applying to dependent claims 4–7, which include these limitations. Mr. Berkheimer makes these same arguments to us on appeal.

The district court stated that it was treating claim 1 as representative because claim 1 is the only asserted independent claim and Mr. Berkheimer focused "all of his primary arguments" on claim 1.[1] *Berkheimer v. Hewlett-Packard Co.*, 224 F. Supp. 3d 635, 643 n.6 (N.D. Ill. Dec. 12, 2016). Neither rationale justifies treating claim 1 as representative. A claim is not representative simply because it is an independent claim. Indeed, Mr. Berkheimer advanced meaningful arguments regarding limitations found only in the dependent claims. In acknowledging that Mr. Berkheimer focused his "primary arguments" on claim 1, the district court necessarily recognized that he raised arguments regarding the dependent claims. Thus, Mr. Berkheimer's separate arguments regarding claims 4–7 are not waived.

Turning to the merits of the § 101 inquiry, 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. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). The Supreme Court instructs courts to distinguish between claims that claim patent ineligible subject matter and those

[1] Though the district court stated it was treating claim 1 as representative, it separately analyzed the dependent claims.

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 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 application." *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)).

Independent claim 1 recites:

> 1. A method of archiving an item in a computer processing system comprising:
>
> presenting the item to a parser;
>
> parsing the item into a plurality of multi-part object structures wherein portions of the structures have searchable information tags associated therewith;
>
> evaluating the object structures in accordance with object structures previously stored in an archive;
>
> presenting an evaluated object structure for manual reconciliation at least where there is a predetermined variance between the object and at least one of a predetermined standard and a user defined rule.

The district court construed "parser" as "a program that dissects and converts source code into object code" and "parsing" as using such a program. J.A. 47. It construed "evaluating the object structures in accordance with object structures previously stored in an archive" as "analyzing the plurality of multi-part object structures obtained by parsing and comparing it with object structures previously stored in the

archive to determine if there is variance between the object and at least one of a predetermined standard and a user defined rule." *Id.* These constructions are not challenged on appeal.

At *Alice* step one, we must "determine whether the claims at issue are directed to a patent-ineligible concept." *Alice*, 134 S. Ct. at 2355. The district court held claim 1 is directed to the abstract idea of "using a generic computer to collect, organize, compare, and present data for reconciliation prior to archiving." *Berkheimer*, 224 F. Supp. 3d at 644. Mr. Berkheimer argues the district court characterized the invention too broadly and simplistically, ignoring the core features of the claims. We hold that claims 1–3 and 9 are directed to the abstract idea of parsing and comparing data; claim 4 is directed to the abstract idea of parsing, comparing, and storing data; and claims 5–7 are directed to the abstract idea of parsing, comparing, storing, and editing data.

These claims are similar to claims we held directed to an abstract idea in prior cases. *See, e.g.*, *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). In *Content Extraction*, the claims at issue generally recited "a method of 1) extracting data from hard copy documents using an automated digitizing unit such as a scanner, 2) recognizing specific information from the extracted data, and 3) storing that information in a memory." 776 F.3d at 1345. We held those claims were directed to the abstract idea of "1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory." *Id.* at 1347. Similarly, in *TLI*, the claims recited a "method for recording and administer-

ing digital images," which involved "recording images using a digital pick up unit in a telephone unit," digitally storing them, transmitting the digital images and classification information to a server, and storing the digital images in the server based on the classification information. 823 F.3d at 610. We held the claim at issue used only conventional computer components to implement the abstract idea of "classifying and storing digital images in an organized manner." *Id.* at 613. Here, the specification explains that the parser "determines and extracts components of the standardized document or item representation" and reassembles the components "into composite output files." '713 patent at 3:61–4:17. Even though the parser separates the documents or items into smaller components than the claims determined to be abstract in *Content Extraction* and *TLI*, the concept is the same. The parsing and comparing of claims 1–3 and 9 are similar to the collecting and recognizing of *Content Extraction*, 776 F.3d at 1347, and the classifying in an organized manner of *TLI*, 823 F.3d at 613. Claim 4 adds the abstract concept of storing, and claims 5–7 add the abstract concept of editing.

Mr. Berkheimer argues that the claims are not abstract because the "parsing" limitation roots the claims in technology and transforms the data structure from source code to object code. Limiting the invention to a technological environment does "not make an abstract concept any less abstract under step one." *Intellectual Ventures I*, 850 F.3d at 1340. That the parser transforms data from source to object code does not demonstrate non-abstractness without evidence that this transformation improves computer functionality in some way. *See Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1258 (Fed. Cir. 2017) ("[W]e must . . . ask whether the claims are directed to

an improvement to computer functionality versus being directed to an abstract idea." (internal quotations omitted)); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016) ("[T]he first step in the *Alice* inquiry in this case asks whether the focus of the claims [was] 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."). No such evidence exists on this record. Indeed, Mr. Berkheimer admitted that parsers had existed for years prior to his patent. J.A. 1106. Because the claims are directed to an abstract idea, we proceed to the second step of the *Alice* inquiry.

At step two, 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 application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78–79). The second step of the *Alice* test is satisfied when the claim limitations "involve more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Content Extraction*, 776 F.3d at 1347–48 (quoting *Alice*, 134 S. Ct. at 2359).

The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact. Any fact, such as this one, that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence. *See Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011). Like indefiniteness, enablement, or obviousness, whether a claim recites patent eligible subject matter is a question of law which may contain underlying facts. *Akzo Nobel*

Coatings, Inc. v. Dow Chem. Co., 811 F.3d 1334, 1343 (Fed. Cir. 2016) ("Indefiniteness is a question of law that we review de novo, [] subject to a determination of underlying facts."); *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014) ("Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112 is a question of law that we review without deference, although the determination may be based on underlying factual findings, which we review for clear error."); *Apple Inc. v. Samsung Elecs. Co., Ltd.*, 839 F.3d 1034, 1047 (Fed. Cir. 2016) (en banc) ("Obviousness is a question of law based on underlying facts."). We have previously stated that "[t]he § 101 inquiry '*may* contain underlying factual issues.'" *Mortg. Grader*, 811 F.3d at 1325 (emphasis in original) (quoting *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1341 (Fed. Cir. 2013)). And the Supreme Court recognized that in making the § 101 determination, the inquiry "might sometimes overlap" with other fact-intensive inquiries like novelty under § 102. *Mayo*, 566 U.S. at 90.

As our cases demonstrate, not every § 101 determination contains genuine disputes over the underlying facts material to the § 101 inquiry. *See, e.g.*, *Content Extraction*, 776 F.3d at 1349 (patent owner conceded the argued inventive concept "was a routine function of scanning technology at the time the claims were filed"); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) (patent owner argued an "interactive interface" is "a specific application of the abstract idea that provides an inventive concept" and did not dispute that the computer interface was generic). Whether a claim recites patent eligible subject matter is a question of law which may contain disputes over underlying facts. Patent eligibility has in many cases been resolved on

motions to dismiss or summary judgment. Nothing in this decision should be viewed as casting doubt on the propriety of those cases. When there is no genuine issue of material fact regarding whether the claim element or claimed combination is well-understood, routine, conventional to a skilled artisan in the relevant field, this issue can be decided on summary judgment as a matter of law.

Here, the district court concluded that the claims do not contain an inventive concept under *Alice* step two because they describe "steps that employ only 'well-understood, routine, and conventional' computer functions" and are claimed "at a relatively high level of generality." *Berkheimer*, 224 F. Supp. 3d at 647–48 (quoting *Content Extraction*, 776 F.3d at 1348). Mr. Berkheimer argues portions of the specification referring to reducing redundancy and enabling one-to-many editing contradict the district court's finding that the claims describe well-understood, routine, and conventional activities. He argues, both below and on appeal, that summary judgment is improper because whether the claimed invention is well-understood, routine, and conventional is an underlying fact question for which HP offered no evidence.

While patent eligibility is ultimately a question of law, the district court erred in concluding there are no underlying factual questions to the § 101 inquiry. *Id.* at 642. Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination. Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional.

Mr. Berkheimer argues that the claimed combination improves computer functionality through the elimination of redundancy and the one-to-many editing feature, which provides inventive concepts. The specification of the '713 patent discusses the state of the art at the time the patent was filed and the purported improvements of the invention. Conventional digital asset management systems at the time included "numerous documents containing multiple instances of redundant document elements." '713 patent at 1:24–27. This redundancy in conventional systems led to "inefficiencies and increased costs." *Id.* at 2:22–26. The specification explains that the claimed improvement increases efficiency and computer functionality over the prior art systems:

> By eliminating redundancy in the archive 14, system operating efficiency will be improved, storage costs will be reduced and a one-to-many editing process can be implemented wherein a singular linked object, common to many documents or files, can be edited once and have the consequence of the editing process propagate through all of the linked documents and files. The one-to-many editing capability substantially reduces effort needed to up-date files which represent packages or packaging manuals or the like as would be understood by those of skill in the art.

Id. at 16:52–60.

The specification describes an inventive feature that stores parsed data in a purportedly unconventional manner. This eliminates redundancies, improves system efficiency, reduces storage requirements, and enables a single edit to a stored object to propagate throughout all documents linked to that object. *Id.*

The improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities, *see Content Extraction*, 776 F.3d at 1347–48, so we must analyze the asserted claims and determine whether they capture these improvements, *Alice*, 134 S. Ct. at 2357.

The parties dispute whether these improvements to computer functionality are captured in the claims. *See* Appellant Br. at 42; Appellee Br. at 39–40, 43–44. We conclude that claim 1 does not recite an inventive concept sufficient to transform the abstract idea into a patent eligible application. Claim 1 recites a method of archiving including parsing data, analyzing and comparing the data to previously stored data, and presenting the data for reconciliation when there is a variance. It does not include limitations which incorporate eliminating redundancy of stored object structures or effecting a one-to-many change of linked documents within an archive. It does not even require the storage of data after it is presented for manual reconciliation. Thus, it does not recite any of the purportedly unconventional activities disclosed in the specification. Mr. Berkheimer does not advance any separate arguments regarding claims 2–3 and 9. Even considering these claims separately, they recite patent ineligible subject matter for the same reason.

Mr. Berkheimer argues that claim 1 recites an improvement to computer functionality and digital asset management systems. Mr. Berkheimer, however, admitted that parsers and the functions they perform existed for years before his patent. J.A. 1106. These conventional limitations of claim 1, combined with limitations of analyzing and comparing data and

reconciling differences between the data, "fail to transform th[e] abstract idea into a patent-eligible invention." *Alice*, 134 S. Ct. at 1357. The limitations amount to no more than performing the abstract idea of parsing and comparing data with conventional computer components. Because claims 1–3 and 9 do not capture the purportedly inventive concepts, we hold that claims 1–3 and 9 are ineligible.

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. '713 patent at 16:52–58. It also states that known asset management systems did not archive documents in this manner. *Id.* at 2:22–26. 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. *Id* at 16:58–60. This one-to-many functionality is more than "editing data in a straightforward copy-and-paste fashion," as characterized by the district court. *Berkheimer*, 224 F. Supp. 3d at 645. 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. '713 patent at 1:22–55, 4:4–9, 16:52–60. 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.

HP argues that redundancy and efficiency are considerations in any archival system, including paper-based systems. The district court agreed. *Berkheimer*, 224 F. Supp. 3d at 647. At this stage of the case, however, there 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. Whether claims 4–7 perform well-understood, routine, and conventional activities to a skilled artisan is a genuine issue of material fact making summary judgment inappropriate with respect to these claims.

We do not decide today that claims 4–7 are patent eligible under § 101. We only decide that on this record summary judgment was improper, given the fact questions created by the specification's disclosure.

CONCLUSION

For the foregoing reasons, we affirm the district court's decision that claims 10–19 of the '713 patent are invalid as indefinite and its grant of summary judgment that claims 1–3 and 9 of the '713 patent are ineligible under 35 U.S.C. § 101. We vacate the district court's grant of summary judgment that claims 4–7 are ineligible under § 101 and remand for further proceedings.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

No costs.

APPENDIX D

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1437

STEVEN E. BERKHEIMER,

Plaintiff-Appellant,

v.

HP INC., FKA HEWLETT-PACKARD COMPANY,

Defendant-Appellee.

Appeal from the United States District Court for the Northern District of Illinois in No. 1:12-cv-09023, Judge John Z. Lee.

ON PETITION FOR REHEARING EN BANC

JAMES P. HANRATH, Much Shelist, PC, Chicago, IL, filed a response to the petition for plaintiff-appellant. Also represented by MICHAEL JOHN FEMAL; PAUL SKIERMONT, Skiermont Derby LLP, Dallas, TX.

JASON C. WHITE, Morgan, Lewis & Bockius LLP, Chicago, IL, filed a petition for rehearing en banc for defendant-appellee. Also represented by NICHOLAS A. RESTAURI; THOMAS R. DAVIS, DAVID JACK LEVY, WILLIAM R. PETERSON, Houston, TX; ALLYSON NEWTON HO, Dallas, TX; JULIE S. GOLDEMBERG, Philadelphia, PA.

MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, for amicus curiae T-Mobile USA, Inc. Also represented by BRIAN BUROKER; ALEXANDER N. HARRIS, San Francisco, CA; JOSH KREVITT, New York, NY.

DAVID EVAN FINKELSON, McGuireWoods LLP, Richmond, VA, for amici curiae Sprint Spectrum LP, Cellco Partnership. Also represented by MATTHEW ALLEN FITZGERALD, BRIAN DAVID SCHMALZBACH.

DANIEL K. NAZER, Electronic Frontier Foundation, San Francisco, CA, for amici curiae Electronic Frontier Foundation, R Street Institute. Also represented by CHARLES DUAN, R Street Institute, Washington, DC.

DARYL JOSEFFER, King & Spalding LLP, Washington, DC, for amici curiae The Internet Association, Computer and Communications Industry Association, High Tech Inventors Alliance. Also represented by PAUL ALESSIO MEZZINA, JESSE D.H. SNYDER.

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

MOORE, *Circuit Judge*, with whom DYK, O'MALLEY, TARANTO, and STOLL, *Circuit Judges*, join, concurs in the denial of the petition for rehearing en banc.

LOURIE, *Circuit Judge*, with whom NEWMAN, *Circuit Judge*, joins, concurs in the denial of the petition for rehearing en banc.

REYNA, *Circuit Judge*, dissents from the denial of the petition for rehearing en banc.

PER CURIAM.

ORDER

Appellee HP Inc. filed a petition for rehearing en banc. A response to the petition was invited by the court and filed by Appellant Steven E. Berkheimer. Several motions for leave to file amici curiae briefs were also filed and granted. The petition, response, and amici curiae briefs were first referred to the panel that heard the appeal, and thereafter, to the circuit judges who are in regular active service. A poll was requested, taken, and failed.

Upon consideration thereof,

IT IS ORDERED THAT:

1. The petition for panel rehearing is denied.

2. The petition for rehearing en banc is denied.

3. The mandate of the court will issue on June 7, 2018.

FOR THE COURT

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

May 31, 2018
Date

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1437

STEVEN E. BERKHEIMER,

Plaintiff-Appellant,

v.

HP INC., FKA HEWLETT-PACKARD COMPANY,

Defendant-Appellee.

Appeal from the United States District Court for the Northern District of Illinois in No. 1:12-cv-09023, Judge John Z. Lee.

MOORE, *Circuit Judge*, with whom DYK, O'MALLEY, TARANTO, and STOLL, *Circuit Judges*, join, concurring in the denial of the petition for rehearing en banc.

Berkheimer and *Aatrix* stand for the unremarkable proposition that whether a claim element or combination of elements would have been well-understood, routine, and conventional to a skilled artisan in the relevant field at a particular point in time is a question of fact. The Supreme Court has described historical facts as "a recital of external events." *Thompson v. Keohane*, 516 U.S. 99, 110 (1995). In other words, facts relating to "who did what, when or where, how or why." *U.S. Bank Nat'l Ass'n ex rel. CWCapital Asset Mgmt. LLC v. The Village at Lakeridge, LLC*, 138 S. Ct. 960, 966 (2018).

Whether a claim element or combination of elements would have been well-understood, routine, and conventional to a skilled artisan in the relevant field at a particular point in time may require "weigh[ing] evidence," "mak[ing] credibility judgments," and addressing "narrow facts that utterly resist generalization." *Id.* at 967 (quoting *Pierce v. Underwood*, 487 U.S. 552, 561–62 (1988)). The Supreme Court in *Alice* asked whether the claimed activities were "previously known to the industry," and in *Mayo* asked whether they were "previously engaged in by researchers in the field."[1] *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012). Indeed, the Court recognized that "in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap." *Mayo*, 566 U.S. at 90. "[C]ase law from the Supreme Court and this court has stated for decades that anticipation is a factual question." *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1068 (Fed. Cir. 2017). While the ultimate question of patent eligibility is one of law, it is not surprising that it may contain underlying issues of fact. Every other type of validity challenge is either entirely factual (e.g., anticipation,

[1] It has been suggested that contrary to these pronouncements by the Supreme Court, whether claim limitations involve well-understood, routine, and conventional activities should *not* be assessed from the perspective of a person of ordinary skill in the art. The alternative is unclear, the reasonable judge? Such a conclusion would be at odds with all patentability questions, which are assessed from the perspective of the ordinarily skilled artisan. It would be bizarre, indeed, if we assessed the question from the perspective of a jurist because for much of the technology we encounter, very little would be well-understood, routine, and conventional to the jurist.

written description, utility), a question of law with underlying facts (e.g., obviousness, enablement), or a question of law that may contain underlying facts (e.g., indefiniteness).[2]

This question may require weighing evidence to determine whether the additional limitations beyond the abstract idea, natural phenomenon, or law of nature would have been well-understood, routine, and conventional to an ordinarily skilled artisan. Because the patent challenger bears the burden of demonstrating that the claims lack patent eligibility, 35 U.S.C. § 282(a), there must be evidence supporting a finding that the additional elements were well-understood, routine, and conventional. Relying on the specification alone may be appropriate where, as in *Mayo*, the specification *admits* as much. 566 U.S. at 79; *see also id.* at 73–74. In *Mayo*, the Court considered disclosures in the specification of the patent about the claimed techniques being "routinely" used and "well known in the art." *Id.* at 73–74, 79. Based on these disclosures, the Court held that "any additional steps [beyond the law of nature] consist of well-understood, routine, conventional activity already engaged in by the scientific community" that "add nothing significant beyond the sum of their parts taken separately." *Id.* at 79–80.

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[2] It would be odd to suggest that § 101 is not an invalidity challenge. It falls under Part II, Chapter 10 of the Patent Act entitled Patentability of Inventions. It sits alongside §§ 102, 103 and 112, which likewise articulate validity concerns. Moreover, the single sentence in § 101 actually contains two patentability requirements: eligibility and utility. Both have long been treated by courts as questions of validity. S*ee*, *e.g.*, *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1349 (Fed. Cir. 2015); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014); *Juicy Whip, Inc. v. Orange Bang, Inc.*, 185 F.3d 1364, 1367 (Fed. Cir. 1999).

In a situation where the specification admits the additional claim elements are well-understood, routine, and conventional, it will be difficult, if not impossible, for a patentee to show a genuine dispute. *Cf. Pharmastem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1362 (Fed. Cir. 2007) (stating that "[a]dmissions in the specification regarding the prior art are binding on the patentee for purposes of a later inquiry into obviousness").[3]

As this is a factual question, the normal procedural standards for fact questions must apply, including the rules in the Federal Rules of Civil Procedure applicable to motions to dismiss or for summary judgment and the standards in the Federal Rules of Evidence for admissions and judicial notice. *See SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods., LLC*, 137 S. Ct. 954, 964 (2017) (stating that "the same common-law principles, methods of statutory interpretation, and procedural rules as other areas of civil litigation" also govern patent law). Though we are a court of special jurisdiction, we are not free to create specialized rules for patent law that contradict well-established, general legal principles. *See Teva*, 135 S. Ct. at 840; *Highmark Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744, 1748–49 (2014); *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 393–94 (2006).

If there is a genuine dispute of material fact, Rule 56 requires that summary judgment be denied. In

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[3] When claim construction is limited to the intrinsic evidence, we review it de novo. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). However, construing claims in light of the specification differs from determining whether claim limitations recite activities that were well-understood, routine, and conventional in the relevant field at a particular point in time. The latter is a question of historical fact, not a legal question of claim scope.

Berkheimer, there was such a genuine dispute for claims 4–7, but not for claims 1–3 and 9. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1370 (Fed. Cir. 2018). The specification described the increases in efficiency and computer functionality that the invention, in claims 4–7, had over conventional digital asset management systems. *Id.* at 1369 (citing U.S. Patent No. 7,447,713 at 1:24–27, 2:22–26, 16:52–60). It further stated that "known asset management systems" did not contain the one-to-many claim element and its advantages, '713 patent at 2:23–26, and that redundant document images "are the convention" in "today's digital asset management systems," *id.* at 1:24–27. While assertions in the patent will not always be enough to create a genuine dispute of material fact, they did so here. HP's evidence focused almost exclusively on the limitations of claim 1. *See* J.A. at 1054–62, *Berkheimer*, 881 F.3d 1360. Its only evidence that addressed the additional limitations in claims 4–7 was the conclusory statement from its expert's declaration that the features disclosed and claimed in the '713 patent, including one-to-many changes, "were known functions at the time the application was filed" and "[w]hen combined into a single computerized system, these known features perform[ed] the exact same functions to yield predictable results." *Id.* at 1061. This evidence did not address whether the additional limitations were well understood, routine, and conventional. Based on this evidence, HP fell short of establishing that it was entitled to summary judgment that claims 4–7 are ineligible, a defense it bore the burden of proving. 35 U.S.C. § 282(a). Indeed, beyond its expert's conclusory declaration, HP could point to no evidence in the record contradicting the statements from the specification. Applying the standard for summary judgment in Rule 56, as we must, summary judgment had to be

denied as to claims 4–7. Because no genuine issue of fact existed for claims 1–3 and 9, we affirmed the grant of summary judgment that those claims were not eligible. As with claims 1–3 and 9, when the evidence that aspects of the invention are not well-understood, routine, and conventional does not pertain to the invention as claimed, it will not create a factual dispute as to these claims. *See also Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1326 (Fed. Cir. 2016) (expert testimony about problems solved by the invention does not create a genuine dispute of material fact when "the claims do not actually contain the 'conflict-free requirement'"); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1321–22 (Fed. Cir. 2016) (when technological details or particular features set forth in other claims that incorporate an inventive concept are not present in the claims at issue they cannot create a question of fact as to these claims).

If patent eligibility is challenged in a motion to dismiss for failure to state a claim pursuant to Rule 12(b)(6), we must apply the well-settled Rule 12(b)(6) standard which is consistently applied in every area of law. A motion to dismiss for failure to state a claim must be denied if "in the light most favorable to the plaintiff and with every doubt resolved in the pleader's favor—but disregarding mere conclusory statements—the complaint states any legally cognizable claim for relief." 5B Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure § 1357 (3d ed. 2018). In the Eleventh Circuit, the Rule 12(b)(6) standard requires accepting as true the complaint's factual allegations and construing them in the light most favorable to the plaintiff. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1124 (Fed. Cir. 2018) (citing *Speaker v. U.S. Dep't of Health & Human Servs. Ctrs. for Disease Control & Prevention*, 623 F.3d 1371,

1379 (11th Cir. 2010)). The second amended complaint in *Aatrix* included "concrete allegations . . . that individual elements and the claimed combination are not well-understood, routine, or conventional activity." *Id.* at 1128. For example, it alleged that the patents "improve the functioning of the data processing systems, computers, and other hardware" and explained in detail how the invention achieves these improvements. J.A. at 454 ¶ 107, *Aatrix*, 882 F.3d 1121; *id.* at 429 ¶¶ 38–39. "These allegations suggest[ed] that the claimed invention is directed to an improvement in the computer technology itself and not directed to generic components performing conventional activities." *Aatrix*, 882 F.3d at 1127. As we have previously held, "[i]n ruling on a 12(b)(6) motion, a court need not 'accept as true allegations that contradict matters properly subject to judicial notice or by exhibit,' such as the claims and the patent specification." *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 913 (Fed. Cir. 2017). But nothing in the limited record we could consider at the Rule 12(b)(6) stage refuted these allegations, so there was no legal basis to affirm the dismissal of the complaint. *See, e.g.*, *Aatrix*, 882 F.3d at 1128. These allegations "at a minimum raise[d] factual disputes underlying the § 101 analysis, such as whether the claim term 'data file' constitutes an inventive concept, alone or in combination with other elements, sufficient to survive an *Alice/Mayo* analysis at the Rule 12(b)(6) stage." *Id.* at 1126.

We cannot adopt a result-oriented approach to end patent litigation at the Rule 12(b)(6) stage that would fail to accept as true the complaint's factual allegations and construe them in the light most favorable to the plaintiff, as settled law requires. The conclusion that the patent claims in *Aatrix* survived the motion to dismiss is not a holding that they are eligible. And

the mere fact that there were sufficient allegations in the pleading to state a claim for patent infringement does not mean that the case need go to trial.

There are many vehicles for early resolution of cases. An accused infringer can move for summary judgment at any time. In fact, under Rule 12(d), the Rule 12(b)(6) motion could be converted into a summary judgment motion and decided under the summary judgment standard rather than the harder Rule 12(b)(6) standard. Alternatively, the court can raise summary judgment *sua sponte* under Rule 56(f)(3). Moreover, if the allegations in the complaint about the invention as claimed ultimately lack evidentiary support or if the case is exceptional, district courts can award attorneys' fees to the accused infringer under either Rule 11 or § 285 to compensate the accused infringer for any additional litigation costs it incurs.

As stated in *Berkheimer*, "Nothing in this decision should be viewed as casting doubt on the propriety" of our previous cases resolving patent eligibility on motions to dismiss or summary judgment. 881 F.3d at 1368. Indeed, since *Berkheimer* and *Aatrix*, we have continued to uphold decisions concluding that claims were not patent eligible at these stages. *See., e.g.*, *SAP Am., Inc. v. InvestPic LLC*, — F.3d —, 2018 WL 2207254, at *6 (Fed. Cir. 2018) (holding claims ineligible at Rule 12(c) stage); *Voter Verified, Inc. v. Election Sys. & Software LLC*, 887 F.3d 1376, 1385–86 (Fed. Cir. 2018) (same at Rule 12(b)(6) stage); *Maxon, LLC v. Funai Corp., Inc.*, — F. App'x —, 2018 WL 1719101, at *2 (Fed. Cir. 2018) (same); *Intellectual Ventures I LLC v. Symantec Corp.*, — F. App'x —, 2018 WL 1324863, at *1 (Fed. Cir. 2018) (same at summary judgment); *Automated Tracking Sols., LLC v. The*

Coca-Cola Co., — Fed. App'x —, 2018 WL 935455, at *5–6 (Fed. Cir. 2018) (same at Rule 12(c) stage).

Patent law does not protect claims to an "asserted advance in the realm of abstract ideas . . . no matter how groundbreaking the advance." *SAP Am.*, 2018 WL 2207254, at *6. And in accordance with *Alice*, we have repeatedly recognized the absence of a genuine dispute as to eligibility for the many claims that have been defended as involving an inventive concept based merely on the idea of using existing computers or the Internet to carry out conventional processes, with no alteration of computer functionality. *See, e.g.*, *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1096–97 (Fed. Cir 2016) (holding claims ineligible which "merely graft generic computer components onto otherwise-ineligible method claims"); *Intellectual Ventures I LLC v. Capital One Bank*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) ("steps that do nothing more than spell out what it means to 'apply it on computer' cannot confer eligibility"); *Ultramercial, Inc. v. Hulu, LLC,* 772 F.3d 709, 715–16 (Fed. Cir. 2014) ("implement[ing] the abstract idea with routine, conventional activity" and "invocation of the Internet" is not sufficient to save otherwise abstract claims). The established precedents have thus properly permitted pretrial resolution of many eligibility disputes.

Our decisions in *Berkheimer* and *Aatrix* are narrow: to the extent it is at issue in the case, whether a claim element or combination is well-understood, routine, and conventional is a question of fact. This inquiry falls under step two in the § 101 framework, in which 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 application." *Alice*,

134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78–79). It is clear from *Mayo* that the "inventive concept" cannot be the abstract idea itself, and *Berkheimer* and *Aatrix* leave untouched the numerous cases from this court which have held claims ineligible because the only alleged "inventive concept" is the abstract idea. *Mayo*, 566 U.S. at 72–73 (requiring that "a process that focuses upon the use of a natural law also contain *other elements* or a combination of elements, sometimes referred to as an 'inventive concept,' sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself" (emphasis added)). "[A] claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility; instead, the application must provide something inventive, beyond mere 'well-understood, routine, conventional activity.'" *Genetic Techs. Ltd. v. Merial LLC*, 818 F.3d 1369, 1376 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 73). Whether a claim element is well-understood, routine and conventional to a skilled artisan in the relevant field at a particular time is a fact question, and *Berkheimer* and *Aatrix* merely hold that it must be answered under the normal procedural standards, including the Federal Rules of Civil Procedure standards for motions to dismiss or summary judgment and the Federal Rules of Evidence standards for admissions and judicial notice.

For the foregoing reasons, we concur in the order denying en banc review.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1437

STEVEN E. BERKHEIMER,

Plaintiff-Appellant,

v.

HP INC., FKA HEWLETT-PACKARD COMPANY,

Defendant-Appellee.

Appeal from the United States District Court for the Northern District of Illinois in No. 1:12-cv-09023, Judge John Z. Lee.

LOURIE, *Circuit Judge*, with whom NEWMAN, *Circuit Judge*, joins, concurring in the denial of the petition for rehearing en banc.

I concur in the court's declining to rehear this case en banc. There is plausibility to the panel holding that there are fact issues potentially involved in this case concerning the abstract idea exception to patent eligibility. And the panel, and the court, are bound to follow the script that the Supreme Court has written for us in § 101 cases.

However, I believe the law needs clarification by higher authority, perhaps by Congress, to work its way out of what so many in the innovation field consider are § 101 problems. Individual cases, whether heard by this court or the Supreme Court, are imperfect

vehicles for enunciating broad principles because they are limited to the facts presented. Section 101 issues certainly require attention beyond the power of this court.

We started from the statute that provides for patents on "any new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court put a gloss on this provision by excluding laws of nature, natural phenomena, and abstract ideas. *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 174–75 (1852) ("[A] principle is not patentable. A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) ("The laws of nature, physical phenomena, and abstract ideas have been held not patentable."). So far, so good. Laws of nature (Ohm's Law, Boyle's Law, the equivalence of matter and energy), properly construed, should not be eligible for patent. Nor should natural phenomena (lightning, earthquakes, rain, gravity, sunlight) or natural products, per se (blood, brain, skin). Of course, the latter are also unpatentable as lacking novelty under § 102.

But it's in the details that problems and uncertainties have arisen. The Court held in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, that the claim at issue "set forth laws of nature" and was ineligible under § 101 as "a drafting effort designed to monopolize the law of nature itself." 566 U.S. 66, 77 (2012). That claim recited "[a] method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising" administering a drug and then measuring the level of a

metabolite of the drug. *Id.* at 74–75 (quoting U.S. Patent 6,355,623).

The Supreme Court whittled away at the § 101 statute in *Mayo* by analyzing abstract ideas and natural phenomena with a two-step test, including looking for an "inventive concept" at step two, thereby bringing aspects of §§ 102 and 103 into the eligibility analysis. *Id.* at 72–73, 90. The decision we now decide not to rehear en banc holds that step two of the two-step analysis may involve the type of fact-finding that underlies §§ 102 and 103, further complicating what used to be a fairly simple analysis of patent eligibility under § 101. We now are interpreting what began, when it rarely arose, as a simple § 101 analysis, as a complicated multiple-step consideration of inventiveness ("something more"), with the result that an increasing amount of inventive research is no longer subject to patent. For example, because the *Mayo* analysis forecloses identifying any "inventive concept" in the discovery of natural phenomena, we have held as ineligible subject matter even meritorious inventions that "combined and utilized man-made tools of biotechnology in a way that revolutionized prenatal care." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (internal quotation marks omitted).

The case before us involves the abstract idea exception to the statute. Abstract ideas indeed should not be subject to patent. They are products of the mind, mental steps, not capable of being controlled by others, regardless what a statute or patent claim might say. *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("[M]ental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work."). No one should be inhibited from

thinking by a patent. *See* Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813) ("[I]f nature has made any one thing less susceptible, than all others, of exclusive property, it is the action of the thinking power called an Idea."). Thus, many brilliant and unconventional ideas must be beyond patenting simply because they are "only" ideas, which cannot be monopolized. Moreover such a patent would be unenforceable. Who knows what people are thinking?

But why should there be a step two in an abstract idea analysis at all? If a method is entirely abstract, is it no less abstract because it contains an inventive step? And, if a claim recites "something more," an "inventive" physical or technological step, it is not an abstract idea, and can be examined under established patentability provisions such as §§ 102 and 103. Step two's prohibition on identifying the something more from "computer functions [that] are 'well-understood, routine, conventional activit[ies]' previously known to the industry," *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359 (2014) (alteration in original) (quoting *Mayo*, 566 U.S. at 73), is essentially a §§ 102 and 103 inquiry. Section 101 does not need a two-step analysis to determine whether an idea is abstract.

I therefore believe that § 101 requires further authoritative treatment. Thinking further concerning § 101, but beyond these cases, steps that utilize natural processes, as all mechanical, chemical, and biological steps do, should be patent-eligible, provided they meet the other tests of the statute, including novelty, nonobviousness, and written description. A claim to a natural process itself should not be patentable, not least because it lacks novelty, but also because natural processes should be available to all. But claims to using such processes should not be

barred at the threshold of a patentability analysis by being considered natural laws, as a method that utilizes a natural law is not itself a natural law.

The Supreme Court also held in *Association for Molecular Pathology v. Myriad Genetics, Inc*., that claims to isolated natural products were ineligible for claiming "naturally occurring phenomena." 569 U.S. 576, 590 (2013). The Court concluded that those claims "are not patent eligible simply because they have been isolated from the surrounding genetic material." *Id.* at 596.

However, finding, isolating, and purifying such products are genuine acts of inventiveness, which should be incentivized and rewarded by patents. We are all aware of the need for new antibiotics because bacteria have become resistant to our existing products. Nature, including soil and plants, is a fertile possible source of new antibiotics, but there will be much scientific work to be done to find or discover, isolate, and purify any such products before they can be useful to us. Industry should not be deprived of the incentive to develop such products that a patent creates. But, while they are part of the same patent-eligibility problems we face, these specific issues are not in the cases before us.

Accordingly, I concur in the decision of the court not to rehear this § 101 case en banc. Even if it was decided wrongly, which I doubt, it would not work us out of the current § 101 dilemma. In fact, it digs the hole deeper by further complicating the § 101 analysis. Resolution of patent-eligibility issues requires higher intervention, hopefully with ideas reflective of the best thinking that can be brought to bear on the subject.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2017-1437

STEVEN E. BERKHEIMER,

Plaintiff-Appellant,

v.

HP INC., FKA HEWLETT-PACKARD COMPANY,

Defendant-Appellee.

Appeal from the United States District Court for the Northern District of Illinois in No. 1:12-cv-09023, Judge John Z. Lee.

REYNA, *Circuit Judge*, dissenting from the denial of the petition for rehearing *en banc*.

The court's vote to deny *en banc* review of *Aatrix* and *Berkheimer*[1] is a declaration that nothing has changed in our precedent on patent subject matter eligibility under 35 U.S.C. § 101. We are encouraged to move

[1] This court's opinion in *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018), was issued six days after the release of the court's opinion in *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018). In *Aatrix*, Green Shades filed a Petition for Rehearing *En Banc* in which it raised two questions essentially similar to the question that HP raises in its *en banc* petition. As in *Berkheimer*, the court in *Aatrix* voted to deny Green Shades's petition for rehearing *en banc*. Given the similarity in the questions raised in the *Aatrix* and *Berkheimer* petitions for rehearing *en banc*, I filed identical dissents in both.

along; there's nothing to see here. I disagree. I believe that, at minimum, the two cases present questions of exceptional importance that this court should address and not avoid.[2]

Perhaps the single most consistent factor in this court's § 101 law has been our precedent that the § 101 inquiry is a question of law. Stated differently, there is no precedent that the § 101 inquiry is a question of fact. The *Aatrix* and *Berkheimer* decisions are contrary to that well-established precedent.

Aatrix and *Berkheimer* alter the § 101 analysis in a significant and fundamental manner by presenting patent eligibility under § 101 as predominately a question of fact. For example, in addressing *Alice* step two, the *Aatrix* and *Berkheimer* panels raised and considered the same, exact question of "whether the invention describes well-understood, routine, and conventional activities." *Aatrix*, 828 F.3d at 1129; *see also Berkheimer*, 881 F.3d at 1369.

After declaring this to be a question of fact, the panels found this question dispositive of the step two analysis. This action has the effect of reducing the entire step two inquiry into what is routine and conventional, rather than determining if an inventive

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[2] Federal Rule of Appellate Procedure 35 and our Internal Operating Procedures provide that *en banc* consideration is required to overrule a precedent of this court. In addition, these rules establish reasons for which *en banc* action should be taken, including the necessity of securing or maintaining uniformity of decisions; involvement of a question of exceptional importance; necessity of overruling a prior holding of this or a predecessor court expressed in an opinion having precedential status; or the initiation, continuation, or resolution of a conflict with another circuit. Based on these rules and procedures, sufficient reason exists here for *en banc* review.

concept expressed in the claims transforms the nature of the claims into a patent-eligible application. Step two is thus divorced from the claims.

Having made this profound change, the court offers no meaningful guidance to the bar, the government, or the public on how to proceed on these new grounds.[3]

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[3] The reaction of the patent bar and intellectual property community underscores the exceptional importance of the questions presented by this court's recent decisions and their departure from precedent. On April 19, 2018, the USPTO issued a memorandum of changes in examination procedure in light of *Berkheimer*. USPTO, Memorandum on 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. The memorandum highlights that, for the first time, this court held that "whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Id.* at 2 (citing *Berkheimer,* 881 F.3d at 1369). Accordingly, the memo "revises" the MPEP and changes USPTO examination procedure. *Id.* at 3–5. The memorandum provides that now "an examiner should conclude that an element (or combination of elements) represents well-understood, routine, conventional activity only when the examiner can readily conclude that the element(s) is widely prevalent or in common use in the relevant industry" in step two of the *Mayo*/*Alice* test. *Id.* at 3. The USPTO is also "seeking public comment on its subject matter eligibility guidance, and particularly its guidance in the *Berkheimer* memorandum to the Patent Examining Corps." Request for Comments on Determining Whether a Claim Element Is Well-Understood, Routine, Conventional for Purposes of Subject Matter Eligibility, 83 Fed. Reg. 17,536 (Apr. 20, 2018).

Further, district courts immediately started relying on these decisions to deny summary judgment motions. *E.g.*, *Vaporstream, Inc. v. Snap Inc.*, No. 2:17-CV-220, 2018 WL 1116530, at *6 (C.D. Cal. Feb. 27, 2018); *Sycamore IP Holdings LLC v. AT & T Corp.*, No. 2:16-CV-588, 2018 WL 936059, at *24 (E.D. Tex. Feb. 16, 2018). Commentators have described the decisions as a

For example, to what extent will discovery be allowed to prove or disprove a fact that has been placed in contention? Does this new factual inquiry extend to other aspects of the § 101 inquiry, such as whether a claim is directed to an abstract idea or a natural phenomenon? Can expert opinion supplant the written description? Does the court or jury determine this factual issue? What deference is due to the fact finder? These and similar questions will have to be addressed and resolved by the district courts. Instead of creating a period of uncertainty with the expectation of addressing these issues sometime in the future, this court should address them now.

I.

The Supreme Court has characterized the § 101 patent-eligibility inquiry as a threshold test that precedes the requirements described in §§ 102, 103, and 112. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc*., 566 U.S. 66, 75 (2012); *Bilski v. Kappos*, 561 U.S. 593, 602 (2010). Consistent with this characterization, this court has held that patent eligibility under § 101 is an issue of law. *See, e.g.*, *Intellectual Ventures I LLC v. Capital*

"precedential sea change," in tension with prior cases resolving the eligibility question on the pleadings as a question of law, and conflating the eligibility analysis with that of obviousness. *E.g.*, Dennis Crouch*, Patent Eligibility: Eligibility Analysis and Its Underlying Facts: A Roadmap for Surviving Dismissal on the Pleadings,* PATENTLYO (Feb. 15, 2018), https://patentlyo.com/patent/2018/02/eligibilityunderlying-surviving.html; Dennis Crouch, *Patent Eligibility: Underlying Questions of Fact*, PATENTLYO (Feb. 8, 2018), https://patentlyo.com/patent/2018/02/eligibility-underlying-questions.html; Ryan Davis, *Recent Patent-Eligibility Cases Leave Unanswered Questions*, LAW 360 (Mar. 12, 2018), https://www.law360.com/articles/ 1020953?scroll=1o.

One Fin. Corp., 850 F.3d 1332, 1338 (Fed. Cir. 2017); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1331 (Fed. Cir. 2015) ("We review questions concerning compliance with the doctrinal requirements of § 101 of the Patent Act (and its constructions) as questions of law, without deference to the trial forum."); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) ("Patent eligibility under 35 U.S.C. § 101 is an issue of law reviewed *de novo*."); *Prometheus Labs., Inc. v. Mayo Collaborative Servs.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010) ("Whether a patent claim is directed to statutory subject matter is a question of law that we review *de novo*." (citation omitted)), *rev'd on other grounds*, 566 U.S. 66 (2012); *In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008) (en banc) ("Whether a claim is drawn to patent-eligible subject matter under § 101 is an issue of law that we review *de novo*."), *aff'd in part, rev'd in part*, 561 U.S. 593 (2010). Accordingly, this court has routinely resolved patent-eligibility issues on the pleadings. *See, e.g.*, *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014).

The two-step test for assessing subject matter eligibility under § 101 evolved from framework introduced by the Supreme Court in *Mayo* and refined in *Alice*. First, we determine whether "the claims at issue are directed to one of those patent-ineligible concepts," i.e., laws of nature, natural phenomena, and abstract ideas. *Alice*, 134 S. Ct. at 2355. If so, we proceed to step two, and consider 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." *Id.* (quoting *Mayo*, 566 U.S. at 79). This inquiry has been

described as a search for other elements or a combination of elements, occasionally referred to as an "inventive concept," sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law or abstract idea itself. *Mayo*, 566 U.S. at 72–73. Importantly, step two of the analysis is directed to the *remaining elements of the claim*—"[w]hat *else* is there *in the claims* before us?"—after the court determines that the claim is directed to one of the patent-ineligible concepts. *Mayo*, 566 U.S. at 78 (emphasis added). The inventive concept determination is limited to the "additional elements" of the claim to determine whether these additional elements transform the nature of the claim into a patent-eligible application. *Alice*, 134 S. Ct. at 2355; *see also Mayo*, 566 U.S. at 77; *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1377 (Fed. Cir. 2015).

The Court's treatment of the "inventive concept" search at step two makes clear that this inquiry is predominately a legal question focused on *the claims*. The inventive concept cannot merely be alleged; rather, "the *claim* ha[s] to supply a 'new and useful' application of the idea in order to be patent eligible." *Alice*, 134 S. Ct. at 2357 (emphasis added) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972)); *Mayo*, 566 U.S. at 80, 84 (discussing *Diamond v. Diehr*, 450 U.S. 175 (1981), and concluding that although the process claimed a basic mathematical equation, the overall process was patent eligible "because of the way *the additional steps of the process* integrated the equation into the process as a whole"). Evidence of prior art, the prosecution history, and allegations of inventiveness are of no significance if these alleged innovative concepts are not captured by the claims. *See Recognicorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("To save a patent at step two, an inventive concept

must be evident *in the claims*." (emphasis added)). Thus, both steps of *Alice* are legal questions that the court must resolve by looking at the claims and written description. *See Content Extraction*, 776 F.3d at 1347.

Contrary to this established body of law, the majority opinion in *Aatrix* emphatically declares that the inventive concept inquiry "*cannot* be answered adversely to the patentee based on the sources properly considered on a motion to dismiss, such as the complaint, the patent, and materials subject to judicial notice." *Aatrix*, 882 F.3d at 1128 (emphasis added). In other words, the *Aatrix* decision suggests that mere allegations of an inventive concept are sufficient to preclude a finding of subject matter eligibility at the Rule 12(b)(6) stage. Indeed, many of the allegations regarding inventive concept in Aatrix's proposed second amended complaint—such as references from the prior art and the success of the claimed inventions[4]—are

[4] Aatrix's new allegations in the Second Amended Complaint included the following: the background and development of the inventions of the Aatrix Patents; specific allegations and diagrams spelling out the technology of the Aatrix Patents; the prosecution history of the patents with the relevant USPTO file wrappers attached as exhibits; a large number of prior art references and patentably distinct means and methods of creating, displaying and filling out forms on computers, such as Aatrix's own "monolithic software"; hundreds of search results by the USPTO disclosing prior art in the field; eleven patents or publications disclosing prior art and/or patentably distinct means and methods cited by the USPTO in the prosecution of the applications for the Aatrix's patents; several products for creating, designing and filling out forms, allegedly distinct from Aatrix's patents, on sale before the date of invention; alternative methods for creating, displaying and filling out forms such as Superforms and the use of SDK's to launch monolithic software; and the allegedly many improvements, objectives, and advantages over the prior art that the inventions of Aatrix's patents provide,

wholly divorced from the claims themselves. Nor are the allegations tethered to the application of the abstract idea at issue; the step two inquiry "asks if . . . there is some inventive concept in the application of the abstract idea" described in the claims—i.e., whether some additional steps in the claimed process integrate the claimed abstract idea into patentable application. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

Similarly, the majority in *Aatrix* contends that "[t]here are concrete allegations in the second amended complaint that individual elements and the claimed combination are not well-understood, routine, or conventional activity." 882 F.3d at 1128. However, the fact that steps or applications are deemed *not* "routine" or "conventional" does not necessarily result in finding that the subject matter has been rendered eligible under step two. *See SAP Am., Inc. v. Investpic LLC*, No. 17-2081, slip op. at 2 (Fed. Cir. May 15, 2018) ("We may assume [for Rule 12(c) purposes] that the techniques claimed are '[g]roundbreaking, innovative, or even brilliant,' but that is not enough for eligibility.").

Thus, *Aatrix* removes the inventive concept inquiry from the claims and the specification, and instead places it firmly in the realm of extrinsic evidence. This is a change in our law, and is counter to guidance from the Supreme Court and our own precedent. *See Alice*, 134 S. Ct. at 2357 ("[W]e must examine the elements *of the claim* to determine whether it contains an 'inventive concept.'" (emphasis added)); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed.

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including improvements in the functioning of the computer components of the inventions. *Aatrix*, J.A. 407–09.

Cir. 2016) ("The § 101 inquiry must focus on the language of the Asserted Claims themselves.").

The consequences of this decision are staggering and wholly unmoored from our precedent. Unlike prior art for purposes of §§ 102 and 103, we have no established parameters or guidance for what evidence we can and should consider for inventive concept purposes. And although the § 101 inquiry has often been described as a "threshold" issue, capable of early resolution, transforming the predominately legal inquiry into a factual dispute almost guarantees that § 101 will rarely be resolved early in the case, and will instead be carried through to trial. Before now, none of our decisions support the proposition that a jury should decide whether a patent includes an inventive concept sufficient to survive *Alice* step two. And given our adoption of *Aatrix* and *Berkheimer*, I see no principled reason that would restrain extending a factual inquiry to step one of *Alice*.

The approach adopted in *Aatrix* also threatens to upset the *Alice* framework by letting the inventive concept inquiry swallow the entirety of step two. Merely identifying an inventive concept is insufficient; the additional elements must also "'transform the nature of the claim' into a patent-eligible application." Instead, by emphasizing whether the claimed elements are "not well-understood, routine, or conventional," the approach in *Aatrix* reduces the § 101 inquiry into a novelty analysis. This is improper. *See Diamond*, 450 U.S. at 188–91 ("The question . . . of whether a particular invention is novel is *wholly apart* from whether the invention falls into a category of statutory subject matter." (emphasis added)); *Parker v. Flook*, 437 U.S. 584, 588 (1978) (holding the subject matter eligibility inquiry "does not involve the familiar issues

of novelty and obviousness that routinely arise under §§ 102 and 103 when the validity of a patent is challenged"). In the § 101 inquiry, issues of patentability—i.e., novelty and obviousness under §§ 102 and 103 are "of no relevance." *Diamond*, 450 U.S. at 189. Allegations that a claimed invention is not routine or conventional, without more, cannot wholly replace the § 101 inquiry under *Alice* steps one and two. Although whether the claimed elements or claimed combination are well-understood, routine or conventional may be disputed, if the inventive concept is not evident in the claims, the court should not be precluded from holding the claims patent ineligible under § 101 at the pleadings stage. If such claimed improvements are absent from the face of the asserted patent, which in this case they are, there is no inventive concept sufficient to save an otherwise ineligible patent.

II.

Unlike the novelty and obviousness inquiries under §§ 102 and 103, which necessarily involve factual determinations relating to the scope and content of prior art, the § 101 analysis is analogous to contract interpretation, in which a legal determination is made by reviewing the face of the contract, and additional fact finding is warranted only in some limited circumstances. *See, e.g.*, *Kamfar v. New World Rest. Grp., Inc.,* 347 F. Supp. 2d 38, 48–49 (S.D.N.Y. 2004) ("Under New York law, the initial interpretation of a contract is a matter of law for the court to decide. Where the agreement is unambiguous, a court may not admit extrinsic evidence and interprets the plain language of the agreement as a matter of law."). A patent is an agreement between the patent owner and the public describing the patent owner's intellectual

property rights.[5] The terms and conditions of the contract can be analogized to the claims of the patent.

The fact that the parties disagree on the proper interpretation of the contract does not render the contractual language ambiguous. *See Metro. Life Ins. Co. v. RJR Nabisco, Inc.*, 906 F.2d 884, 889 (2d Cir. 1990) ("Language whose meaning is otherwise plain is not ambiguous merely because the parties urge different interpretations in the litigation."). Further, a party's assertion of ambiguity does not require the district court to allow additional opportunities to find or present evidence if the court considers the contract language and the evidence the parties have presented and concludes that the language is reasonably susceptible to only one interpretation. *Skilstaf, Inc. v. CVS Caremark Corp.*, 669 F.3d 1005, 1017–18 (9th Cir. 2012); *see also M & G Polymers USA, LLC v. Tackett*, 135 S. Ct. 926, 938 (2015) (Ginsburg, J., concurring)

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[5] *See, e.g.*, *Oil States Energy Servs. v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365, 1382 (2018) (Gorsuch, J., dissenting); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998) ("[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time."); George Ticknor Curtis, A Treatise on the Law of Patents for Useful Inventions in the United States Of America 1 (3d ed. 1867) ("A patent for a useful invention . . . is the grant by the government to the author of a new and useful invention, of the exclusive right, for a term of years, of practicing that invention. The consideration . . . is the benefit to society from the invention . . . ."); Srividhya Ragavan, *Correlative Obligation in Patent Law: The Role of Public Good in Defining the Limits of Patent Exclusivity*, 6 N.Y.U. J. Intell. P. & Ent. L. 47, 53 ("The grant of monopoly rights is a contract with the government in exchange for the patent holder providing a benefit to society. . . . The contract necessarily balances granted rights with imposed corresponding obligations of the patent owner.").

("When the intent of the parties is unambiguously expressed in the contract, that expression controls, and the court's inquiry should proceed no further. But when the contract is ambiguous, a court may consider extrinsic evidence to determine the intentions of the parties.") (citing 11 Richard A. Lord, Williston on Contracts §§ 30:2, 30:6, 30:7 (4th ed. 2012)).

Adopting the principles from contract interpretation, a plaintiff's allegations of inventiveness do not necessarily render the claims of the patent (i.e., contract) "ambiguous" to justify considering evidence outside of the patent. The factual allegations of the inventiveness of the claimed invention do not have to be accepted by the court if the claims of the asserted patent do not reflect the alleged innovative concepts and transform the nature of the claim into a patent-eligible abstract idea. *See, e.g.*, *Ariosa,* 788 F.3d at 1379 ("Sequenom argues that 'before the '540 patent, *no one* was using the plasma or serum of pregnant mothers to amplify and detect paternally-inherited cffDNA.' This argument implies that the inventive concept lies in the discovery of cffDNA in plasma or serum. Even if so, this is not the invention claimed by the '540 patent." (citation omitted)).

The § 101 inquiry can similarly be analogized to claim construction. When construing patent claims, the court may rely on factual findings in some instances, but predominately construes the terms according to the claims and specification, i.e., a purely legal determination. The Supreme Court has said as much:

> We recognize that a district court's construction of a patent claim, like a district court's interpretation of a written instrument, often requires the judge only to examine and to construe the document's words without requiring

> the judge to resolve any underlying factual disputes. As all parties agree, when the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's prosecution history), the *judge's determination will amount solely to a determination of law*, and the Court of Appeals will review that construction *de novo*.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 840–41 (2015) (emphasis added).

A § 101 patent eligibility determination can be resolved without the need to look beyond the four corners of the patent. Thus, the analysis becomes solely a question of law for the court to properly decide. This does not mean that there will never be factual allegations that would preclude dismissal for ineligible subject matter, but consistent with our precedent, such a determination can be made based solely on the claims and written description. *See, e.g.*, *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (refusing to engage in fact finding in the § 101 inquiry when the specification sufficiently described the claimed functions); *see also Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015) (en banc) ("Regarding questions of claim construction . . . the district court's determinations based on evidence intrinsic to the patent as well as its ultimate interpretations of the patent claims are legal questions that we review de novo."). In fact, "[i]n many cases . . . evaluation of a patent claim's subject matter eligibility under § 101 can proceed even before a formal claim construction." *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1374 (Fed. Cir. 2016); *see also Bancorp Servs., L.L.C. v. Sun life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012) ("[C]laim

construction is not an inviolable prerequisite to a validity determination under § 101.")

Accordingly, just as in claim construction and contract interpretation, looking beyond the four corners of the patent should only occur in exceptional circumstances. A factual allegation or dispute should not automatically take the determination out of the court's hands; rather, there needs to be justification for why additional evidence must be considered—the default being a legal determination.

Whether a § 101 analysis is more akin to §§ 102 or 103 analysis—i.e., predominately factual—or contract interpretation and claim construction—i.e., predominately legal—is significant, for example, in the context of a Rule 12(b)(6) motion because these legal determinations can be decided at an early stage of the case rather than having to proceed to summary judgment or trial. *See OIP Techs.,* 788 F.3d at 1364–65 (Mayer, J., concurring) ("Addressing 35 U.S.C. § 101 at the outset not only conserves scarce judicial resources and spares litigants the staggering costs associated with discovery and protracted claim construction litigation, it also works to stem the tide of vexatious suits brought by the owners of vague and overbroad business method patents. Accordingly, where, as here, asserted claims are plainly directed to a patent ineligible abstract idea, we have repeatedly sanctioned a district court's decision to dispose of them on the pleadings.").

III.

The court's inaction today has prevented us from exploring the important question raised in the *en banc* petitions. The *en banc* process is intended to offer careful, in-depth study by the full court of exceptionally important questions, with the benefit of briefing

and argument by the parties, involvement of amici, and hearing the government's views. I dissent from court's vote to reject this benefit, in particular where the *Aatrix* and *Berkheimer* decisions upset established precedent and offer no guidance to the many questions they raise.

APPENDIX E

RELEVANT STATUTORY PROVISION

The Patent Act, 35 U.S.C. § 1 *et seq.*, provides in relevant part:

§ 101. Inventions patentable

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, subject to the conditions and requirements of this title.