

No. 18-___

IN THE
Supreme Court of the United States

TWO-WAY MEDIA LTD,

Petitioner,

v.

COMCAST CABLE COMMUNICATIONS, LLC;
COMCAST INTERACTIVE MEDIA LLC;
VERIZON SERVICES CORP.; VERIZON ONLINE LLC,

Respondents.

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

PETITION FOR A WRIT OF CERTIORARI

Michael F. Heim
Leslie V. Payne
R. Allen Bullwinkel
HEIM, PAYNE &
CHORUSH, LLP
111 Bagby
Suite 2100
Houston, TX 77002

Sarah E. Harrington
Counsel of Record
Thomas C. Goldstein
Charles H. Davis
GOLDSTEIN &
RUSSELL, P.C.
7475 Wisconsin Ave.
Suite 850
Bethesda, MD 20814
(202) 362-0636
sh@goldsteinrussell.com

(Additional counsel listed on inside cover)

Parker C. Folse, III
Rachel S. Black
Jenna Farleigh
SUSMAN GODFREY, LLP
1201 Third Ave.
Suite 3800
Seattle, WA 98101

Joseph S. Grinstein
Shawn Blackburn
SUSMAN GODFREY, LLP
1000 Louisiana
Suite 5100
Houston, TX 77002

QUESTIONS PRESENTED

Section 101 of the Patent Act, 35 U.S.C. § 101, establishes the broad categories of subject matter that are patent-eligible and has been construed to exclude abstract ideas. Section 101 is directed to the patent as a whole and does not impose substantive requirements beyond delineating the patent-eligible subject matters—requirements such as specificity and enablement are dealt with in other provisions of the Patent Act.

In this case, the district court and court of appeals agreed that the patents-in-suit are directed to an innovative technological architecture that improves the functionality of online media streaming. But both courts nevertheless concluded that the patents' claims are directed to an abstract idea—and are therefore ineligible under Section 101—because the asserted claims, read in isolation, do not describe with sufficient specificity how to achieve the innovation. In reaching that conclusion, the courts expressly ignored the detailed description of the inventions in the rest of the specification and refused to consider proffered evidence demonstrating how the inventions solved existing technical problems and added significant innovative concepts to the prior art.

The questions presented are:

1. In order to clear the threshold eligibility determination under 35 U.S.C. § 101, must a patent include in its claims a sufficient level of specificity such that the claims, read in isolation, fully describe the nature of the innovation and the means of achieving it?
2. Does a court's determination that a claim is ineligible under 35 U.S.C. § 101 because it is not

directed to an inventive concept that was previously unknown in the art require resolution of underlying factual questions that, when disputed, cannot be resolved on a motion to dismiss?

RULE 29.6 STATEMENT

Two-Way Media Ltd has no parent corporation and no publicly held company owns 10% or more of Two-Way Media's stock.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Two-Way Media Ltd respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-18a) is reported at 874 F.3d 1329. The opinion of the district court (Pet. App. 19a-40a) is not published in the *Federal Supplement* but is available at 2016 WL 4373698.

JURISDICTION

The judgment of the court of appeals was entered on November 1, 2017. The court of appeals denied petitioner's timely petition for rehearing en banc on March 9, 2018 (Pet. App. 41a-42a). On May 8, 2018, the Chief Justice extended the time within which to file a petition for a writ of certiorari to and including July 27, 2018. No. 17A1229. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISION INVOLVED

Section 101 of Title 35 of the United States Code provides:

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.

INTRODUCTION

The Federal Circuit’s approach to construing Section 101 of the Patent Act, 35 U.S.C. § 101, is inconsistent, incoherent, and increasingly unmoored from the statutory text. As a result, the validity of patent holders’ important private-property rights is often determined by the composition of the Federal Circuit panel assigned to hear a particular appeal rather than by predictable rules uniformly applied. That state of affairs is untenable for any private-property regime and is particularly toxic for the Nation’s patent system. *See Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1375-1378 (2018) (reaffirming that patents supply important property rights and are central to our economy); *Bilski v. Kappos*, 561 U.S. 593, 613 (2010) (Stevens, J., concurring in the judgment) (“In the area of patents it is especially important that the law remain stable and clear.”).

This case exemplifies the lack of consistency and coherency underlying the Federal Circuit’s approach to Section 101. In this case, the Federal Circuit invalidated, as ineligible under Section 101, patent claims that substantially improved procedures for online streaming of audio and visual material. The patents did not purport to claim the basic concept of online streaming; nor did they purport to claim every method of streaming or of improving streaming. Rather, the patents claimed *a particular method* of improving online streaming through an innovative scalable architecture of computer components that solved existing technological problems. Although both the district court and court of appeals *agreed* that the patents described an innovative scalable architecture, both courts declared the asserted claims invalid. But if

petitioner Two-Way Media Ltd (TWM) had drawn a different appellate panel that properly looked for an innovative concept in the patents as a whole for purposes of Section 101 eligibility—reserving evaluation of the precision and enablement of the claims until examination of the patents’ compliance with 35 U.S.C. § 112, as the Patent Act instructs—the result would have been the opposite.

The Federal Circuit’s unpredictability is compounded by inconsistent approaches to resolving the factual questions that necessarily underlie a determination of whether a patent is directed to an eligible innovation. In this case, the patent owner’s evidence of the technological advances provided by its invention was deemed irrelevant, and the panel simply made its own factual findings—without identifying them as such and without citing any supporting evidence. In other recent cases, similar factual allegations and disputes would have yielded a remand for full consideration of the evidence.

Numerous current and former Federal Circuit judges have acknowledged this disarray in the court’s approach to Section 101. For example, Judge Linn has described “the abstract idea exception” as “almost impossible to apply consistently and coherently.” *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1377 (Fed. Cir. 2017) (Linn, J., dissenting in part and concurring in part). Just last week, Judge Plager lamented that the law governing Section 101 “renders it near impossible to know with any certainty whether [an] invention is or is not patent eligible.” *Interval Licensing LLC v. AOL, Inc.*, ___ F.3d ___, 2018 WL 3485608, at *9 (Fed. Cir. July 20, 2018) (Plager, J., concurring-in-part and dissenting-in-part). Recently,

Judges Lourie and Newman also issued a plea for help, explaining that “the law” governing Section 101 “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.” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1360 (Fed. Cir. 2018) (Lourie, J., concurring in the denial of the petition for rehearing en banc); *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Lourie, J., concurring in the denial of the petition for rehearing en banc). And former Federal Circuit Chief Judge Paul Michel has testified before the House Judiciary Committee that the current state of “chaos” in the Federal Circuit’s application of Section 101 is “devastating American business, including high tech, manufacturing, biotech, and pharmaceutical industries.” Steve Brachmann, *Judge Paul Michel Presents Supplemental Testimony on PTAB Reforms to the House IP Subcommittee*, IPWatchdog (Sept. 19, 2017).¹

The current state of affairs threatens to stifle innovation in multiple industries that are engines of our economy. This Court’s intervention is desperately needed. This Petition offers the opportunity for the Court to correct the Federal Circuit’s errant course in two narrow and targeted ways by bringing the court’s application of Section 101 back in line with the text and structure of the Patent Act. The Court should grant the petition and reverse.

¹ <http://www.ipwatchdog.com/2017/09/19/judge-paul-michel-presents-supplemental-testimony-ptab-reforms/id=88047/>.

STATEMENT OF THE CASE

This case involves a group of patents directed to a concrete technological innovation in methods of streaming audio and visual data over the Internet and similar systems. Although the district court and court of appeals agreed that the patents are directed to an innovative scalable architecture, they concluded that the asserted claims embodying that innovation are not patent-eligible under 35 U.S.C. § 101.

A. 1. The Patent Act, 35 U.S.C. § 1 *et seq.*, provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements” set out in the rest of the Act. 35 U.S.C. § 101. Although this Court has recognized that the expansive language of Section 101 reflects Congress’s intent “that the patent laws would be given wide scope,” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980), the Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013) (citation and brackets omitted). The recognition of that exception reflects a preemption concern: because “[l]aws of nature, natural phenomena, and abstract ideas are ‘the basic tools of scientific and technological work,’” “[m]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,’ thereby thwarting the primary objective of patent laws.” *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Myriad*, 569 U.S. at 589; *Mayo Collaborative Servs. v.*

Prometheus Labs., Inc., 566 U.S. 66, 71 (2012)). As this Court has warned, however, courts must “tread carefully in construing this exclusionary principle lest it swallow all of patent law,” *ibid.*, because “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71.

Thus, the Court has established a two-step inquiry for determining whether a patent claims an abstract idea. A court first “determine[s] whether the claims at issue are directed to” a “patent-ineligible concept[]” such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If the answer is yes, the court then determines whether the patent contains “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.” *Ibid.* (internal quotation marks and brackets omitted). In that “search for an ‘inventive concept,’” *ibid.*, the Court has always considered the *entire* patent. See *Myriad*, 569 U.S. at 591-592 & n.4; *Mayo*, 566 U.S. at 79; *Diamond v. Diehr*, 450 U.S. 175, 208, 214 (1981) (Stevens, J., dissenting) (“inventive concept” may be “disclosed in the patent application”); *DeForest Radio Co. v. Gen. Elec. Co.*, 283 U.S. 664, 683 (1931); *Telephone Cases*, 126 U.S. 1, 535-536 (1888); see also *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 114-116 (1854) (describing the English Court of Exchequer’s analysis of patentability in *Neilson v. Harford*, [1841] 151 Eng. Rep. 1266).

In assessing a patent directed to the computer-implemented technological arts, the step-2 inquiry requires a court to determine whether the application or patent includes an inventive concept—or whether it

simply “[s]tat[es] an abstract idea while adding the words ‘apply it with a computer.’” *Alice*, 134 S. Ct. at 2358. The Court has suggested that patents involving innovation in computing would satisfy step 2 if “they effect an improvement in any other technology or technical field,” “purport to improve the functioning of the computer itself,” *id.* at 2359, or involve “new *applications* of knowledge,” *Myriad*, 569 U.S. at 596, “to a known structure or process,” *Diehr*, 450 U.S. at 187.

2. In addition to Section 101’s “threshold test” for patent eligibility, *Bilski*, 561 U.S. at 602, the Patent Act imposes additional requirements.

Section 111 requires that every patent application “shall include” “a specification as prescribed by section 112.” 35 U.S.C. § 111(a)(2). Section 112, in turn, requires that the specification “contain a written description of the invention . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains” “to make and use the same.” *Id.* § 112(a). Section 112 further requires that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.” *Id.* § 112(b). This Court has held that the claims define the scope of any granted patent. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 336 U.S. 271, 277 (1949). The Court has also emphasized that the claims “are to be construed in the light of” the written description that makes up the rest of the specification. *United States v. Adams*, 383 U.S. 39, 49 (1966).

The Patent Act separately includes additional substantive requirements in Sections 102 and 103, which impose rigorous demands of novelty and non-

obviousness on patent-eligible material. 35 U.S.C. §§ 102, 103.

B. 1. The patents-in-suit, which stem from an application filed in 1996, describe an innovative system for streaming audio and visual data over a communications system like the Internet. Pet. App. 1a-3a; Pet. C.A. Br. 2.² The patents describe a particular method of solving then-existing technical problems in real-time streaming of content over the Internet to multiple end users. Pet. C.A. Br. 6-16.

Before streaming technology was developed, a user could not play a media file until the file was downloaded in its entirety to a user's local computer storage. Pet. C.A. Br. 4. That process often entailed long delays due to network speed and server loads. *Ibid.* Streaming technology was designed to avoid those delays by transmitting data in smaller packets in the order in which the packets will be played. *Ibid.* Thus, data for the first few seconds of a song can be transmitted to a user and immediately played while data for the next few seconds are then transmitted, and so on. *Ibid.*

Although streaming technology eliminated the problem of download delays, it introduced significant new technical problems. Pet. C.A. Br. 4. As the patents explain, Internet systems typically operate on a point-to-point (or unicast) basis whereby a message is transmitted by converting it into a series of addressed packets that are routed from a source node to a

² The patents-in-suit are U.S. Patent Nos. 5,778,187, 5,983,005, 6,434,622, and 7,266,686, which all derive from a series of continuation applications and share a written description. Pet. App. 1a-2a.

destination node. *Id.* at 4-5. A unicast system is not a practical means of transmitting a common message from a source node to multiple recipients in a network, however, because such an operation can easily overload the network and disrupt playback for the user. *Id.* at 4, 6. Other problems also resulted from the Internet's packet-based distribution system. A stream's data segments are transmitted over the Internet in addressed "packets" that are routed through a network to a destination. *Id.* at 4-5. Although the source server specifies a packet's destination, it cannot control the actual path each packet takes through the network, which is left to the determination of routers along the path. As a result, due to congestion along one or more portions of the routing path, multiple packets sent sequentially to the same destination might reach the destination too late for playback. *Id.* at 5. Those streaming challenges are particularly problematic for playback of audio and visual content because such playback is very sensitive to packet loss. *Id.* at 8. When a packet is missing or late due to network congestion, playback is disrupted or fails, reducing the quality of the user experience. *Id.* at 4.

The patents-in-suit describe an innovative computer-network architecture that solves those technical problems.³ Pet. C.A. Br. 6. The patents solved the problem of network overload by creating a scalable (*i.e.*, expandable based on need) distribution architecture of networked computers in which primary servers

³ The original assignee of the patents, Netcast Communications Corp., was a streaming company co-inventor James Butterworth founded to provide radio services over the Internet. C.A. J.A. 257-258.

send a real-time media stream (*e.g.*, a radio or TV channel) to intermediate computer servers located at strategically chosen network junctures. *Ibid.* Each intermediate server receives a single stream for each channel it carries and then redistributes copies of the stream based on user requests. *Id.* at 10-11. By fanning out the distribution of media streams to multiple intermediate computers that send streams only to specific users who request them, the system architecture reduces load on the primary and intermediate servers, solving the problem of system overload. *Ibid.* Because the architecture is scalable, moreover, additional intermediate computers are easily added to the distribution network based on user need, further reducing network congestion. *Id.* at 12-13. The use of the intermediate computers also addressed problems associated with uncontrolled routing paths because each stream could be directed through a particular intermediate computer, thereby providing control over a portion of the route, including the critical last leg to the user. *Id.* at 12. And the intermediate computers can be placed in strategic locations to circumvent network areas known to be congested, rather than leaving the choice of routing path to the whim of routers. *Id.* at 13.

Also built into the patents' innovative architecture is a system of monitoring network conditions and end users' reception of streams. Pet. C.A. Br. 13. By providing for real-time and immediate feedback on network conditions, the system can reroute streams or vary packet size to avoid network congestion and other problems. *Ibid.*

The patents set forth in detail the existing streaming technology, the innovative architecture described in the patents, and the solutions those innovations

provided to the existing technical problems. C.A. J.A. 79-252. The innovative nature of TWM's claimed invention was tested and proved in infringement suits against AOL and AT&T. *Id.* at 495-501. And the patents have survived nine reexaminations at the Patent Office. *Id.* at 331-362.

2. In 2014, assignee TWM filed suit against respondents, alleging infringement of the patents-in-suit. Pet. App. 20a. Shortly thereafter, respondents filed a motion for judgment on the pleadings, arguing that certain claims of the patents-in-suit are not patent-eligible under Section 101. *Id.* at 6a.

The district court granted respondents' motion for judgment on the pleadings. Pet. App. 29a-39a. The court adopted TWM's proposed claim constructions for purposes of deciding the motion. *Id.* at 24a-26a. Although the court acknowledged that, "[a]t the pleading stage, to the extent the § 101 question of law is informed by subsidiary factual issues, those facts are to be construed in the light most favorable to [TWM]," *id.* at 25a, the court refused to consider proffered materials from "prior proceedings before the [U.S. Patent and Trademark Office (PTO)] and in federal courts" that TWM contended would "demonstrate how its inventions solved specific technical problems and added significant inventive concepts over the prior art." *Id.* at 26a-27a (citation and alterations omitted). The court viewed those materials as "irrelevant to the § 101 motion" because, although they addressed the state of the art and the advancement provided by the invention, they arose out of novelty and non-obviousness challenges under Sections 102 and 103. *Id.* at 27a-28a.

Turning to the *Alice* analysis, the district court concluded that the '187 and '005 patents "are directed

to the abstract idea of (1) sending information, (2) directing the sent information, (3) monitoring receipt of the sent information, and (4) accumulating records about receipt of the sent information.” Pet. App. 30a-31a. Although the court held that the “patent specifications do, in fact, point to the architecture of the system as the technological innovation,” the court rejected that innovation as irrelevant to the Section 101 analysis because “[n]one of the claims . . . recite or refer to anything that could be described as an architecture” and the “*claims* therefore do not supply the inventive concept.” *Id.* at 32a & n.3 (emphasis added).

The district court reached similar conclusions with respect to the other patents at issue. The court held that the ’622 patent claims were “directed to monitoring the delivery of real-time information to a user or users,” Pet. App. 34a, but held (again without considering TWM’s proffered evidence) that “[n]othing in the claims requires anything other than conventional computer and network components operating according to their ordinary functions,” *id.* at 35a. The court also found that the ’686 patent was “directed to measuring the delivery of real-time information for commercial purposes,” *id.* at 37a, and again concluded that limiting the claims “to the ‘realm of a computer network,’” was insufficient to provide an inventive concept, *id.* at 38a (citation omitted).

3. TWM appealed, and the Federal Circuit affirmed. Pet. App. 1a-18a.

The court of appeals first examined whether the ’187 and ’005 patent claims satisfy step 1 of the *Alice* analysis by “look[ing] to whether the claims in the patent[s] focus on a specific means or method.” Pet. App. 10a. The court agreed with the district court that the

representative claim “recites a method for routing information using result-based functional language . . . but does not sufficiently describe how to achieve those results in a non-abstract way” because the claims and claim constructions “recite only conventional computer components” and merely “propose the use of generic computer components to carry out the recited abstract idea.” *Id.* at 10a-12a. The court of appeals did not cite any evidence to support those findings, *ibid.*, and affirmed the district court’s exclusion of TWM’s evidence to the contrary, *id.* at 15a.

Turning to *Alice* step 2, the court of appeals held that “an inventive concept must be evident in the claims” themselves. Pet. App. 12a. Although the panel *agreed* with the district court that the “specification . . . describes a system architecture as a technological innovation,” it *disregarded* that innovation, explaining that to satisfy Section 101 “the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.” *Id.* at 13a. The panel thus concluded that, because “[n]othing in the claims or their constructions, including the use of ‘intermediate computers,’ requires anything other than conventional computer and network components operating according to their ordinary functions,” the patent claims were directed at abstract ideas. *Id.* at 14a. The court again failed to cite any supporting evidence and refused to consider TWM’s evidence to the contrary. *Id.* at 12a-15a.

The court of appeals further concluded that the relevant ’622 and ’686 patent “claims suffer from the same ineligibility infirmity as claim 1 of the ’187 patent,” and “are similar to other concepts found to be abstract.” Pet. App. 16a. Although the court again

acknowledged that the written description contains an inventive concept, it concluded that the patents claim ineligible subject matter because “no inventive concept resides in the claims.” *Id.* at 17a.

Although TWM had argued on appeal that the district court erred in concluding that the claims covered conventional processes and components without performing the necessary fact-finding to support such a conclusion, Pet. C.A. Br. 28-30, the court of appeals did not address that argument directly. The court did agree with the district court, however, that TWM’s proffered materials were not relevant to the Section 101 inquiry because they arose from challenges based on “novelty and obviousness,” “not whether the claims were directed to eligible subject matter.” Pet. App. 15a.

4. The Federal Circuit denied petitioner’s timely petition for rehearing en banc. Pet. App. 41a-42a.

REASONS FOR GRANTING THE WRIT

Judges, practitioners, and commenters agree that the Federal Circuit’s interpretation of Section 101 of the Patent Act, 35 U.S.C. § 101, is a confusing and conflicting morass. *See, e.g.,* Megan Thobe, *A Call to Action: Fixing the Judicially-Murkied Waters of 35 U.S.C. § 101*, 50 Ind. L. Rev. 1023, 1031-1033 (2017). “There is little consensus among trial judges (or appellate judges for that matter) regarding whether a particular case will prove to have a patent with claims directed to an abstract idea, and if so whether there is an ‘inventive concept’ in the patent to save it.” *Interval Licensing LLC v. AOL, Inc.*, ___ F.3d ___, 2018 WL 3485608, at *15 (Fed. Cir. July 20, 2018) (Plager, J., concurring-in-part and dissent-

ing-in-part). That degree of uncertainty stifles innovation, tramples on private property rights, and cannot be sustained. “The legitimate expectations of the innovation community, as well as basic notions of fairness and due process, compel us to address this § 101 conundrum.” *Id.* at *17.

This Petition presents two narrow and fundamental Section 101 questions on which different Federal Circuit panels have given diametrically conflicting answers. Although both questions are targeted, each is enormously important to the fair and proper functioning of the patent system. This Court’s intervention is desperately needed to restore common sense and predictability to the patent system.

I. The First Question Presented Warrants Review.

Review is warranted to resolve an entrenched—and often outcome-determinative—divide among Federal Circuit panels about whether Section 101 requires that a patent’s claims, read in isolation, completely recite the specific means of achieving an innovation. Different panels of the Federal Circuit have issued opposite holdings on that question; as a result, the fate of patents facing an abstract-idea challenge is currently dictated by the randomly determined composition of the Federal Circuit panel assigned to hear a case, not by the patents themselves. This Court’s intervention is necessary to remedy that untenable—and innovation-stifling—state of play.

A. Different Federal Circuit Panels Have Adopted Diametrically Opposite Specificity Rules In Section 101 Cases.

1. In evaluating eligibility challenges under Section 101, Federal Circuit panels are in complete disarray over whether the claims, viewed in isolation, must set forth a “specific means or method” of implementing an inventive concept in order to survive a Section 101 challenge. In certain cases, Federal Circuit panels have consulted the written description of a patent’s specification to determine whether claims are directed to a non-abstract idea or contain an inventive concept. The panel in this case, on the other hand, followed the approach proposed in several recent *dissents* that the inventive concept *must* be set forth in the claims themselves as a “specific means or method”—and refused to consider what the panel conceded was an inventive concept in the patents because that concept was set out in the written description of the specification. Pet. App. 10a-15a. That conclusion ignores the plain text of the Patent Act and instructions from this Court, and it conflicts with multiple other Federal Circuit decisions.

In order to be patent-eligible under Section 101, a claim cannot simply recite a result that is itself an abstract idea. Rather, the scope of a claim, when understood in the context of the specification, must include a means or method of achieving a particular result or effect. *See, e.g., Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017). But the deep conflicts among the Federal Circuit’s decisions provide no consistent direction about the proper method for making that determination—some decisions hold that the adequacy of claim language for

purposes of Section 101 must be extremely detailed and viewed in isolation, without reference to the specification or any other context, while others hold exactly the opposite. The difference in those two approaches is often outcome-determinative and should be reconciled by this Court.

The district court in this case recognized that each patent’s specification describes a “technological innovation” in the recited system architecture—and the panel on appeal did not disagree with that assessment. Pet. App. 13a, 32a. But the panel invalidated the patent claims on the ground that the claims are “missing an inventive concept” for purposes of the Section 101 analysis even though the innovation was described in detail in the written description—because, in the panel’s view, the claims, when viewed in isolation, were insufficiently specific. *Id.* at 13a (“The main problem that Two-Way Media cannot overcome is that the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.”); *see ibid.* (“While the specification may describe a purported innovative ‘scalable architecture,’ claim 1 of the ’187 patent does not.”). If petitioner had drawn a Federal Circuit panel willing to view the patent as a whole, including the admittedly innovative concept in the written description, petitioner would have prevailed. Likewise, if petitioner had drawn a Federal Circuit panel applying a standard of reasonable (rather than extremely detailed) specificity in the claim language, petitioner also would have prevailed.

2. The panel’s holding that the test under *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), requires a patentee to include a “specific means or method” in its claims, without reference to the

written description, does not stem from the decision in *Alice*, from the Patent Act, or even from an established Federal Circuit rule. That holding was lifted directly from a series of *dissents* two of the panel members previously authored.

To wit, in *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, Judge Reyna—the principal author of the decision below—filed a dissenting opinion explaining his view that a “claimed invention must be limited to a specific *means* (i.e., process or structure) for achieving its underlying purpose,” and noting that if he “were to examine only the written description of the asserted patents, [he] would conclude that the network monitoring system disclosed therein is eligible for patenting.” 841 F.3d 1288, 1312, 1317 (Fed. Cir. 2016) (Reyna, J., dissenting), *cert. denied*, 138 S. Ct. 469 (2017). Although he recognized that the specification described a system architecture and manner of use, Judge Reyna would have held that, because the claims “fail[ed] to recite any structure or process limiting the claim to a particular means of” achieving the desired result, *id.* at 1314, the claims were ineligible under Section 101. In his view, “the inquiry is not whether the *specifications* disclose a patent-eligible system, but whether the *claims* are directed to a patent ineligible concept.” *Id.* at 1312. The majority in *Amdocs* expressly rejected Judge Reyna’s view, explaining that the scope of the claims at issue must be understood with reference to the written description in the specification—and holding that, when considered from that perspective, the claims at issue sufficiently captured the innovative concept found in the specification even though they were drafted using broad functional language. *Id.* at 1295, 1306 (majority opinion); *see id.* at

1295 (explaining that Judge Reyna’s requirement that the “claim at issue itself explicitly states the necessary ‘means’ . . . is not now the law, either in statute or in court decision.”).

Finding himself in the majority on that question in this case, Judge Reyna transformed his formerly dissenting view into a holding without even mentioning *Amdocs*, let alone explaining why the holding in *Amdocs*—that the scope and specificity of a claim must be determined with reference to the written description of the specification in the Section 101 analysis—does not control the result in this case, too.

But Judge Reyna was not alone in silently seizing the opportunity to transform a formerly dissenting view into a majority view. Judge Hughes, who joined Judge Reyna’s opinion in this case, also previously filed a dissent explaining his view that the specificity Section 101 requires must be found in the claim language alone, without reference to the written description in the specification or to any other context. In that dissent, he set forth his view that Section 101 requires a claim to recite “specific means” of achieving an innovative concept and cannot do so with functional language. *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1263 (Fed. Cir. 2017) (Hughes, J., dissenting). The panel in that case rejected Judge Hughes’ view, criticizing his analysis as inconsistent with the written description of the specification. *Id.* at 1260-1261 (majority opinion). And the panel opinion in this case makes no attempt to reconcile the analytical approach used in this case with that used by the majority in *Visual Memory*.

That stark conflict among the Federal Circuit’s Section 101 cases is also reflected in other decisions,

including Judge Plager’s recent separate opinion in *Interval*. 2018 WL 3485608, at *13 (“When we search for this significantly more ‘inventive concept,’ are we limited to the limitations of a particular claim in the patent? . . . Do the written description and the scope of other claims in the patent come into play, as perhaps they did in Step 1?”).

On one side, multiple panels have applied the *Alice* analysis by looking *only* at the text of the claims at issue, eschewing reliance on the written description. See, e.g., *Smart Sys.*, 873 F.3d at 1373 (limiting consideration to “what is actually recited in the asserted claims”); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1322 (Fed. Cir. 2016) (“The district court erred in relying on technological details set forth in the patent’s specification and not set forth in the claims to find an inventive concept.”); *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016), *cert. denied*, 137 S. Ct. 1596 (2017); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1346 (Fed. Cir. 2014); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013). On the other side, multiple panels (in addition to those in *Amdocs* and *Visual Memory*) have looked to the written description in resolving a Section 101 dispute. See, e.g., *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348-1349 (Fed. Cir. 2016); *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337, 1339 (Fed. Cir. 2016); *Ultramercial, Inc., v. Hulu, LLC*, 772 F.3d 709, 717 (Fed. Cir. 2014).

As a result of that division among Federal Circuit decisions, the outcomes of many Section 101 abstract-idea cases will continue to depend not on the content of the patents at issue, but on the randomly determined composition of the panel hearing the appeal. That degree of uncertainty is harmful to the patent system and unfair to litigants. But the Federal Circuit has no appetite to repair this intractable problem, as evidenced by its denial of en banc review in this case.

B. The Approach The Panel Adopted In This Case Cannot Be Reconciled With The Patent Act.

Review is also warranted because the decision below is wrong. The panel's refusal to consider the written description of the specification (even setting aside the evidence proffered by petitioner) when deciding whether the patent is directed to an abstract idea cannot be reconciled with the Patent Act or with this Court's decisions construing the Act.

1. Section 101 of the Patent Act provides the scope of inventions eligible for "a patent." 35 U.S.C. § 101 ("Inventions patentable"). Sections 102 and 103 impose certain "[c]onditions for patentability." *Id.* §§ 102 ("novelty"), 103 ("non-obvious subject matter"). And Sections 111 through 123 describe the requirements for submitting an application for a patent. *Id.* §§ 111-123. In particular, Section 111 states that an application for a patent "shall include," *inter alia*, "a specification as prescribed by section 112." *Id.* § 111(a)(2). Section 112, in turn, describes the required components of a "specification," which "shall contain a written description of the invention," and "shall conclude with one or more claims particularly

pointing out . . . the subject matter which the inventor . . . regards as the invention.” *Id.* § 112(a), (b).

The statutory text makes two things clear: the eligibility analysis under Section 101 must consider the “patent” as a whole; and the “specification” required by Section 112 includes *both* the claims *and* the written description. In the earliest versions of the Patent Act, Congress directed that “it was the written specification that ‘represented the key to the patent’” in terms of functionally disclosing the invention to the public. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2125 (2014) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 379 (1996)). It was only later—through adoption by patent practitioners and subsequent codification in, *inter alia*, the Patent Act of 1836 (Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119)—that the practice of concluding a specification with claims became commonplace and required. *See* 134 S. Ct. at 2125 (discussing Act of July 8, 1870, ch. 230, § 26, 16 Stat. 198, 201). But the rise of including claims as a means of establishing the *limits* of a claimed invention did not diminish the importance of the written description as a means of *describing* the invention as a whole. Indeed, since at least the mid-1800s, this Court has recognized that a claim *must* be construed with the specification in mind, *Brooks v. Fiske*, 56 U.S. (15 How.) 212, 214 (1854), and has more recently emphasized that “claims are to be construed in light of the specification and *both* are to be read with a view to ascertaining the *invention*,” *United States v.*

Adams, 383 U.S. 39, 49 (1966) (emphases added); see *Nautilus, Inc.*, 134 S. Ct. at 2128 (same).⁴

Although both the Federal Circuit and this Court sometimes use the terms “specification” and “written description” interchangeably, the claims and the written description are both part and parcel of the specification, which is what the Patent Act defines as the invention. Nothing in the text of Section 101 or Section 112 suggests that a court must determine patent eligibility based only on the concluding claims of the specification, without considering the preceding written description. On the contrary: Section 101 directs that a patent should be issued for the “invent[ion] or discover[y of] any new and useful process, machine, manufacture, or composition of matter,” as long as the Act’s other requirements are satisfied. 35 U.S.C. § 101. And Section 112 indicates that the “invention or discovery” that is eligible for a patent under Section 101 must be set forth in the specification as a whole, which includes *both* the written description and the concluding claims. See *id.* § 112(a), (b).

2. The animating concern behind the panel’s cramped view of the *Alice* test also is misplaced. The panel explained that, in its view, the claims did not explain with sufficient clarity “*how*” the invention

⁴ The same is true of other statutory patentability requirements, which all involve analysis of the entire patent. See, e.g., *Nautilus*, 134 S. Ct. at 2128 (Section 112 challenge); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 425-426 (2007) (Section 103 challenge); *Adams*, 383 U.S. at 48 (Section 102 challenge); see also *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) (“The claims of a patent are *always* to be read or interpreted in the light of its specifications[.]”) (emphasis added).

improves live streaming compared to the prior art. Pet. App. 12a-15a. But such a concern should not inform the scope of patent-eligible inventions under Section 101—the panel’s concerns are addressed elsewhere in the Patent Act, through Section 112(b)’s definiteness requirement and through Section 112(a)’s enablement and written-description requirements. 35 U.S.C. § 112(a), (b); see *Bilski v. Kappos*, 561 U.S. 593, 620 & n.2 (Stevens, J., concurring in the judgment) (responding to contention that a patent “application is phrased broadly” by explaining that “claim specification is covered by § 112, not § 101; and if a series of steps constituted an unpatentable idea merely because it was described without sufficient specificity, the Court could be calling into question some of our own prior decisions”) (internal citation omitted).

Although an overly broad claim that covers patentable subject matter might fail for lack of enablement, written description, or definiteness under Section 112, the potential overbreadth of a particular claim should not doom the patent-eligibility of the disclosed invention. The Federal Circuit’s contrary holding ignores Congress’s plain direction in Section 101 and should be corrected.

Section 101 permits patents for the eligible subject matters, “and useful improvement[s] thereof.” 35 U.S.C. § 101. The patents-in-suit claim improvements that solved technological problems. Contrary to the Federal Circuit’s contorted view, the patents do not purport to cover every computerized implementation of “sending information” and “directing the sent information.” Pet. App. 10a. The patents do not purport to claim all improved methods of streaming content over the Internet; they do not purport to claim the

generic idea of solving then-existing problems with Internet live streaming. Instead, the patents claim one specific type of solution to those existing problems: they claim a particular network architecture that solves specific technological problems. The panel did not doubt that the patents describe an innovative “scalable architecture.” *Id.* at 12a-13a. But the panel ignored that innovation because, in the panel’s view, it was described in the specifications but not in sufficient detail in the representative claims. *Ibid.* If the panel had understood the claims at issue with reference to the patents as a whole, it would have understood the claims to be directed to the demonstrably nonconventional use of intermediate computers for forwarding real-time information over networks such as the Internet, which traditionally were configured only as point-to-point networks. Where, as here, the patent as a whole confirms that the invention at issue constitutes a technological improvement, the only hurdles for the patentee should be Sections 102, 103, and 112, not Section 101.

C. This Case Is An Excellent Vehicle For Deciding The First Question Presented.

The Federal Circuit’s published decision in this case cleanly presents for consideration the proper role of the specification’s written description in application of *Alice*’s specificity requirement. The issue was raised, addressed, and passed upon—and both the district court and Federal Circuit viewed it as outcome-determinative because both conceded that the written description includes an inventive concept. Pet. App. 13a, 32a. The fact that two of the panel members previously authored *dissenting* opinions on this issue

places in stark relief the conflict among Federal Circuit panels on the first question presented. And the court's denial of TWM's petition for rehearing en banc strongly signals that the Federal Circuit is not inclined to clean up this mess itself. Congress created the Federal Circuit in part to create uniformity and certainty in the law governing patents. *Immunocept, LLC v. Fulbright & Jaworski, LLP*, 504 F.3d 1281, 1285 (Fed. Cir. 2007). But that court's attempts to implement *Alice* have been anything but uniform. Consequently, this Court's intervention to correct the Federal Circuit's basic misunderstanding of how to implement *Alice* is sorely needed.

II. The Second Question Presented Also Warrants Review.

Review is also warranted of the second question presented, which asks whether a court's determination that a patent does or does not contain an innovative concept that was previously unknown in the art requires resolution of underlying factual questions that, when disputed, cannot be resolved on a motion to dismiss. Here, too, the Federal Circuit has issued diametrically opposed decisions—and has recently made clear and express that it has no appetite to reconcile its conflicting views on its own. Because Section 101 issues present threshold questions in determining patent validity, they are frequently disposed of early in a case—on a motion to dismiss an infringement claim or on a motion for summary judgment by a party challenging the validity of a patent. The fate of such decisions—and of the property rights of the patent holders in those cases—in many cases depends on the randomly determined composition of the Federal Circuit panel the patent holder draws. That is an untenable

state of affairs as a matter of property rights and as a matter of civil procedure. Because the Federal Circuit has firmly turned away pleas to resolve its internal conflicts on this question, this Court’s intervention is sorely needed.

A. Federal Circuit Panels Are Divided About Whether Disputed Factual Questions Underlying Patent-Eligibility Determinations Can Be Resolved By A Court On A Motion To Dismiss.

The court need look no further than the recent opinions respecting the denial of petitions for rehearing en banc in *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354 (Fed. Cir. 2018), and *Berkheimer v. HP Inc.*, 890 F.3d 1369 (Fed. Cir. 2018), for a clear illustration that Federal Circuit panels do not speak with one voice about the fundamental question of whether patent eligibility under Section 101 is a pure question of law that can (and should) be decided on a motion to dismiss or for summary judgment, even when parties disagree about underlying factual questions about the state of the art.

As this Court has instructed, determining at the second step of the *Alice* analysis whether a patent contains an innovative concept requires a court to inquire whether the patent involves something more than “well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Alice*, 134 S. Ct. at 2359 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79 (2012)) (alteration in original). Those questions—which necessarily require an understanding of the state of the industry at a particular point in time—are quintessential factual questions, as this Court has recognized. *See, e.g., Microsoft*

Corp. v. i4i Ltd. P'ship, 564 U.S. 91, 96 (2011) (“In evaluating whether [Section 101] and other statutory conditions have been met, PTO examiners must make various factual determinations—for instance, the state of the prior art in the field and the nature of the advancement embodied in the invention.”); see *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (same for determining obviousness under Section 103). When there are factual disputes about whether an invention is innovative—*i.e.*, was not known, widely used, or conventional in the field—a patent challenger cannot overcome the patent’s presumption of validity on a motion to dismiss or for summary judgment. That much should be clear and non-controversial because it reflects the ordinary application of universal principals of federal civil practice to the patent context. But it is anything but clear in the Federal Circuit.

For years, a dispute has been simmering among Federal Circuit panels about whether a court may resolve disputed factual questions underlying a Section 101 determination. Although Section 101 generally turns on factual questions such as whether a purported innovation was previously known in the art or whether the use of a computer in an invention is purely conventional, many panels have held that “questions concerning compliance with the doctrinal requirements of § 101 of the Patent Act” are pure questions of law. *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1331 (Fed. Cir. 2015); see, *e.g.*, *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015); *Prometheus Labs., Inc. v. Mayo Collaborative Servs.*, 628 F.3d 1347, 1353 (Fed. Cir. 2010), *rev’d on*

other grounds, 566 U.S. 66; *In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008) (en banc), *aff'd in part, rev'd in part*, 561 U.S. 593. In accordance with that view, the Federal Circuit has routinely relied upon implicit or explicit determinations about the state of the art, without citing any supporting evidence, when affirming the resolution of 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*, 776 F.3d at 1349. That is exactly what the panel did in this case, citing *no evidence* to support its factual conclusion that the patent is directed to “a conventional ordering of steps” “with conventional technology,” Pet. App. 14a, and *refusing to consider* TWM’s proffered evidence about the patents’ technological innovations, *id.* at 15a.

Other Federal Circuit decisions have rejected that approach, holding instead that what is “well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365-1369 (Fed. Cir. 2018); *Exergen Corp. v. Kaz USA, Inc.*, 725 Fed. Appx. 959, 967 (Fed. Cir. 2018) (“[W]hether claim elements are well-understood, routine, and conventional in a particular art at a particular time is a fact finding.”); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1126-1128 (Fed. Cir. 2018); see also *Move, Inc. v. Real Estate All. Ltd.*, 721 Fed. Appx. 950, 954 (Fed. Cir. 2018). The *Berkheimer* panel explained, for example, that “[t]he patent eligibility inquiry may contain underlying issues of fact,” including “whether a claim element or combination of elements is well-understood, routine and conventional to a

skilled artisan in the relevant field”—and that “[a]ny fact” “that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence.” 881 F.3d at 1365, 1368.

The holdings of cases like *Berkheimer*—that disputed factual questions underlying Section 101 eligibility determinations cannot be decided on the pleadings—directly conflict with cases such as this one in which Federal Circuit panels themselves undertake to resolve such questions. But the Federal Circuit has recently refused to grant petitions for rehearing en banc to resolve that intractable divide. *Aatrix*, 890 F.3d 1354; *Berkheimer*, 890 F.3d 1369. The decisions respecting those denials are illuminating. The five-judge opinion concurring in the denials insists that nothing in either panel decision conflicts with or casts doubt on the many Federal Circuit decisions holding that Section 101 eligibility is a question of law that can be resolved at the pleadings stage. *Berkheimer*, 890 F.3d at 1373. But that assertion is belied (and expressly rejected) by Judge Reyna’s opinion dissenting from the denial, which explains that “the single most consistent factor in” the Federal Circuit’s “§ 101 law has been [its] precedent that the § 101 inquiry is a question of law.” *Id.* at 1377; *id.* at 1380 (“The consequences of this decision are staggering and wholly unmoored from our precedent.”). Judge Reyna explained that, because “there is no precedent that the § 101 inquiry is a question of fact[, t]he *Aatrix* and *Berkheimer* decisions are contrary to that well-established precedent.” *Id.* at 1377. Judge Reyna—who authored the decision in this case—made clear, moreover, that he will continue to adhere to his view that “patent eligibility under § 101 is an issue of law” that

should generally be resolved on the pleadings—even when there is a genuine dispute about whether the claimed elements or claimed combination are well understood, routine, or conventional. *Id.* at 1378, 1382.

In other words, whether disputed factual questions underlying Section 101 can be (improperly) resolved *against* a patent holder at the pleadings stage in a particular case will depend on which panel of judges hears the appeal. The fate of a patent-holder’s property rights should not be so uncertain and random—but because the Federal Circuit has made clear it has no intention of resolving its intractable split, this Court’s intervention is warranted.

B. The Second Question Presented Is Important And Recurring.

The Federal Circuit’s treatment of the factual questions that underlie Section 101 determinations should be clear and uniform. Such questions arise in many cases involving a Section 101 challenge—and where, as here, the eligibility answer turns on an evaluation of whether the claimed inventive concept encompasses more than “well-understood, routine, and conventional activity previously engaged in by [those] who work in the field,” *Mayo*, 566 U.S. at 79, the treatment of the eligibility question as a pure question of law rather than fact will often be outcome-determinative.

In this case, the lynchpin of the panel opinion was its conclusion that the claims at issue employed only “conventional computer and network components operating according to their ordinary functions.” Pet. App. 17a; *id.* at 14a (“The claim uses a conventional ordering of steps” “with conventional technology.”).

Those conclusions were not conceded in the patents, in the prosecution history, or by TWM in the litigation. To the contrary, the patents purport to claim an *innovative* ordering of steps and use of intermediate computers that solves existing technological problems with live streaming. And throughout the litigation, TWM repeatedly attempted to introduce evidence that would support its arguments that the patents are directed to innovative applications of computer functions. Instead of considering TWM's evidence, the panel simply resolved those factual disputes on its own—without citing *any* evidence or even acknowledging the patent's presumption of validity. That is exactly the approach that was rejected just two months later in *Berkheimer*.

The debate about how courts can or should resolve disputed factual questions underlying Section 101 eligibility determinations is not an academic exercise. Because Section 101 eligibility is a threshold inquiry, *see Alice*, 134 S. Ct. at 2355, district courts routinely use a Section 101 challenge as a means of efficiently concluding patent litigation. Indeed, in his opinion dissenting from the denial of rehearing in *Berkheimer*, Judge Reyna viewed that as a desired feature of his law-only perspective, lamenting that the panel opinions in *Aatrix* and *Berkheimer* would disrupt the existing trend of using Section 101 determinations for the “early resolution” of patent disputes. 890 F.3d at 1380. Five judges disagreed with him, explaining that the court “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.” *Id.* at 1373

(Moore, J., concurring in the denial of the petition for rehearing en banc).

The difference between the two approaches implicates the fundamental question whether the Federal Circuit is “free to create specialized rules for patent law that contradict well-established, general legal principals.” *Berkheimer*, 890 F.3d at 1371 (Moore, J., concurring in the denial of the petition for rehearing en banc). It is not. And the difference in the two approaches disrupts other aspects of patent challenges that should be settled and uniform. When a court treats a Section 101 eligibility inquiry as a pure question of law and makes its own determinations about underlying factual issues, it often has the effect of relieving a patent challenger of *its* “burden of demonstrating that the claims lack patent eligibility,” with clear and convincing “evidence supporting a finding that the additional elements were well-understood, routine, and conventional.” *Ibid.* (citing 35 U.S.C. § 282(a)). And when a court treats an essentially factual question as purely legal, it risks infringing a patent-holder’s Seventh Amendment right to a jury determination of disputed facts.

This Court should answer the recent plea for “clarification by higher authority,” *Berkheimer*, 890 F.3d at 1374 (Lourie, J., concurring in the denial of the petition for rehearing en banc), to restore predictability, consistency, and fundamental fairness to Section 101 challenges.

CONCLUSION

For the forgoing reasons, the petition for a writ of certiorari should be granted.

Respectfully submitted,

Michael F. Heim
Leslie V. Payne
R. Allen Bullwinkel
HEIM, PAYNE &
CHORUSH, LLP
111 Bagby
Suite 2100
Houston, TX 77002

Parker C. Folse, III
Rachel S. Black
Jenna Farleigh
SUSMAN GODFREY, LLP
1201 Third Ave.
Suite 3800
Seattle, WA 98101

Sarah E. Harrington
Counsel of Record
Thomas C. Goldstein
Charles H. Davis
GOLDSTEIN &
RUSSELL, P.C.
7475 Wisconsin Ave.
Suite 850
Bethesda, MD 20814
(202) 362-0636
sh@goldsteinrussell.com

Joseph S. Grinstein
Shawn Blackburn
SUSMAN GODFREY, LLP
1000 Louisiana
Suite 5100
Houston, TX 77002

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