EXTRAORDINARY WRIT OR ORDINARY REMEDY? MANDAMUS AT THE FEDERAL CIRCUIT

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ABSTRACT

Ordinarily, in federal court, only case-ending judgments can be appealed. The writ of mandamus is one exception to that so-called final judgment rule. Mandamus permits a litigant who is dissatisfied with a lower court ruling to obtain immediate reversal if, among other things, the ruling was indisputably wrong and the party seeking mandamus has no other way to get relief. This exacting standard stems from mandamus's origin as one of the common law's "extraordinary" writs. Federal courts of appeals typically issue mandamus once or twice per year at most.

In patent cases, however, mandamus is a remarkably ordinary form of appellate relief. As the empirical study presented by this article shows, in the past thirteen years, the U.S. Court of Appeals for the Federal Circuit, which hears all patent appeals nationwide, has issued mandamus sixty-one times, granting 22% of the mandamus petitions it has received in cases pending in the federal district courts (61 of 283).

Crucially, the Federal Circuit's high grant rate is driven almost entirely by mandamus petitions in cases from two judicial districts, the Eastern and Western Districts of Texas, on a single legal issue, transfer of venue. On transfer-related petitions arising from those courts, the Federal Circuit has granted the extraordinary writ of mandamus an astonishing 37.3% of the time (in 38 of 102 cases) since 2008. And this after having never granted a transfer-related mandamus petition before that year.

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The Federal Circuit, with its semi-specialized jurisdiction over patent cases and a few other areas, is often criticized for taking an "exceptionalist" approach to procedural issues in patent litigation. It is tempting to lob that critique at the Federal Circuit's aberrant mandamus practice, too. We argue, however, that the court's high grant rate actually stems from systematic flaws in the patent litigation system that the Federal Circuit has little power to fix—namely, rules of venue and judicial case assignment that encourage plaintiffs to shop not just for favorable district courts, but for individual district judges. Addressing the underlying problem of judge shopping—as the Western District of Texas has finally begun to do—would likely help bring the Federal Circuit's mandamus practice into the mainstream.

TABLE OF CONTENTS

INTRODUCTION

Mandamus. At first glance, not the most exciting topic in the civil procedure canon. The writ is an obscure footnote in the casebook stalwart, *Burnham v. Superior Court of California*,[1] which confirmed the post-*International Shoe* viability of "tag" jurisdiction.[2] And it was the remedy sought in *Marbury v. Madison*,[3] arguably the most important Supreme Court decision of all time. But if, like us, you read those cases during your first year of law school, it wasn't to learn the standard for obtaining mandamus relief. And for good reason. Mandamus, the Supreme Court has made clear, "is a 'drastic and extraordinary' remedy 'reserved for really extraordinary causes.'"[4] Today, mandamus functions primarily as an exception to the usual rule that only final, case-ending lower court judgments can be appealed.[5] Appellate courts, when they grant the writ, usually do so to correct obvious lower court errors on extremely important questions.[6]

And yet, on a single Monday in November 2021, the U.S. Court of Appeals for the Federal Circuit, which hears all appeals in patent cases nationwide,[7] granted writs of mandamus in three separate patent infringement cases.[8] Each case had originally been filed in the Waco Division of the U.S. District Court for the Western District of Texas; under the Federal Circuit's mandamus orders, each case would be transferred to the Northern District of California.[9]

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1. 495 U.S. 604, 608 (1990).

2. *Int'l Shoe Co. v. Washington*, 326 U.S. 310, 316 (1945), which established "minimum contacts" as the touchstone for in personam jurisdiction, put into question whether in-state service of process—the primary mode of establishing personal jurisdiction over non-residents under *Pennoyer v. Neff*, 95 U.S. 714, 727 (1877)—remained an acceptable option.

3. 5 U.S. 137, 139 (1803).

4. Cheney v. U.S. Dist. Ct., 542 U.S. 367, 380 (2004) (quoting *Ex parte* Fahey, 332 U.S. 258, 259–60 (1947)).

5. *See generally* 28 U.S.C. § 1291 ("The courts of appeals . . . shall have jurisdiction of appeals from all *final* decisions of the district courts . . . ." (emphasis added)).

6. *See* Bauman v. U.S. Dist. Ct., 557 F.2d 650, 654–55 (9th Cir. 1977).

7. *See* Paul R. Gugliuzza, *Rethinking Federal Circuit Jurisdiction*, 100 GEO. L.J. 1437, 1453–64 (2012) (summarizing the Federal Circuit's jurisdiction).

8. *In re* Atlassian Corp. PLC, No. 21-177, 2021 WL 5292268 (Fed. Cir. Nov. 15, 2021); *In re* Google LLC, No. 21-178, 2021 WL 5292267 (Fed. Cir. Nov. 15, 2021); *In re* Apple Inc., No. 21-181, 2021 WL 5291804 (Fed. Cir. Nov. 15, 2021).

9. The Federal Circuit actually resolved a fourth mandamus petition that day—in yet another case arising from the Western District of Texas—determining that a similar request for transfer to the Northern District of California did not warrant a decision on the merits because the district court had reconsidered the order on which the petition was based. *In re* Meraki Integrated Cir. (Shenzhen) Tech., Ltd., No. 21-180, 2021 WL 5292271, at *1 (Fed. Cir. Nov. 15, 2021). A concurring opinion, however, expressed skepticism about the whether the district court's ruling denying transfer was correct. *See id.* at *2 (Hughes, J., concurring) ("The district court now inexplicably changes course to . . . deny transfer . . . despite there being no new facts presented . . . .").

Are district court decisions keeping patent infringement lawsuits against tech behemoths like Apple and Google in Texas rather than sending them to the Bay Area the sorts of egregious errors that warrant an extraordinary writ like mandamus?[10] Reasonable minds might differ. But three mandamus grants in a single day would, indisputably, have been highly unusual in any other federal court of appeals. At the Federal Circuit, though, it was just another day. From 2019 through 2021, the court granted mandamus twenty times—nearly as many times as every other federal court of appeals combined (twenty-seven).[11]

Odder still is that most of the Federal Circuit's mandamus grants over that time period, including the three mentioned above, were directed at a single district court judge—Judge Alan Albright in the Western District of Texas—and involved the exact same issue—transfer of venue under 28 U.S.C. § 1404(a), which gives district courts discretion to transfer a case from one district to another "[f]or the convenience of parties and witnesses, in the interest of justice."[12] But the Federal Circuit's enthusiastic use of mandamus is not a new phenomenon. As one of us wrote a decade ago, using mandamus to, essentially, "supervise" district court decisions on a discretionary issue like transfer of venue "is unprecedented in any federal court of appeals" and "conforms to no theory of appellate mandamus currently recognized by the . . . courts."[13] Yet the practice continues apace. Indeed, many parties embroiled in patent infringement litigation in the Western District of Texas claim that the Federal Circuit's grant rate is rapidly accelerating.[14]

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10. *See* Bankers Life & Cas. Co. v. Holland, 346 U.S. 379, 383 (1953) (noting that mandamus "is meant to be used only in the exceptional case where there is clear abuse of discretion or 'usurpation of judicial power'" (quoting De Beers Consol. Mines v. United States, 325 U.S. 212, 217 (1945)).

11. *See infra* Figure 1.

12. 28 U.S.C. § 1404(a).

13. Paul R. Gugliuzza, *The New Federal Circuit Mandamus*, 45 IND. L. REV. 343, 347 (2012).

14. For instance, an amicus brief in support of a recent mandamus petition claimed that, in 2020 and 2021, the Federal Circuit's "mandamus rate" in cases arising out of the Western District of Texas was "twice as high" as it was a decade ago, when the court was frequently overturning transfer of venue decisions by the *Eastern* District of Texas. Brief of Comput. & Commc'ns Indus. Ass'n, High Tech Inventors All. & R Street Inst. as Amici Curiae in Support of Petitioner at 5, *In re* DISH Network L.L.C., 2021 WL 4911981 (Fed. Cir. Oct. 21, 2021) (No. 21-148) (per curiam); *see also infra* Section I.D (discussing the shift in patent litigation from the Eastern District of Texas to the Western District). Similarly, a party seeking en banc rehearing of a recent Federal Circuit decision granting mandamus claimed that "[t]oday, the [Federal Circuit] sees as many convenience petitions in one year as it used to see in ten" and that the Federal Circuit's practice "is out of step with other . . . circuits." Uniloc 2017 LLC's Petition for Rehearing En Banc at 2, *In* re Apple Inc., 979 F.3d 1332 (Fed. Cir. 2020) (No. 20-135). Since 2008, that brief explained, the Federal Circuit "has issued over seventy mandamus decisions; the Fifth Circuit by comparison has issued seven." *Id.* And the Federal Circuit, the brief claimed, "grants the 'exceptional remedy' of mandamus in approximately 1-out-of-3 petitions." *Id.* Another party seeking to overturn a Federal Circuit decision granting mandamus recently contended that its case was "at least the twentieth transfer order on which the losing party sought [mandamus] in [the Federal Circuit] just

To get a better grasp of mandamus practice at the Federal Circuit—and to determine whether the Federal Circuit's use of the extraordinary writ is, well, extraordinary—we conducted what we believe is the first comprehensive empirical study of all Federal Circuit decisions in interlocutory appeals—that is, appeals that do not involve a final, case-ending judgment by the lower court or agency. The novel datasets we built for this study contain all interlocutory proceedings (including mandamus petitions as well as several other types of appeals from non-final rulings) at the Federal Circuit from 2008 through 2021.

We conclude that mandamus, consistent with its status as an extraordinary writ, is, overall, a difficult remedy to obtain at the Federal Circuit. Of the 501 mandamus petitions in our dataset, the Federal Circuit granted 68, or 13.6%. But not all petitions have an equal chance of being granted. For instance, the Federal Circuit granted 22% (61 of 283) of mandamus petitions arising from the federal district courts, as compared to only 6% of petitions arising from the other tribunals it reviews, such as the Court of Federal Claims, Court of Appeals for Veterans Claims, and Merit Systems Protection Board. In other words, virtually all (90%) Federal Circuit orders granting mandamus involved cases from the district courts, which are almost entirely patent infringement cases.

But even among patent cases, one issue and two district courts stand out: venue and the Eastern and Western Districts of Texas. In district court cases involving questions of venue, the Federal Circuit granted 31% (53 of 176) of mandamus petitions. On all other issues arising from the district courts, the court granted only 7% (7 of 106) of petitions. Moreover, not even all venue petitions have an equal chance of being granted. Excluding petitions coming out of the Eastern and Western Districts of Texas, the Federal Circuit granted only 11.5% (3 of 26) of petitions seeking transfer of venue for convenience reasons. The grant rate in transfer cases from the Eastern and Western Districts of Texas was over three times higher: 37.3% (38 of 102).

These empirical findings have at least two implications for procedural reform in patent litigation—one of the most important issues facing the innovation ecosystem today.[15] First, it is tempting to criticize the Federal Circuit for using what is supposed to be an extraordinary writ as, essentially,

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from the Western District of Texas since 2018." Respondents' Petition for Rehearing En Banc at 18, *In re* Samsung Elecs. Co., 2 F.4th 1371 (Fed. Cir. 2021) (No. 21-139). One of our motivations in writing this article is to test empirical assertions like these that are increasingly appearing in Federal Circuit briefs in mandamus cases.

15. *See* Mark A. Lemley, *The Surprising Resilience of the Patent System*, 95 TEX. L. REV. 1, 56 (2016) (arguing that, because recent changes to patent *law* seem to have had little effect on patent acquisition and enforcement, reformers should instead "look out for opportunities to simplify patent *litigation*, making it quicker and cheaper" (emphasis added)).

a mechanism for interlocutory error correction.[16] However, our data makes clear that it is district judges in the Eastern and Western Districts of Texas—who, as two of us have argued elsewhere, use questionable denials of transfer motions as a mechanism to attract patent cases to their courtrooms[17]—who have forced the Federal Circuit into a position in which it has few good options.

Second, although the Federal Circuit could alter the legal doctrine governing transfer motions in an effort to rein in district judges' most egregious decisions,[18] changing the standards for transfer will not solve the underlying problems that are leading to large numbers of mandamus grants. For one thing, the number of legally permissible venues is quite large in most patent cases because the relevant venue statute allows patent infringement plaintiffs to choose from a wide array of courts, many of which have little connection to the underlying suit.[19] For another, the mechanisms by which district courts assign cases to judges often allow plaintiffs to predict, with certainty, the judge who will hear their case.[20] This ability to select the judge encourages plaintiffs to "judge shop"—that is, select a particular judge for their case, a phenomenon that has led to federal district judges competing to attract litigation to their courtrooms.[21]

In addressing these underlying problems, the Federal Circuit's hands are tied. Changing basic venue rules (which are mostly codified in statutes[22]) or mandating different case assignment procedures (which are, by statute, left to district judges themselves[23]) is largely beyond the purview of an intermediate appellate court. In other words, rather than focusing on the Federal Circuit's use of the writ of mandamus—which, as we explain below, may or may not be justified on the facts of any individual case—policymakers should address the judge shopping/court competition dynamic

16. The Federal Circuit, with its semi-specialized jurisdiction, is often criticized for taking an "exceptionalist" approach to procedural issues in patent law. *See, e.g.*, Peter Lee, *The Supreme Assimilation of Patent Law*, 114 MICH. L. REV. 1413, 1416–17 (2016).

17. *See* J. Jonas Anderson & Paul R. Gugliuzza, *Federal Judge Seeks Patent Cases*, 71 DUKE L.J. 419, 461–65 (2021).

18. *See infra* Section V.A.

19. For instance, because the patent venue statute requires only that the defendant have presence in the *district*, 28 U.S.C. § 1400(b), defendants can be sued in Waco based on activities in Austin, which is 100 miles away but also in the Western District of Texas. *See* Anderson & Gugliuzza, *supra* note 17, at 445, 482.

20. *See* Jonas Anderson, *Judge Shopping in the Eastern District of Texas*, 48 LOY. U. CHI. L.J. 539, 547 (2016).

21. On the phenomenon of judges actively courting litigants to file in their courtrooms, see J. Jonas Anderson, *Court Competition for Patent Cases*, 163 U. PA. L. REV. 631, 635 (2015).

22. *See, e.g.*, 28 U.S.C. §§ 1391, 1400(b).

23. *Id.* § 137(a).

that is causing patent infringement cases to amass in unusual places like Waco, in Texas's Western District, and Marshall, in the Eastern District.[24]

Fortunately—and perhaps surprisingly—policymakers seem interested in tackling the issue of forum selection in patent litigation. In November 2021, the chair and ranking member of the Senate Judiciary Committee's intellectual property subcommittee asked the Judicial Conference to review the judge-assignment practices of the federal district courts in patent cases.[25] And, in December 2021, Chief Justice Roberts, in his annual report on the federal judiciary, flagged the "arcane but important matter" of "judicial assignment and venue for patent cases" as a topic that "will receive focused attention" from the Judicial Conference (of which he is the chair) in 2022.[26]

As this article was going to press, the chief judge of the Western District of Texas entered an order dramatically changing how certain patent cases are assigned to judges in the district.[27] As we explain below, that order will, at least for now, prevent litigants in that court from choosing the judge who will hear their case and stop the flood of patent cases into Waco.[28] Yet, until random case assignment is mandated by statute or in the Federal Rules of Civil Procedure, courts can still use the promise of judge shopping to lure patent cases. This article on the Federal Circuit's mandamus practice, which we show is largely driven by judge shopping at the district court level, is highly relevant to ongoing policy conversations about how judges are assigned to cases—both in patent law and beyond.[29]

The remainder of the article proceeds as follows. Part I provides an essential primer on appellate jurisdiction, procedure, and practice, including a discussion of the law governing the writ of mandamus. Part II describes

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24. On the uneven distribution of patent cases in the federal judicial system and the problems it causes, see Jeanne C. Fromer, *Patentography*, 85 N.Y.U. L. REV. 1444, 1462–68 (2010).

25. Letter from Sens. Patrick Leahy & Thom Tillis to C.J. John Roberts at 1 (Nov. 2, 2021), https://www.patentprogress.org/wp-content/uploads/2021/11/11.2-TT-PL-Ltr-to-Judicial-Conference-re-Patent-Forum-Shopping-Final.pdf [https://perma.cc/V5JC-PMSG] (noting that practices that allow litigants to "effectively select the judge who will hear their case" "create[] an appearance of impropriety which damages the federal judiciary's reputation for the fair and equal administration of the law").

26. CHIEF JUST. JOHN G. ROBERTS, JR., 2021 YEAR-END REPORT ON THE FEDERAL JUDICIARY 3–5 (2021), https://www.supremecourt.gov/publicinfo/year-end/2021year-endreport.pdf [https://perma.cc/7YUX-5JXG].

27. CHIEF DIST. JUDGE ORLAND L. GARCIA, ORDER ASSIGNING THE BUSINESS OF THE COURT AS IT RELATES TO PATENT CASES (2022), https://www.txwd.uscourts.gov/wp-content/uploads/Standing%20Orders/District/Order%20Assigning%20the%20Business%20of%20the%20Court%20as%20it%20Relates%20to%20Patent%20Cases%20072522.pdf [https://perma.cc/9JVB-6WLF].

28. *See infra* Section V.C.

29. For critiques of judge shopping outside of patent law, see Alex Botoman, *Divisional Judge-Shopping*, 49 COLUM. HUM. RTS. L. REV. 297, 305-07 (2018); Steve Vladeck, Opinion, *Texas Judge's COVID Mandate Ruling Exposes Federal 'Judge-Shopping' Problem*, MSNBC (Jan. 11, 2022, 11:33 PM), https://www.msnbc.com/opinion/texas-judge-s-covid-mandate-ruling-exposes-federal-judge-shopping-n1287324 [https://perma.cc/2WZR-5Y6L].

the methodology of the article's empirical study of interlocutory appeals at the Federal Circuit. Part III presents the results of that study and conducts a deep dive into the area where Federal Circuit's decision-making is most noteworthy and controversial: mandamus petitions seeking transfer of venue in district court patent infringement litigation. Part IV compares the Federal Circuit's practice of granting transfer-related mandamus petitions to the Fifth Circuit's practice. This comparison is salient because the Federal Circuit purports to use the mandamus and venue precedent of the regional circuit in which the district court sits; because so many mandamus petitions to the Federal Circuit originate in Texas, the Federal Circuit claims to use the Fifth Circuit's precedent in those cases. Finally, Part V discusses the implications of our empirical analysis and sketches how both the law and process of transfer, venue, mandamus, and judicial case assignment could be reformed to reduce the pressure on the Federal Circuit to use the extraordinary writ of mandamus as an ordinary means of appellate error correction.

I. MANDAMUS IN THE FEDERAL COURTS: A PRIMER ON APPELLATE JURISDICTION, PROCEDURE, AND PRACTICE

Under the final judgment rule, litigants in federal court must typically wait to appeal until the district court case is completely resolved.[30] But the final judgment rule has many exceptions. The two most relevant for the purpose of this article are (1) permissive interlocutory appeals under 28 U.S.C. § 1292[31] and, of far more importance in the Federal Circuit, (2) the writ of mandamus.[32]

A. Interlocutory Appeals

28 U.S.C. § 1292 grants the federal courts of appeals jurisdiction over two types of interlocutory (that is, non-final) orders: (1) "[i]nterlocutory orders . . . granting, continuing, modifying, refusing or dissolving injunctions, or refusing to dissolve or modify injunctions" and (2) orders the district judge determines "involve[] a controlling question of law as to which there is substantial ground for difference of opinion and . . . an immediate appeal . . . may materially advance the ultimate termination of the litigation."[33] While the statute provides an appeal as of right for orders relating to injunctions, for the latter category of orders—those involving a

30. *See* 28 U.S.C. §§ 1291, 1295(a)(1) (granting the courts of appeals jurisdiction to review "final decisions" of the district courts).
31. *See infra* Section I.A.
32. *See infra* Section I.B.
33. 28 U.S.C. §§ 1292(a)–(b).

controlling question of law—the statute specifies that the court of appeals "in its discretion" may permit an immediate appeal.[34] Courts of appeals tend to use this discretion parsimoniously;[35] it is not uncommon for an appellate opinion to refuse to review a district court order certifying an interlocutory appeal by noting that "[r]eview under § 1292(b) is granted sparingly and only in exceptional cases."[36]

B. Writs of Mandamus

A second important exception to the final judgment rule is the writ of mandamus. Mandamus, which means "we command,"[37] is a writ that requires a person (usually a public official or lower court) to take a specified action.[38] The All Writs Act grants federal courts the power to issue writs of mandamus.[39] Thus, the federal courts of appeals can issue writs instructing lower courts to rule on a particular issue in a certain way. This review of district courts by appellate courts is known as "appellate mandamus."[40] Appellate mandamus is deployed on all sorts of legal issues: discovery (in particular, the attorney-client privilege),[41] consolidation or severance of cases for trial,[42] temporary restraining orders,[43] trial procedure,[44] and judicial and attorney disqualification orders,[45] among many others.[46]

Nevertheless, the Supreme Court has made clear that appellate mandamus is an "extraordinary" event, meant for "only . . . extreme cases."[47] The extraordinary nature of mandamus relief stems from its tension with the policies underlying the final judgment rule. If writs of mandamus issue too frequently, judicial efficiency is compromised by placing the appellate court in the awkward position of being an arbiter of interlocutory disputes rather than a reviewer of final decisions.[48]

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34. *Id.*
35. *See* 16 CHARLES ALAN WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE § 3929 (collecting statistics).
36. *E.g.*, *In re* City of Memphis, 293 F.3d 345, 350 (6th Cir. 2002).
37. *Mandamus*, BLACK'S LAW DICTIONARY (11th ed. 2019).
38. *See* Gugliuzza, *supra* note 13, at 351–56.
39. 28 U.S.C. § 1651(a).
40. *See* 16 WRIGHT ET AL., *supra* note 35, § 3935 (discussing the use of mandamus in civil litigation).
41. *See, e.g.*, *In re* BankAmerica Corp. Sec. Litig., 270 F.3d 639, 641 (8th Cir. 2001).
42. *See, e.g.*, Garber v. Randell, 477 F.2d 711, 715 n.2 (2d Cir. 1973).
43. *See, e.g.*, *In re* Vuitton et Fils S.A., 606 F.2d 1, 3 (2d Cir. 1979).
44. *See, e.g.*, Beacon Theatres, Inc. v. Westover, 359 U.S. 500, 511 (1959).
45. *See, e.g.*, *In re* Aetna Cas. & Sur. Co., 919 F.2d 1136, 1143 (6th Cir. 1990) (en banc).
46. *See* 16 WRIGHT ET AL., *supra* note 35, § 3935.7 (collecting cases).
47. La Buy v. Howes Leather Co., 352 U.S. 249, 256, 258 (1957).
48. *See* J. Jonas Anderson, *Specialized Standards of Review*, 18 STAN. TECH. L. REV. 151, 163 (2015) (stating that appellate courts "have been highly variable" in the standards of review they apply

To ensure that mandamus remains an extraordinary remedy, the Supreme Court has stated that three requirements must be satisfied for an appellate court to grant the writ. First, the party seeking mandamus must have "no other adequate means" to obtain relief.[49] Second, the party must show that its right to mandamus is "clear and indisputable."[50] Third, the court must be satisfied that mandamus is "appropriate" under the circumstances.[51] Circuit courts have developed more detailed frameworks.[52] Though these frameworks vary somewhat from one court to another, they generally look at the severity of the district court's error, the importance of the question presented, and the likelihood that the error will recur.[53]

C. Federal Circuit Appeals: Interlocutory and Otherwise

The U.S. Court of Appeals for the Federal Circuit hears appeals from numerous sources, ostensibly to keep it from becoming too specialized.[54] The court is best known for its exclusive, nationwide jurisdiction over all appeals in patent cases. A less well-known yet substantial portion of the court's docket involves claims against the federal government arising from the Court of Federal Claims, veterans benefits proceedings from the Court of Appeals for Veterans Claims, international trade disputes from the International Trade Commission and the Court of International Trade, and employment disputes involving federal employees from the Merit Systems Protection Board, among others.[55] The court also hears appeals in trademark

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to discretionary decisions). *Cf.* Adam N. Steinman, *Reinventing Appellate Jurisdiction*, 48 B.C. L. REV. 1237, 1241–42 (2007) (arguing that, in practice, the federal appellate courts exercise jurisdiction over a broad range of interlocutory orders).

49. United States *ex rel.* Girard Trust Co. v. Helvering, 301 U.S. 540, 544 (1937). Accordingly, the question typically must be one that is not effectively reviewable after a final judgment (such as questions of attorney-client privilege, *see, e.g.*, *In re* Kellogg Brown & Root, Inc. 756 F.3d 754 (D.C. Cir. 2014)), or, at a minimum, be one in which such post-judgment review would be highly inefficient (such as venue, *see, e.g.*, *In re* HTC Corp., 889 F.3d 1349, 1352 n.5 (Fed. Cir. 2018)).

50. Kerr v. U.S. Dist. Ct., 426 U.S. 394, 403 (1976).

51. *Id.*

52. *See* Gugliuzza, *supra* note 13, at 361, 361 n.126.

53. *See, e.g.*, Bauman v. U.S. Dist. Ct., 557 F.2d 650, 654–55 (9th Cir. 1977) (articulating "five specific guidelines" for determining whether to grant mandamus: "(1) The party seeking the writ has no other adequate means, such as a direct appeal, to attain the relief he or she desires. (2) The petitioner will be damaged or prejudiced in a way not correctable on appeal. . . . (3) The district court's order is clearly erroneous as a matter of law. (4) The district court's order is an oft-repeated error, or manifests a persistent disregard of the federal rules. (5) The district court's order raises new and important problems, or issues of law of first impression." (citations omitted)); *see also* 16 WRIGHT ET AL., *supra* note 35, § 3934.1 (surveying the relevant case law from the courts of appeals, many of which have adopted the standard articulated by the Ninth Circuit in *Bauman*, or some variation of it).

54. *But see* Gugliuzza, *supra* note 7, at 1460 (suggesting that the Federal Circuit's jurisdiction was more of an accident of history and a matter of political expediency than a deliberate effort to generalize the court's docket).

55. *See generally* 28 U.S.C. § 1295(a) (outlining the Federal Circuit's jurisdiction).

proceedings from the U.S. Patent and Trademark Office.[56] Overall, about half the Federal Circuit's docket consists of intellectual property cases, the overwhelming majority of which are patent cases.[57]

In general, the final judgment rule applies to all Federal Circuit appeals from all tribunals, subject to the same exceptions noted above, including writs of mandamus and interlocutory appeals over questions certified by a district judge under 28 U.S.C. § 1292.[58] There are, however, a few doctrines and policy considerations that are unique to the Federal Circuit, and to patent cases in particular. For instance, by statute, the Federal Circuit has jurisdiction over appeals from district court judgments in patent infringement cases that are "final except for an accounting."[59] The Federal Circuit has interpreted that provision to give the court jurisdiction over infringement and validity determinations still awaiting trial on damages,[60] though this broad conception of interlocutory appellate jurisdiction has proved controversial.[61]

Another issue of appellate jurisdiction unique to patent cases and the Federal Circuit is that there have been calls over the years to allow interlocutory appeals on the crucial issue of patent claim construction[62]—the process through which the district court determines the precise meaning of the patent's claims.[63] Because the patent claims—the stylized, numbered sentences that appear at the end of the patent document—define the scope of the patentee's exclusive rights,[64] the district court's claim construction order is hugely important in determining both the validity of the patent and whether the defendant infringes it.[65] But appellate reversals on the issue of

56. *Id.* § 1295(a)(4)(B).

57. UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, APPEALS FILED, BY CATEGORY, FY 2021, https://cafc.uscourts.gov/wp-content/uploads/reports-stats/caseload-by-category/Caseload_by_Category_FY2021.pdf [https://perma.cc/6DWH-WDE3].

58. *See* 28 U.S.C. § 1292(c)(1).

59. *Id.* § 1292(c)(2).

60. Robert Bosch, LLC v. Pylon Mfg. Corp., 719 F.3d 1305 (Fed. Cir. 2013) (en banc).

61. *See* Mondis Tech. Ltd. v. LG Elecs Inc., No. 20-1812, 2021 WL 6068831, at *1 (Fed. Cir. Dec. 23, 2021) (O'Malley, J., dissenting from denial of the petition for rehearing en banc).

62. *See, e.g.*, Edward Reines & Nathan Greenblatt, *Interlocutory Appeals of Claim Construction in the Patent Reform Act of 2009*, 2009 PATENTLY-O PATENT L.J. 1, 3–4 (discussing—and critiquing—a proposal to expand the Federal Circuit's jurisdiction over interlocutory appeals of claim construction orders).

63. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370, 372 (1996).

64. *See generally* David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 228–30 (2008) (describing the components of the patent document and the basic principles of patent claim construction).

65. Markman v. Westview Instruments, Inc., 52 F.3d 967, 989 (Fed. Cir. 1995) (en banc) (Mayer, J., concurring in the judgment) ("[T]o decide what the claims mean is nearly always to decide the case."), *aff'd*, 517 U.S. 370 (1996).

claim construction are relatively common,[66] and they require the case to essentially start over again under a revised understanding of the patent's scope.[67] Yet, despite potentially good reasons for getting Federal Circuit approval of district court claim construction early in a patent infringement case, efforts to loosen the final judgment rule for claim construction orders have failed—both in Congress and in litigation before the Federal Circuit itself.[68]

The most noteworthy type of interlocutory appeal that is unique to patent cases is review of transfer of venue decisions through writs of mandamus. We'll dive into the relevant Federal Circuit decisions in more detail below, but, to set the stage, some background on patent venue will prove useful.

D. Venue in Patent Infringement Cases

First off, to make the stakes clear at the outset, forum choice *matters* in patent litigation. There are, of course, outcome-based considerations, such as the likelihood of success after trial or on a dispositive motion, in any given district.[69] There are also convenience considerations, such as the location of parties, witnesses, and attorneys.[70] But, perhaps most importantly, there are considerations about settlement leverage. Most patent cases (like most civil cases) settle, particularly the cases in the Texas districts we'll focus on later in the article, which are largely filed by so-called non-practicing entities (NPEs).[71] Defendants are often faced with the dilemma of either paying to litigate past discovery or settling for an amount

66. *See generally* J. Jonas Anderson & Peter S. Menell, *Empirical Studies of Claim Construction*, *in* RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW, VOLUME 2: ANALYTICAL METHODS (Peter S. Menell & David L. Schwartz eds., 2019) (summarizing the relevant empirical studies). *Cf.* J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. 1, 1 (2014) [hereinafter Anderson & Menell, *Informal Deference*] (finding that the Federal Circuit's reversal rate on claim construction was 44% in 2004 but fell to 16.5% in 2009); J. Jonas Anderson & Peter S. Menell, *Restoring the Fact/Law Distinction in Patent Claim Construction*, 109 NW. U. L. REV. ONLINE 187, 198 (2015) (noting that the Supreme Court's decision in *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 322 (2015), which held that fact-finding underlying a district court's claim construction should be reviewed with deference on appeal, should make patent litigation "more predictable and understandable").

67. *See* Anderson & Menell, *Informal Deference*, *supra* note 66, at 70.

68. *See* Jonas Anderson, *Congress as a Catalyst of Patent Reform at the Federal Circuit*, 63 AM. U. L. REV. 961, 1004 (2014); J. Jonas Anderson, *Patent Dialogue*, 92 N.C. L. REV. 1049, 1074–75 (2014) (both summarizing legislative proposals and actions by the Federal Circuit to thwart expansion of the court's interlocutory jurisdiction).

69. *See, e.g.*, Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 934–35 (2001).

70. *Id.* at 899–900.

71. *See* Anderson & Gugliuzza, *supra* note 17, at 455–60. NPEs typically don't sell any products or provide any services; they exist mainly to enforce patents—giving rise to the pejorative moniker, "patent trolls." *See generally Last Week Tonight with John Oliver: Patents* (HBO television broadcast Apr. 19, 2015), https://www.youtube.com/watch?v=3bxcc3SM_KA [https://perma.cc/X8SS-FAMG].

lower than the likely cost of discovery—even if they are confident they could win the case.[72] Procedural rules—which, in patent cases, vary from one district to another[73]—can significantly inform the defendant's cost-benefit calculus, typically by mandating that a case proceed toward trial relatively quickly (a dynamic generally favored by patentees) or relatively slowly (a dynamic generally favored by accused infringers).[74]

As a matter of doctrine, the statute governing venue in patent cases, 28 U.S.C. § 1400(b), provides that patent infringement suits may be filed in the judicial district "where the defendant resides" or any district "where the defendant has committed acts of infringement and has a regular and established place of business."[75] The history of this statute—and judicial interpretations of it—are complex, and they are described in detail elsewhere.[76] For present purposes, what matters is this: in 1990, the Federal Circuit held, in a case called *VE Holding Corp. v. Johnson Gas Appliance Co.*,[77] that then-recent amendments to the general venue statute (28 U.S.C. § 1391) meant that a corporation "resided"—and thus could be sued for patent infringement—in any district in which it was subject to personal jurisdiction. Consequently, large corporate defendants—who have the "minimum contacts" required for personal jurisdiction[78] all across the country—could be sued for patent infringement in practically any federal judicial district.[79]

By the early 2000s, some district courts began actively trying to attract patent cases. The motivations for this judicial behavior are opaque,[80] but likely include a desire for the intellectual challenge of patent disputes,[81] the increased prestige or attention a judge gets from being known as a "patent

72. *See* Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2126 (2013).

73. *See* Megan M. La Belle, *The Local Rules of Patent Procedure*, 47 ARIZ. ST. L.J. 63, 66 (2015).

74. On why parties' preferences break this way, see Mark A. Lemley, *Where to File Your Patent Case*, 38 AIPLA Q.J. 401, 403–04 (2010).

75. 28 U.S.C. § 1400(b).

76. *See* Paul R. Gugliuzza & Megan M. La Belle, *The Patently Unexceptional Venue Statute*, 66 AM. U. L. REV. 1027, 1035–40 (2017).

77. 917 F.2d 1574 (Fed. Cir. 1990), *abrogated by* TC Heartland LLC v. Kraft Foods Grp. Brands LLC, 137 S. Ct. 1514 (2017).

78. Int'l Shoe Co. v. Washington, 326 U.S. 310, 316 (1945).

79. *See* FED. R. CIV. P. 4(k)(1)(A) (tying the personal jurisdiction analysis in federal court to the jurisdiction of the local state courts).

80. For a detailed exploration of possible incentives, *see* Paul R. Gugliuzza & J. Jonas Anderson, *Why Do Judges Compete For (Patent) Cases?* (unpublished manuscript) (on file with authors).

81. *See, e.g.*, Tim McGlone, *Resigning Judge Says He Was Tired of Drug and Gun Cases*, VIRGINIAN-PILOT (Feb. 14, 2008, 12:00 AM), https://www.pilotonline.com/news/article_cbed9191-63d1-5007-8800-a56089fb00fe.html [https://perma.cc/WS9W-CL2Q] (reporting that U.S. District Judge Walter D. Kelley Jr. enjoyed complex patent cases more than drug and gun cases).

judge,"[82] and the economic rewards to the local community.[83] The clear winner in this court competition for patent cases was the Eastern District of Texas, and, in particular, the division of the court in the city of Marshall (population 23,392).[84] Patentees came to favor the Eastern District due to the rapid speed at which cases proceeded toward trial, a perception of a property rights-favoring jury pool, and the high rate of success for patentees on dispositive motions and at trial.[85] For those same reasons, accused infringers were eager to get *out* of the Eastern District of Texas.[86] But the Federal Circuit's broad conception of patent venue in *VE Holding* made that difficult to do.[87]

In 2008, however, the U.S. Court of Appeals for the Fifth Circuit, sitting en banc in *In re Volkswagen of America, Inc.*, granted mandamus in a personal injury case pending in the Eastern District of Texas because the case arose out of a traffic accident in the Northern District of Texas—where many of the witnesses lived and much of the evidence was located.[88] Importantly, in patent cases, questions about transfer of venue are technically governed not by Federal Circuit precedent but by the precedent of the regional circuit in which the case is pending.[89] In late 2008, the Federal Circuit relied heavily on the Fifth Circuit's *Volkswagen* decision in granting mandamus to order transfer of venue in a patent case for the first time ever, granting a writ of mandamus in a case called *In re TS Tech USA Corp.* and ordering that the Eastern District of Texas transfer an infringement suit to the Southern District of Ohio.[90]

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82. *See, e.g.*, Richard A. Posner, *What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does)*, 3 SUP. CT. ECON. REV. 1, 13 (1993) (noting that "prestige is unquestionably an element of the judicial utility function").

83. *See Last Week Tonight*, *supra* note 71 (discussing an outdoor ice rink built by frequent patent infringement defendant Samsung directly in front of the Texas courthouse where it was often sued).

84. Anderson, *supra* note 21, at 651–54; *see also* Julie Creswell, *So Small a Town, So Many Patent Cases*, N.Y. TIMES, Sept. 24, 2006, at B1.

85. *See* Timothy T. Hsieh, *Approximating a Federal Patent District Court after* TC Heartland, 13 WASH. J.L. TECH. & ARTS 141, 146–48 (2018); *see also* J. Jonas Anderson, *Court Capture*, 59 B.C. L. REV. 1543, 1544 (2018) (arguing that the Eastern District of Texas exhibited signs of "capture" by the patent bar, particularly the bar representing NPEs). Around this time, the State of Texas adopted a series of laws limiting liability and damages in tort cases, which, commentators have shown, may have spurred some lawyers who previously practiced personal injury law to move into patent litigation. Ronen Avraham & John M. Golden, *"From PI to IP": Litigation Response to Tort Reform*, 20 AM. L. & ECON. REV. 168, 196–97 (2018).

86. Sam Williams, *A Haven for Patent Pirates*, MIT TECH. REV. (Feb. 3, 2006), http://www.technologyreview.com/printer_friendly_article.aspx?id=16280https://www.technologyreview.com/2006/02/03/229717/a-haven-for-patent-pirates-2/ [https://perma.cc/Q3YX-GQV6].

87. *See supra* note 78 and accompanying text.

88. *In re* Volkswagen of Am., Inc., 545 F.3d 304, 307 (5th Cir. 2008) (en banc).

89. *See* Jennifer E. Sturiale, *A Balanced Consideration of the Federal Circuit's Choice-of-Law Rule*, 2020 UTAH L. REV. 475, 476.

90. 551 F.3d 1315, 1317–18 (Fed. Cir. 2008).

In the wake of *TS Tech*, the Federal Circuit granted numerous mandamus petitions seeking transfer of venue out of the Eastern District of Texas.[91] Yet patent cases continued to amass in the district. By 2015, the court was receiving over 2,500 patent cases annually, up from about 300 in 2006, and nearly 50% of all patent cases filed nationwide.[92] But the Eastern District's reign as the undisputed capital of U.S. patent litigation ended with the Supreme Court's 2017 ruling in *TC Heartland LLC v. Kraft Foods Group Brands LLC*.[93] In that case, the Court overturned the Federal Circuit's 1990 decision in *VE Holding*, which held that venue was proper in a patent infringement case in any district in which the defendant was subject to personal jurisdiction.[94] Instead, the Supreme Court reiterated its older precedent holding that, for the purpose of the patent venue statute, "a domestic corporation 'resides' only in its State of incorporation."[95]

Accordingly, today, venue in patent infringement suits against domestic corporations[96] is proper only in (1) the defendant's state of incorporation (usually not Texas[97]) and (2) any district in which the defendant has committed acts of infringement and has a regular and established place of business (sometimes hard to show in the Eastern District of Texas, which includes no major city[98]). The Supreme Court's reinterpretation of the venue statute significantly decreased the amount of patent litigation filed in the Eastern District of Texas. The Eastern District received nearly half of patent cases nationally before *TC Heartland* but in 2018 it received only 14% of patent cases, and, in 2019 and 2020, 9%.[99]

Faced with an uphill climb to establish venue in East Texas, patentees have had to look elsewhere. Many are simply choosing a forum in which venue is firmly established, such as the District of Delaware, the most popular place of incorporation.[100] But *TC Heartland*'s restrictions on venue

91. *See* Gugliuzza, *supra* note 13, at 346 (noting that the Federal Circuit granted ten Eastern District mandamus petitions between 2008 and 2011).

92. Anderson & Gugliuzza, *supra* note 17, at 444 fig.1.

93. 137 S. Ct. 1514 (2017).

94. *See id.* at 1517.

95. *Id.* (citing Fourco Glass Co. v. Transmirra Prods. Corp., 353 U.S. 222, 226 (1957)).

96. Foreign defendants may be sued for patent infringement in any district. *See* 28 U.S.C. § 1391(c)(3); *In re* HTC Corp., 889 F.3d 1349, 1354 (Fed. Cir. 2018) (applying § 1391(c)(3) to patent infringement cases).

97. *See Annual Report Statistics*, DEL. DIV. CORPS., https://corp.delaware.gov/stats [https://perma.cc/7ENF-EJM5] (noting that 67.6% of Fortune 500 companies are incorporated in Delaware).

98. *See, e.g.*, *In re* Google LLC, 949 F.3d 1338, 1345–47 (Fed. Cir. 2020) (holding that Google lacked a "regular and established place of business" in the Eastern District of Texas despite contracts with two internet service providers to host servers in the district that functioned as local caches for Google's data).

99. Anderson & Gugliuzza, *supra* note 17, at 443–44.

100. *See* Ofer Eldar & Neel U. Sukhatme, *Will Delaware Be Different? An Empirical Study of* TC Heartland *and the Shift to Defendant Choice of Venue*, 104 CORNELL L. REV. 101, 122–24 (2018).

also enticed newcomers like the Western District of Texas into the court competition for patent cases. Unlike the mostly rural Eastern District of Texas, the Western District of Texas contains the tech hub of Austin, where many frequent patent infringement defendants (Google, Apple, Samsung, and the like) have established offices and, therefore, venue is indisputably proper.

Though Austin provides a hook for venue in the Western District, most infringement cases have been filed 100 miles south of Austin on Interstate 35, in the court's Waco Division. We have explained in detail elsewhere the reasons for Waco's meteoric rise as the most sought-after venue for patent plaintiffs.[101] In brief, it is due to the efforts of the lone district judge who sits in Waco, Judge Alan Albright. Since he was appointed to the bench in 2018, he has spoken at patent law conferences,[102] given speeches at dinners hosted by patent valuation companies,[103] appeared on law firm webcasts about patent litigation,[104] and presented at numerous patent bar events,[105] all with the purpose of encouraging patentees to file suit in his court.[106] And those efforts have succeeded. In 2016 and 2017, the Western District's Waco Division received a total of five patent cases. In 2020 and 2021, it received roughly 800 each year—over 20% of all patent cases filed nationwide.[107]

For many of the same reasons that accused infringers wanted out of the Eastern District of Texas, they have consistently been filing motions to transfer venue out of the Western District of Texas. Accused infringers in the Western District of Texas are often California-based tech companies, and they argue that, under 28 U.S.C. § 1404(a), litigation in California

101. Anderson & Gugliuzza, *supra* note 17, at 452–74.

102. *See, e.g.*, Scott Graham, *Judge Albright Sounds Ready to Resume Patent Trials in Texas*, LAW.COM (Dec. 11, 2020, 7:59 PM), https://www.law.com/texaslawyer/2020/12/11/judge-albright-sounds-ready-to-resume-patent-trials-in-texas [https://perma.cc/AAA6-UGQA].

103. *See, e.g.*, Scott Graham, *How Far Can Judges Go in Touting Their Districts?*, LAW.COM (Sept. 3, 2019, 9:00 PM), https://www.law.com/2019/09/03/skilled-in-the-art-viasat-demands-9m-in-fees-and-2-in-punitives-how-far-can-judges-go-in-touting-their-districts [https://perma.cc/9ETC-763T].

104. Scott Graham, *Less Is More When It Comes to IP Trials*, LAW.COM (Dec. 18, 2020, 8:22 PM), https://www.law.com/2020/12/18/skilled-in-the-art-less-is-more-when-it-comes-to-ip-trials [https://perma.cc/QF5T-6LGM].

105. Britain Eakin, *New West Texas Judge Wants His Patent Suits Fast and Clean*, LAW360 (Oct. 25, 2019, 8:54 PM), https://www.law360.com/articles/1213867/new-west-texas-judge-wants-his-patent-suits-fast-and-clean [https://perma.cc/YCB8-85AH].

106. *See* Tommy Witherspoon, *Waco Becoming Hotbed for Intellectual Property Cases with New Federal Judge*, WACO TRIBUNE-HERALD (Jan. 18, 2020), https://www.wacotrib.com/news/local/waco-becoming-hotbed-for-intellectual-property-cases-with-new-federal-judge/article_0bcd75b0-07c5-5e70-b371-b20e059a3717.html [https://perma.cc/XS7Q-JU6L].

107. Ryan Davis, *Albright Transfer Drama Will Keep Eyes on Texas in 2022*, LAW360 (Dec. 17, 2021, 2:17 PM), https://www.law360.com/articles/1448846/albright-transfer-drama-will-keep-eyes-on-texas-in-2022 [https://perma.cc/8Y99-R2TQ].

would be far more convenient because most of the evidence and witnesses are located there. But, like in the Eastern District during its heyday, those motions have often been denied. As of October 2021, Judge Albright had decided roughly sixty contested motions to transfer venue away from the Western District; he had granted only about a quarter of them.[108] By comparison, other districts with large dockets of patent cases grant about half of the transfer motions they receive—and many of those districts are located in places with a stronger connection to the case than Waco.[109] Numerous defendants who have lost motions to transfer out of Waco have sought mandamus from the Federal Circuit, as we detail in the empirical study presented below.[110]

When seeking mandamus on transfer of venue, it's worth noting that petitioners are sometimes faced with a shifting legal standard in the Federal Circuit's case law. For instance, in some cases (often denying mandamus), the court has emphasized that mandamus may be used to correct a "patently erroneous . . . denial of transfer"[111] but the "standard is an exacting one, requiring the petitioner to establish that the district court's decision amounted to a failure to meaningfully consider the merits of the transfer motion."[112] By contrast, in other cases (often granting mandamus), the Federal Circuit has framed the standard in a fashion more favorable to the party seeking transfer, emphasizing that, under Supreme Court precedent, mandamus may issue "to correct a clear abuse of discretion."[113] We'll discuss the substantive standards for granting transfer and issuing mandamus in more detail in the final part of the article, in connection with the law reform proposals that flow from our empirical study.

E. Mandamus Across the Federal Courts of Appeals

Before digging into the Federal Circuit's mandamus practice in more detail, it's useful to get a sense of how the other twelve federal courts of appeals use mandamus. Given the writ's extraordinary nature, one might expect mandamus grants to be few and far between. And that's precisely what we found when we collected all of the regional circuits' decisions on

108. *See* Paul R. Gugliuzza & Jonas Anderson, *How It Started…How It's Going: Venue Transfers in the Western District of Texas*, PATENTLYO (Oct. 28, 2021), https://patentlyo.com/patent/2021/10/startedhow-transfers-district.html [https://perma.cc/8Y99-R2TQ].

109. *See* Brian J. Love & James Yoon, *Predictably Expensive: A Critical Look at Patent Litigation in the Eastern District of Texas*, 20 STAN. TECH. L. REV. 1, 17 tbl.5 (2017).

110. *See infra* Section III.F.

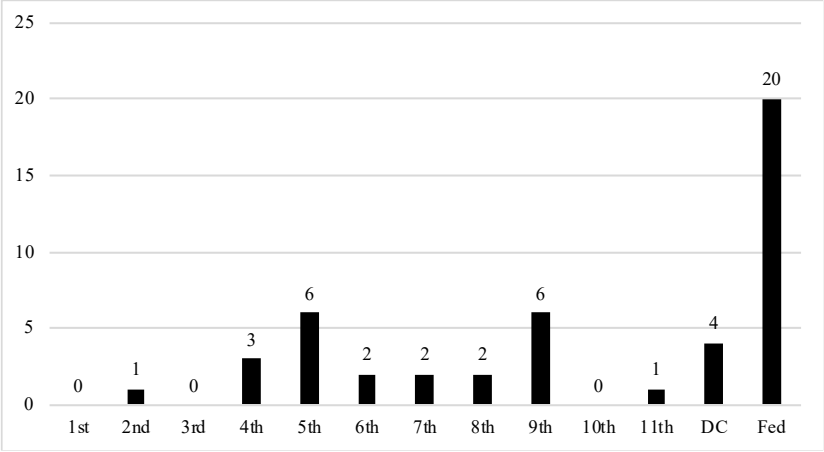
111. *See e.g.*, *In re* Microsoft Corp., 630 F.3d 1361, 1363 (Fed. Cir. 2011).

112. *E.g.*, *In re* Barnes & Noble, Inc., 743 F.3d 1381, 1383 (Fed. Cir. 2014).

113. *E.g.*, *In re* Apple Inc., 979 F.3d 1332, 1336 (Fed. Cir. 2020).

petitions for writs of mandamus over the past three years and compared them to the Federal Circuit's.[114]

FIGURE 1: MANDAMUS GRANTS BY THE FEDERAL COURTS OF APPEALS, 2019–2021



As the figure above makes clear, over the past three years, the Federal Circuit has granted more than three times as many mandamus petitions as any other court of appeals. In fact, there were three courts of appeals (the First, Third, and Tenth Circuits) that did not grant a single mandamus petition over the three-year time period. The Federal Circuit is truly an outlier in its mandamus practice among the courts of appeals.

As we'll show below,[115] most of the Federal Circuit's mandamus grants involve transfer of venue. But transfer-related mandamus grants practically never occur in the regional circuits, as Figure 2 below makes clear.

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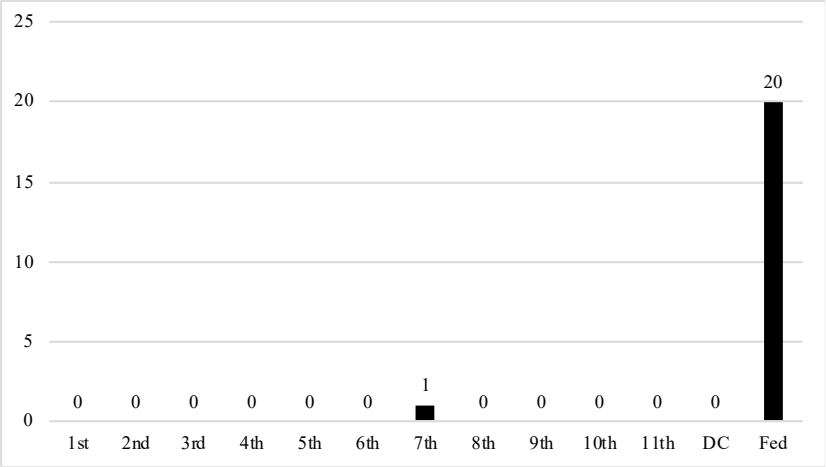
114. We compiled this data by searching Westlaw for all opinions and orders containing the word "Mandamus" and "Grant." Then, we read each result to determine whether the order was the result of a petition for a writ of mandamus. For those that were, we then determined whether the appellate court granted the writ; partial grants were considered grants. Because we relied on Westlaw to do this inter-circuit comparison, the number of grants by the Federal Circuit that we report in this section of the article is slightly lower than the number of grants we report in our comprehensive study of Federal Circuit mandamus decisions below. *See infra* Part III. We provide additional information on our collection and coding methodology in the Data Addendum to this article. Though Westlaw's collections of appellate decisions are not always complete, *see infra* notes 125–33, it was the only option for conducting inter-circuit comparisons of mandamus grants short of manually reviewing thousands of dockets. Moreover, based on our experience with empirical research, we are confident that most mandamus *grants* are present in Westlaw's databases; it's *denials* that are more likely to be missing. *Cf. infra* pp. 23–25, 61–64 (describing the small number of Federal Circuit mandamus grants that were not available on the Federal Circuit's website—a primary source of the decisions that are ultimately made available in Westlaw).

115. *See infra* Section III.D–F.

FIGURE 2: MANDAMUS GRANTS BY THE FEDERAL COURTS OF APPEALS ON MOTIONS TO TRANSFER, 2019–2021



Venue-related grants of mandamus are exceedingly rare; only a single grant of mandamus occurred over three years across all federal courts of appeals, excepting the Federal Circuit. Plainly, venue is a big issue on which mandamus grants frequently occur at the Federal Circuit[116] and in no other court of appeals. But why does the Federal Circuit look so different? That's the next question we seek to answer.

II. METHODOLOGY

The data used in this study consists of information about petitions for writs of mandamus and other interlocutory proceedings at the Federal Circuit, as well as information about the court's orders resolving those proceedings. This Part describes how we collected and coded the data. Additional information can be found in the Data Addendum at the end of the article. Consistent with best practices on data accessibility, we have publicly archived the data we used.[117]

116. *See, e.g.*, Sarah Burstein (@design_law), TWITTER (Aug. 11, 2021, 11:59 AM), https://twitter.com/design_law/status/1425502189129175047 [https://perma.cc/NL4S-QMHJ] ("Writs of mandamus: So hot (in patent law) right now.").

117. *See* Jason Rantanen, *Replication Data for Extraordinary Writ or Ordinary Remedy? Mandamus at the Federal Circuit*, HARVARD DATAVERSE (2022), https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/AGZNNN [https://perma.cc/MWH2-2E56]. *See generally* Jason Rantanen, *Empirical Analyses of Judicial Opinions: Methodology, Metrics, and the Federal Circuit*, 49 CONN. L. REV. 227, 282 (2016) (discussing the benefits of publicly accessible data in empirical studies of patent law); Jason Rantanen, *The Future*

Our study uses two types of record units that are important to distinguish at the outset: dockets and documents. For the first record unit—dockets—each unit corresponds to a single petition or appeal (which we will sometimes call a "case") filed in the Federal Circuit. When a case is initially filed, the Federal Circuit clerk's office assigns it a docket number. Each docket number corresponds to a single case. For related cases, the court may consolidate the dockets or otherwise associate them, so that all filings in the related cases appear on the docket of a single, "lead" case. In that situation, each case retains its original docket number, but the court may decide all of the consolidated cases collectively, in a single opinion or order.

Which leads to the second record unit: documents. Typically, the Federal Circuit decides cases through an opinion or order issued by a panel of judges.[118] The opinion or order may decide the appeal or petition on the merits. Or it may dismiss the case if, for instance, the appellant or petitioner withdraws the case or fails to prosecute it. Or the Federal Circuit may transfer the case to another court if it does not fall within the Federal Circuit's statutory jurisdiction. The second record unit in this study is the terminating document that achieves that outcome—that is, the opinion or order that resolves the case at the Federal Circuit. A single terminating document may resolve multiple cases, particularly if the dockets have been related to one another.[119] Conversely, on rare occasions, a single docket may be associated with multiple terminating documents (if, for instance, an order that was initially issued as nonprecedential is later reissued as precedential). [120] In short, there is not necessarily a one-to-one correspondence between dockets (that is, individual cases) and terminating documents.

To collect the relevant terminating documents and dockets, we began with the Federal Circuit Dataset Project, a set of related databases containing information about all documents published on the Federal Circuit's website, as well as all dockets in Federal Circuit proceedings since 2000 that are available on the Public Access to Court Electronic Records

of Empirical Legal Studies: Observations on Holte & Sichelman's Cycles of Obviousness, 105 IOWA L. REV. ONLINE 15 (2020) (elaborating on this point).

118. The court usually refers to a written decision on the merits in regular appeals as an "opinion"; petitions, such as petitions for writs of mandamus, are terminated by an "order."

119. For example, *In re BigCommerce, Inc.*, 890 F.3d 978 (Fed. Cir. 2018) [UID 16171], which resolved Appeal Nos. 2018-120 and 2018-122.

120. Single dockets with multiple terminating documents are extremely rare in our dataset. The only instance of this is in appeal number 2010-944, which involved a nonprecedential order, *In re* Microsoft Corp., No. 10-944, 2010 WL 4630219 (Fed. Cir. Nov. 8, 2010) [UID 11428], later reissued as precedential, *In re* Microsoft Corp., 630 F.3d 1361 (Fed. Cir. 2011) [UID 11544]. We eliminated the original nonprecedential order from our dataset before beginning any analysis.

(PACER) system.[121] The document component of the Dataset Project, *The Compendium of Federal Circuit Decisions*, contains information about numerous attributes of Federal Circuit decisions including the decision date, panel membership, tribunal of origin, opinion authorship, whether there were dissenting or concurring opinions and, if so, who wrote them.[122] The docket component of the Dataset Project contains information about when an appeal or petition was docketed at the Federal Circuit and, for those dockets with activity after March 1, 2012, information about the tribunal below.

To build our datasets for this study, our main task was to identify the dockets involving petitions for writs of mandamus and other interlocutory proceedings, as well as the corresponding terminating documents. To do that, we exploited the numbering scheme employed by the Federal Circuit clerk's office. The office gives routine, post-judgment appeals a docket number that combines the year the appeal was filed plus a numerical code beginning with 1000 for the first case filed that year (for example, 2020-01234). The clerk's office, however, uses a different numbering scheme for what it terms "miscellaneous" matters, which include petitions for a writ of mandamus, petitions for permission to appeal interlocutory orders, and attorney discipline proceedings.[123] For miscellaneous matters, the docket number concludes with a numerical code under 1000 (for example, 2020-00123).[124] We created the docket dataset for this article by limiting the dataset of all Federal Circuit dockets available on PACER to docket numbers with a three-digit suffix and then collected a copy of the docket itself. Drawing on information from the docket, we coded additional fields such as the type of proceeding (mandamus petition, petition for permission to appeal under 28 U.S.C. § 1292, and so on).

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121. Additional detail is available in Jason Rantanen, *The Federal Circuit Dataset Project* (Iowa Legal Stud., Rsch. Paper No. 2021-31, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3921275 [https://perma.cc/4TPW-DGKT].

122. *The Compendium of Federal Circuit Decisions*, UNIV. OF IOWA COLL. OF L. EMPIRICAL STUD. CLEARINGHOUSE, https://empirical.law.uiowa.edu/compendium-federal-circuit-decisions [https://perma.cc/KTY7-ZBNM].

123. Email from Deputy Chief Clerk, U.S. Court of Appeals for the Federal Circuit (May 19, 2021) (included in dataset materials, *see* Rantanen, *Replication Data for Extraordinary Writ or Ordinary Remedy? Mandamus at the Federal Circuit*, *supra* note 117).

124. Prior to 2013, petitions and other miscellaneous matters were assigned a docket number with a three-digit suffix starting with "M." For example, *In re* Allvoice Devs. U.S. LLC, No. 10-M948, 2010 WL 3035489 (Fed. Cir. Aug. 2, 2010). While the clerk's office dropped the "M" in 2013, it retained the practice of assigning a three-digit suffix to miscellaneous matters. For example, No. 2020-120, *In re* Fortinet, Inc., 803 F. App'x 409 (Fed. Cir. 2020). In rare instances, the court will treat a regular appeal as a petition for writ of mandamus. *See* Apple Inc. v. Samsung Elecs. Co., No. 15-1857 (Fed. Cir. June 1, 2016). However, the court discourages parties from this practice, instructing them to instead properly file a petition for a writ of mandamus. *See id.* These scenarios are rare. For example, in the dataset for Gugliuzza, *supra* note 13, only 10 decisions out of 188 had only a regular appeal number.

Creation of the document dataset was more challenging because we wanted to be sure that we had all of the terminating orders, and no existing source contained all of those documents, let alone in a format that could be made publicly accessible.[125] Finding all of the relevant Federal Circuit orders turned out to be a substantial project because, as we learned, many orders terminating petitions for writs of mandamus are not posted on the Federal Circuit's website. So, to construct our dataset of terminating documents, we began with the *dockets* for miscellaneous matters and worked forward from there. For over half of the dockets, the terminating document was, in fact, posted on the Federal Circuit's website. For the remainder, we collected the terminating document from PACER, giving us a terminating document for all but twenty-eight of the 641 miscellaneous matters docketed from 2008 through 2021, thirteen of which were docketed in 2021 and had not been terminated at the time we finalized our dataset.[126]

The hoops we had to jump through to build a dataset of terminating documents for Federal Circuit interlocutory appeals raise concerns that many Federal Circuit decisions are missing from databases commonly used for legal research. As Merritt McAlister recently found, a substantial number of merits decisions by the regional circuits don't show up in online databases such as Westlaw, Lexis, and Bloomberg.[127] While McAlister's study did not include the Federal Circuit, the concerns she raises about

125. We considered using a commercial database such as Westlaw or Lexis, as we have done in prior research. *See* Jason Rantanen, *The Federal Circuit's New Obviousness Jurisprudence: An Empirical Study*, 16 STAN. TECH. L. REV. 709 (2013); Gugliuzza, *supra* note 13. However, we decided against that approach in this project for several reasons. First, Westlaw and Lexis view their databases as proprietary and impose substantial restrictions on the reproduction of their content. *See Subscriber Agreement for Westlaw and CD-ROM Libraries*, WESTLAW, https://store.legal.thomsonreuters.com/law-products/_ui/common/webResources/subscriber-agreement.pdf [https://perma.cc/7KPQ-F5RU] ("Subscriber may not copy, download, scrape, store, publish, transmit, retransmit, transfer, distribute, disseminate, broadcast, circulate, sell, resell or otherwise use the Data or any portion of the Data . . . ."); Jason Rantanen, *The Landscape of Modern Patent Appeals*, 67 AM. U. L. REV. 985, 996 (2018) [hereinafter Rantanen, *Modern Patent Appeals*] (describing the limitations of commercial databases); Ronald E. Wheeler, *Does WestlawNext Really Change Everything? The Implications of WestlawNext on Legal Research*, 103 L. LIBR. J. 359 (2011) (same). Because there is no existing database of interlocutory Federal Circuit decisions, we wanted to be able to make our final dataset publicly accessible for replicability purposes and for future researchers to use. *See supra* note 121. Second, as we discuss in more detail below, *see infra* notes 127–28, we were concerned that those commercial databases did not actually contain all of the relevant terminating orders. *See* Merritt E. McAlister, *Missing Decisions*, 169 U. PA. L. REV. 1101 (2021) (describing the problem of "missing decisions" in commercial databases of federal courts of appeals opinions). Finally, because Westlaw and Lexis are designed as research tools for attorneys to find relevant authority, their interfaces and restrictions are not well suited for building and replicating the empirical datasets we use here. *See* Rantanen, *Modern Patent Appeals*, *supra*, at 987.

126. We added the orders we collected from PACER to the *Compendium of Federal Circuit Decisions*, *supra* note 122, so that it now includes a terminating order for nearly every miscellaneous matter docketed at the Federal Circuit. Going forward, all terminating documents will be collected from PACER and added to the *Compendium*.

127. McAlister, *supra* note 125, at 1126–32.

"missing decisions" apply here as well—especially her concern about certain *types* of decisions systematically being unavailable.

Indeed, many of the documents that were not available on the Federal Circuit's website involved terminations on the merits of mandamus petitions—that is, they were not dismissals because of settlement or for jurisdictional reasons; they were terminations that either granted or denied the mandamus relief sought.[128] Of the 186 terminating orders that were not on the Federal Circuit's website and that we instead obtained through PACER, 36 were voluntary dismissals. Another 124, however, were denials of petitions for writs of mandamus on the merits (as compared to 214 orders denying petitions for writs of mandamus that *were* available on the court's website). Similarly, out of 68 orders in our dataset in which mandamus was granted in whole or in part, 9 were not available on the court's website. In other words, nearly a third of all of the Federal Circuit's decisions on the merits of mandamus petitions from 2008 through 2021 were available only on PACER (133 of 406). Similarly, 13% of the court's orders granting mandamus are on PACER only (9 of 68). We did observe that, in 2019, the Federal Circuit started posting on its website many more terminating orders for petitions for writs of mandamus, especially those involving terminations on the merits of the petition. As compared with 2018, in which only 6 out of 41 terminating orders were posted on the court's website, for 2019 through 2021, 116 out of 140 orders were posted.

One noteworthy example of a missing Federal Circuit mandamus decision is *In re Wedgewood Village Pharmacy, Inc.*, a nonprecedential order granting Wedgewood's petition for a writ of mandamus seeking a transfer to another district.[129] The order is eight pages long and contains a thorough discussion of the case's facts and procedural history as well as the law governing transfer of venue and mandamus.[130] Most importantly, the case is a rare Federal Circuit decision ordering transfer of venue in a case that did not arise from the Eastern or Western District of Texas and that was not governed by the precedent of the Fifth Circuit.[131] Rather, the case arose from the Western District of Missouri—so the case was governed by Eighth Circuit law—and the court ordered transfer to the District of New Jersey.[132]

128. For a complete analysis of the issue of missing decisions and the Federal Circuit, *see* Jason Rantanen, *Missing Decisions and the United States Court of Appeals for the Federal Circuit*, 170 U. PA. L. REV. ONLINE 73 (2022).

129. No. 16-109 (Fed. Cir. Mar. 31, 2016). A search was unable to locate this decision on either Lexis or Westlaw.

130. *See id.*

131. As we discuss below, the Federal Circuit granted mandamus seeking transfer from a court besides the Eastern or Western District of Texas in only three cases from 2008 through 2021. *See infra* Section III.F. And on the Federal Circuit's choice-of-law rule that requires it to apply regional circuit precedent on transfer-related mandamus petitions, see *supra* note 89.

132. *Wedgewood Village Pharmacy*, No. 16-109, at 1.

As McAlister has observed, a lack of information about "missing decisions" like *Wedgewood Village Pharmacy* can distort our understanding of what courts are *actually* doing.[133] Thus, for our empirical study, it was important to make sure we included *all* Federal Circuit decisions in interlocutory proceedings. Our dataset contains all but a very small handful (likely fewer than 20) of the over 600 decisions the Federal Circuit has issued in interlocutory proceedings since 2008.

III. RESULTS

This part of the article describes the initial results of our empirical study. It starts by analyzing all interlocutory proceedings at the Federal Circuit, eventually narrowing to focus on what is causing the Federal Circuit's unusually high mandamus grant rate, namely, transfer of venue disputes arising out of the Eastern and Western Districts of Texas.

The stacked Venn diagram in Figure 3 below provides a visual preview of that narrowing, with some initial figures about the number of interlocutory proceedings, mandamus petitions, and decisions.

A. Interlocutory Proceedings at the Federal Circuit

Initially, we describe the complete range of interlocutory proceedings at the Federal Circuit, with particular attention to its largest constituent component: petitions for writs of mandamus.

133. Indeed, McAlister suggests that decisions in original proceedings (such as petitions for writs of mandamus) may make up many of the "missing decisions" that do not make it into standard legal research databases. *See* McAlister, *supra* note 125, at 1117.

FIGURE 3: INTERLOCUTORY PROCEEDINGS AT THE FEDERAL CIRCUIT, 2008–2021

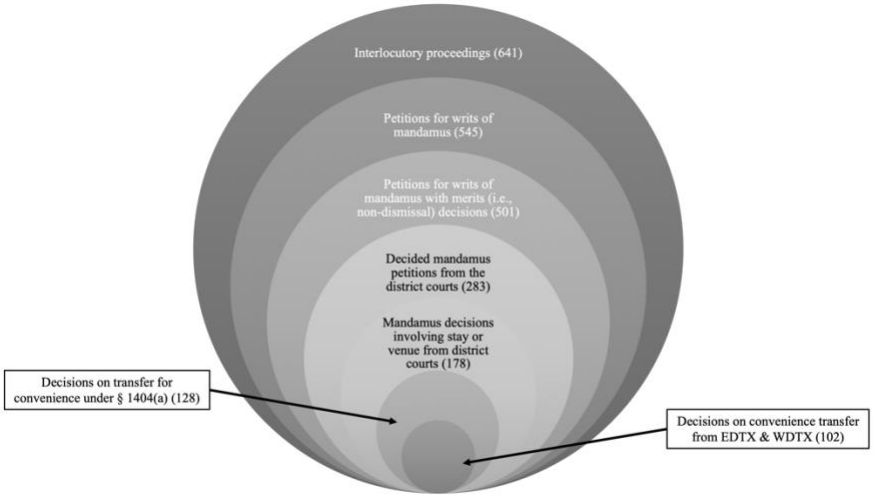
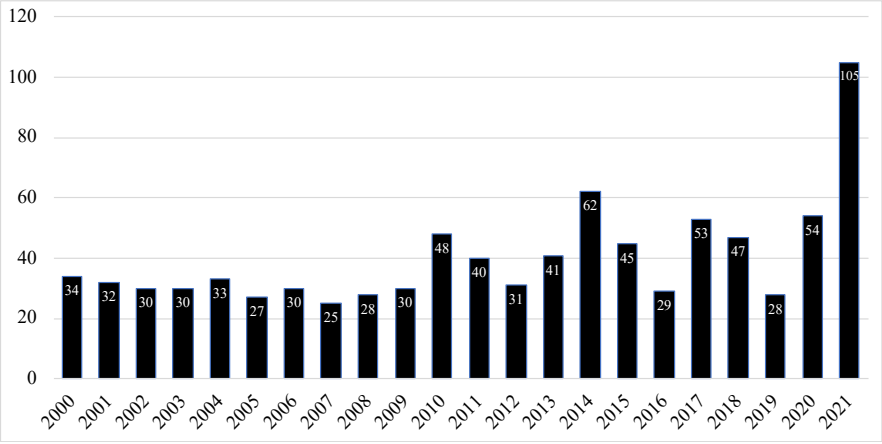


Figure 4 below shows the number of miscellaneous dockets (that is, dockets involving interlocutory proceedings) by the year the docket was created at the Federal Circuit.

FIGURE 4: MISCELLANEOUS FEDERAL CIRCUIT DOCKETS, 2000–2021



This figure makes plain that, in 2021, more miscellaneous matters were docketed at the Federal Circuit (105) than in any year since at least 2000—and nearly 70% more than in the second highest year (2014), which saw 62

miscellaneous matters docketed. This enormous spike is the result of two different causes. First, thirteen of the miscellaneous matters docketed in 2021 were petitions for permission to appeal an interlocutory order by the Court of Federal Claims in a related group of cases involving employees of government agencies who performed work during a lapse in appropriations.[134] By far the more dominant cause, however, were patent infringement cases originating from the U.S. District Court for the Western District of Texas: 49 of the miscellaneous matters docketed in 2021 originated in that district.

Table 1 below shows the *types* of miscellaneous dockets created in the Federal Circuit each calendar year since 2008. This data is based on the number of *dockets*, not the number of terminating *documents*, and reflects all lower-tribunal case origins.

TABLE 1: TYPES OF MISCELLANEOUS FEDERAL CIRCUIT DOCKETS, 2008–2021

Year docketed	Petition for permission to appeal (§ 1292)	Petition for writ of mandamus	Other	Total
2008	4	24	0	28
2009	6	24	0	30
2010	7	41	0	48
2011	3	34	3	40
2012	3	28	0	31
2013	3	37	1	41
2014	3	57	2	62
2015	2	42	1	45
2016	4	25	0	29
2017	6	45	2	53
2018	8	38	1	47
2019	2	25	1	28
2020	12	42	0	54
2021	18	83	4	105
Total	81	545	15	641

As the above table shows, 85% of the miscellaneous dockets in our dataset (545 of 641) involved petitions for writs of mandamus; almost all of

134. *See, e.g.*, Avalos v. United States, No. 21-119 (Fed. Cir. June 3, 2021) (granting permission to appeal under § 1292).

the remainder involved petitions for permission to appeal under 28 U.S.C § 1292.

The vast majority of petitions for permission to appeal and petitions for writs of mandamus arose from the district courts. Table 2 below shows the type of miscellaneous dockets by tribunal of origin for petitions for permission to appeal and writs of mandamus. It shows that about 72% of all petitions for a writ of mandamus (393 of 545) arose from the district courts.

TABLE 2: TYPES OF MISCELLANEOUS FEDERAL CIRCUIT DOCKETS BY TRIBUNAL OF ORIGIN, 2008–2021

Tribunal of origin	Appeal type		
	Petition for permission to appeal (§ 1292)	Petition for writ of mandamus	Total
BCA	0	1	1
CAFC	0	1	1
CAVC	0	22	22
CFC	27	39	66
CIT	0	4	4
DCT	53	393	446
DOJ	0	1	1
ITC	0	9	9
MSPB	1	34	35
Other	0	1	1
PTO	0	39	39
TAX	0	1	1
Total	81	545	626

In short, the Federal Circuit's interlocutory appeal practice is defined largely by petitions for writs of mandamus, and those petitions largely arise from the district courts.

B. Interlocutory Proceeding Outcomes

To report data on the outcomes of interlocutory proceedings, we now transition to using the terminating *document*—that is, the Federal Circuit opinion or order disposing of the case—as the record unit.[135]

1. Outcomes of Petitions for Permission to Appeal

Petitions for permission to appeal make up a small portion of the Federal Circuit's miscellaneous dockets (81 of 641, or 13% of miscellaneous dockets created between 2008 and 2021). But, when they were filed, the court granted them about 45% the time and denied them about 55% of the time. Specifically, of the fifty-six orders in our dataset deciding a petition for permission to appeal, twenty-two granted the petition, twenty-seven denied it, six dismissed it, and one transferred it. In other words, overall, the Federal Circuit grants these petitions relatively frequently.

However, a closer look at the data reveals key nuances. Almost all of the petitions for permission to appeal arose from the Court of Federal Claims and district courts,[136] and all of the orders over the time period we studied involving petitions for permission to appeal were nonprecedential. Only about half (27 of 49) of the decisions granting or denying petitions to appeal were available on the Federal Circuit's website. This is, again, a notable omission: the relevant statute, § 1292, states only that the court of appeals has "discretion" to permit an interlocutory appeal after the district court certifies a question;[137] case law elucidating the factors on which the court based its decision to permit or refuse an interlocutory appeal would provide useful guidance to litigators and to district judges considering certification requests in this hazy area of jurisdictional law.[138]

Although it is a small number of decisions, nearly all the petitions for permission to appeal arising from the Court of Federal Claims (9 of 11) were granted. The two orders denying permission to appeal contain no substantive reasoning, but, in both, it is notable that the petitioning party

135. That said, the results are essentially the same when examined from the docket level, as there are only a small number of documents that resolve multiple cases. Twenty-three terminating documents disposed of two miscellaneous dockets each, two disposed of three, one disposed of four, and two disposed of five. In contrast, 535 dockets were disposed of by orders terminating only a single docket.

136. The court also granted one petition that arose from the Merit Systems Protection Board. *See* Kaplan v. Hopper, 533 F. App'x 997 (Fed. Cir. 2013) (No. 13-145).

137. 28 U.S.C. § 1292(b).

138. *See* 16 WRIGHT ET AL., *supra* note 35, § 3929 ("The discretion of the court of appeals is so broad that it is difficult to imagine any controlling limit . . . . At times a court of appeals may offer an explanation for granting or even denying appeal, but ordinarily action is taken by simple order and subsequently noted in the opinion on the merits if the appeal is accepted and decided.") (footnotes omitted).

was someone other than the United States. In short, it is relatively rare that the Court of Federal Claims certifies an order for interlocutory review under 28 U.S.C. § 1292, but when it does it has almost always been granted.

The outcomes of petitions for permission to appeal arising from the district courts are very different. In petitions for permission to appeal arising from the district courts, the Federal Circuit granted 12 and denied 25—a grant rate of almost 33%, but much lower than petitions arising from the Court of Federal Claims. Many of the granted petitions involved issues such as standing or jurisdiction. None directly involved claim construction—an issue that, as discussed above, may have a relatively strong claim to being the sort of "controlling question" whose immediate resolution would "materially advance . . . the litigation," as § 1292 requires for an interlocutory appeal.[139] Since 2008, the court has granted only one petition for permission to appeal that involved claim construction in any form. But, in that case, the key issue was actually about the collateral estoppel effect of a ruling in a prior case that had settled after the district court's claim construction order.[140] In three other cases, the Federal Circuit denied § 1292 petitions that directly sought review of a claim construction order.[141] In other words, while § 1292(b) *could* provide a basis for interlocutory review of claim construction orders,[142] in practice it has very much not done so.

2. Outcomes of Petitions for Writs of Mandamus

The Federal Circuit grants petitions for writs of mandamus much less frequently than petitions for permission to appeal. Table 3 below shows the outcomes for decisions involving petitions for writs of mandamus depending on whether the petition arose from a district court or some other origin.

139. 28 U.S.C. § 1292(b); *see supra* Section I.C.

140. Shire LLC v. Sandoz, Inc., 345 F. App'x 535, 535 (Fed. Cir. 2009) (No. 09-893).

141. ICU Med., Inc. v. Rymed Techs., Inc., 364 F. App'x 622, 622 (Fed. Cir. 2010) (No. 10-924); Portney v. CIBA Vision Corp., 401 F. App'x 526, 529 (Fed. Cir. 2010) (No. 10-939); St. Clair Intell. Prop. Consultants, Inc. v. Nokia Corp., 395 F. App'x 707, 708 (Fed. Cir. 2010) (No. 10-952). To that end, it's worth noting that, in 2007, the Federal Circuit's chief judge lobbied Congress not to make interlocutory review of claim construction easier to obtain. *See* J. Jonas Anderson, *Judicial Lobbying,* 91 WASH. L. REV. 401, 433–34 (2016); *see also supra* Section I.C (discussing the controversy over allowing interlocutory appeals of claim construction orders).

142. And did in at least one pre-2008 case. *See* Regents of Univ. of Cal. v. Dako N. Am., Inc., 477 F.3d 1335, 1336–37 (Fed. Cir. 2007) (granting petition for interlocutory appeal because "the district court's claim construction is already before this court in [other] pending appeals regarding [a] preliminary injunction motion").

TABLE 3: FEDERAL CIRCUIT MANDAMUS PETITION OUTCOMES BY TRIBUNAL OF ORIGIN, 2008–2021

Outcome	District court	Other origin	Total
Denied	222	116	338
Dismissed	71	14	85
Granted	53	5	58
Granted-in-part	8	2	10
Other	0	1	1
Transferred	8	1	9
Total	362	139	501

As the table makes clear, overall, the Federal Circuit granted relief, either in whole or in part, in only 13.6% (68 of 501) of the mandamus decisions in our dataset. Also, the court dismissed another 16.9% (85 of 501) of the mandamus petitions it disposed of. The primary reason for dismissal was voluntary withdrawal by the petitioner or by the parties jointly, accounting for 54 of the 85 dismissals. Twenty-three orders dismissed petitions for lack of jurisdiction. Another five were dismissed because the petition was moot. The remaining three orders dismissed petitions because of the petitioner's failure to pay the docketing fee.

The grant rates for petitions for writs of mandamus arising from the district courts was much higher than from other origins. Excluding transfers and dismissals, 22% of the Federal Circuit's orders on mandamus petitions arising from district courts granted the petition at least in part (61 of 283). By contrast, only 6% of orders that arose from other origins granted mandamus relief (7 of 123). And remember that most petitions for writs of mandamus arose from the district courts, meaning that virtually all Federal Circuit orders granting mandamus, in whole or in part (61 of 68, or 89.7%), involved cases arising from the district courts.

Because mandamus is the most common form of interlocutory relief granted by the Federal Circuit, the court's treatment of mandamus petitions warrants more detailed investigation.

C. Petitions for Writs of Mandamus at the Federal Circuit

With the help of research assistants, we coded the Federal Circuit's orders on the merits of petitions for a writ of mandamus (that is, orders that did not simply dismiss the petition for, say, lack of jurisdiction or due to settlement) for the legal issues decided by the Federal Circuit. This involved reviewing the terminating document and making a yes/no determination on

whether the Federal Circuit addressed a particular legal issue. Initially, we coded for the following issues: jurisdiction,[143] venue, discovery, disqualification of counsel, privilege, stay, sanctions, expedite a decision below, standing, and other. Only issues actually decided by the Federal Circuit in its order (as opposed to simply being raised by the parties) were coded as "yes" for the issue fields. To ensure reliability, at least two reviewers independently coded each order.

Table 4 shows the frequency with which particular issues were resolved in the Federal Circuit's mandamus decisions from both district court and non-district court origins. Note that some decisions involved multiple issues, particularly when the petitioner requested a stay. For those cases, we counted the decision in multiple issue categories, except that we separately broke out decisions involving a stay that did *not* involve venue.

TABLE 4: FEDERAL CIRCUIT MANDAMUS DECISIONS BY LEGAL ISSUE AND TRIBUNAL OF ORIGIN, 2008–2021[144]

Legal Issue	# of district court decisions	% of district court decisions	# of non-district court decisions	% of non-district court decisions
Other	55	19%	90	73%
Venue	177	63%	0	0%
Stay	57	20%	13	11%
Stay (excluding orders that also involved venue)	25	9%	13	11%
Jurisdiction	16	6%	9	7%
Discovery	15	5%	12	10%
Privilege	16	6%	3	2%
Expedite	2	1%	6	5%
Disqualification of counsel	6	2%	2	2%
Sanctions	7	2%	2	2%
Total Decisions	283		123	

As the table above indicates, 63% of the mandamus decisions arising from the district courts involved a venue-related issue. In addition, as Figures 5 and 6 below show, the grant rate for district court petitions involving venue was much higher than for district court petitions that did not involve venue. The Federal Circuit granted, in whole or in part, just 7%

143. Including personal jurisdiction, subject matter jurisdiction, and a district court's decision to exercise or not exercise supplemental jurisdiction.

144. Note that the numbers of individual decisions on each legal issue exceed the total number of decisions because some Federal Circuit rulings address multiple legal issues.

of non-venue-related district court mandamus petitions in our dataset. But the grant rate for district court petitions that involved a venue issue was 4.5 times higher: 31%.

FIGURE 5: FEDERAL CIRCUIT MANDAMUS DECISIONS IN WHICH VENUE *WAS NOT* AT ISSUE, 2008–2021

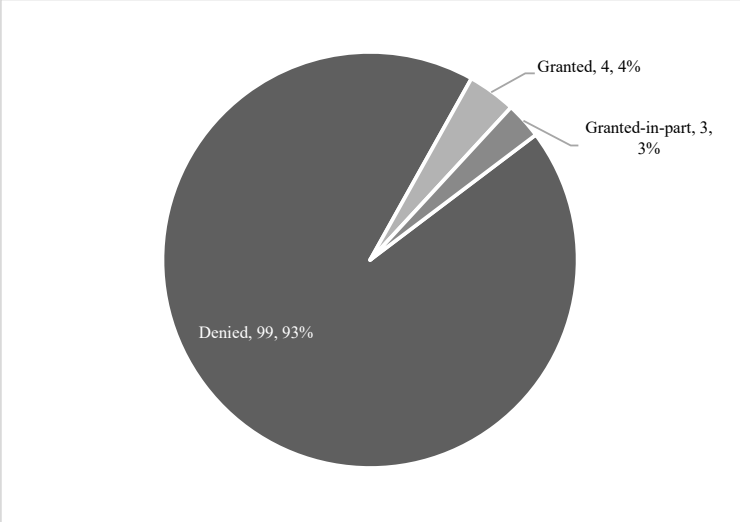
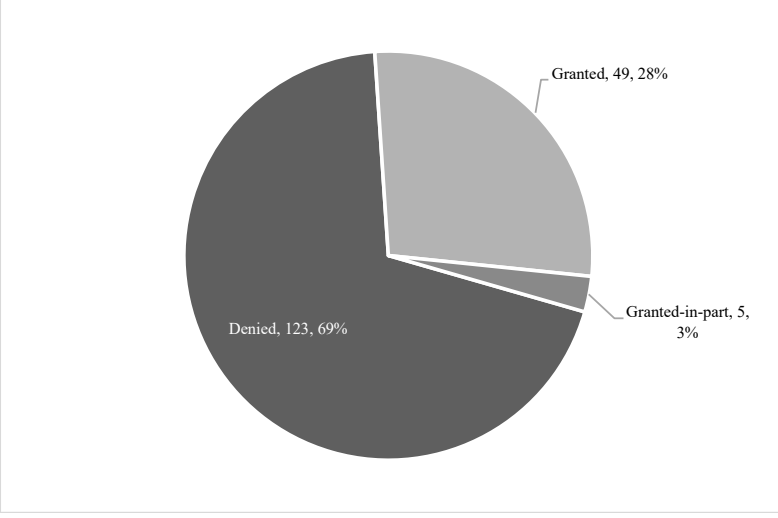


FIGURE 6: FEDERAL CIRCUIT MANDAMUS DECISIONS IN WHICH VENUE *WAS* AT ISSUE, 2008–2021



As Table 4 above also indicates, the second-most common issue resolved by the Federal Circuit on mandamus in petitions from the district courts was whether to stay litigation, accounting for 20% (57 of 283) of decisions in our dataset. The grant rate for petitions involving a request for a stay was 16%. However, when petitions that also involved venue are removed, that figure drops to just 4%.

Because of the large number of mandamus decisions involving venue and stays and the relatively high grant rate on venue petitions, we decided to investigate those decisions further. One of us (Rantanen) personally reviewed all of the Federal Circuit's mandamus decisions arising from the district courts to determine whether they plausibly involved an issue of venue or a request to the district court to stay the litigation.[145] The dataset produced from that review contained 206 orders, which accounted for all of the merits orders arising from the district courts initially coded as involving venue and all but five of the orders coded as involving a stay.[146] Two of us (Anderson and Gugliuzza) subsequently reviewed that dataset. This entailed a close reading of the Federal Circuit's order in each case, to ensure that the court *actually decided* an issue about venue or stay of litigation. We further coded venue cases as involving either *improper* venue under 28 U.S.C. § 1406 (meaning that the case did not satisfy the venue options in § 1400(b) and discussed above)[147] or *inconvenient* venue under § 1404 (which gives the district court discretion to transfer a case "[f]or the convenience of parties and witnesses, in the interest of justice").[148] We also coded venue cases for, among other things: the requested transferee district and the outcome at the district court. To ensure reliability, we independently coded each order for all the relevant fields and then personally discussed the small number of disagreements.

D. Petitions for Writs of Mandamus: Venue and Stay

Below are the results of Federal Circuit mandamus petitions arising from the district courts on issues of venue or stay.

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145. This was conducted prior to and separately from the general issue coding described above and reported in Table 4. Rantanen cross-checked this review against the general issue coding and double-checked any disagreements.

146. *See supra* Table 4. Those five orders involved a request of *the Federal Circuit* to stay activities of the district court, rather than a writ of mandamus arising from the district court's grant or denial of a stay.

147. *See supra* Section I.D; *see also* 28 U.S.C. § 1406(a) ("The district court of a district in which is filed a case laying venue in the *wrong division or district* shall dismiss, or if it be in the interest of justice, transfer such case to any district or division in which it could have been brought.") (emphasis added).

148. 28 U.S.C. § 1404(a).

TABLE 5: FEDERAL CIRCUIT MANDAMUS DECISIONS ON VENUE AND STAYS, 2008–2021

	Improper venue (§ 1406)	Venue waiver	Inconvenient venue (§ 1404)	Litigation stay
Grants (incl. partial)	4	4	41	1
Denials (incl. w/o prejudice)	11	14	87	16
Total	15	18	128	17
Grant rate	26.7%	22.2%	32.0%	5.9%

As the table above makes clear, the vast majority of the decisions in our dataset that address issues of venue or stays involve motions to transfer venue for convenience purposes under § 1404(a): 128 of the 178 decisions that we coded as involving an issue about venue or staying litigation (71.9%).[149] By contrast, only fifteen decisions involved questions of *improper* venue under § 1406. The court granted four of those petitions.[150] Lastly, of the seventeen petitions seeking a litigation stay, the Federal Circuit granted only one.[151]

Because transfer for convenience purposes under § 1404(a) is by far the issue most commonly decided by the Federal Circuit on mandamus, and because it is the most interesting and controversial use of the writ by the court,[152] the rest of this article focuses mainly on the subset of 128 Federal Circuit mandamus decisions on transfer of venue under § 1404(a).

E. Petitions for Writs of Mandamus Seeking Convenience Transfer

As indicated in Table 5 above, the Federal Circuit grants mandamus petitions seeking to overturn a district court's § 1404(a) ruling 32% of the time (41 of 128).[153] That, alone, seems pretty high for an extraordinary writ.

149. Note that a small number of the Federal Circuit orders in our dataset address more than one of the issues listed in the table above. So, when we say "decisions" in this portion of the paper, we really mean *issues decided*.

150. All four grants came in the wake of the Supreme Court's 2017 decision in *TC Heartland*, which tightened the requirements for venue in patent infringement cases. *See supra* Section I.D.

151. *See In re* Google Inc., 588 F. App'x 988, 990 (Fed. Cir. 2014) (No. 14-147) (ordering the Eastern District of Texas to stay litigation against Google's customers pending a declaratory judgment suit that Google subsequently filed in the Northern District of California).

152. *See, e.g.*, Gene Quinn, *Mandamus and the Battle over Venue in Modern America*, IPWATCHDOG (Feb. 7, 2022, 4:15 PM), https://www.ipwatchdog.com/2022/02/07/mandamus-and-the-battle-over-venue-in-modern-america [https://perma.cc/42WW-P9EP] ("[T]he Federal Circuit has jumped the shark with respect to venue. The court is not appropriately applying mandamus standards and the Circuit's law on transfer is an archaic mishmash . . . .").

153. One of the 128 decisions in the § 1404(a) subset actually involved a motion to dismiss for forum non conveniens. *See In re* Fortinet, Inc., 803 F. App'x 409 (Fed. Cir. 2020) (No. 20-120). Because § 1404(a) is essentially a codification of that common law doctrine, *see* 15 CHARLES ALAN WRIGHT ET

After all, the Federal Circuit's reversal rate in ordinary, post-judgment appeals hovers around 10% to 20%.[154]

And it's worth noting that not all district court transfer decisions have an equal chance of being overturned through mandamus. For instance, as the table below shows, district court decisions *denying* transfer under § 1404(a) are over 2.5 times more likely to be overturned via mandamus than district court decisions *granting* transfer under § 1404(a): the grant rate for petitions challenging transfer denials is 34.5%; the grant rate for petitions challenging transfer grants is 13.3%. It's not clear in the abstract why such a disparity would exist—whether a district court grants or denies a transfer motion, the Federal Circuit's mandamus review is supposedly governed by the same, exacting standard for obtaining mandamus relief.

TABLE 6: FEDERAL CIRCUIT MANDAMUS DECISIONS ON TRANSFER UNDER § 1404(A), 2008–2021

	Mandamus denied	Mandamus granted	Total	Grant rate
§ 1404 transfer **denied** by DCT	74	39	113	34.5%
§ 1404 transfer **granted** by DCT	13	2	15	13.3%

It's also worth noting that a high percentage of Federal Circuit mandamus petitions challenging district court § 1404(a) decisions challenge *denials* of transfer—88.3% (113 of 128). In the district courts, the grant rate for transfer motions is around 50%.[155] Why don't more plaintiffs who lose their preferred district when the district court grants the transfer motion seek mandamus relief? Perhaps it's because the Federal Circuit has shown little inclination to overturn district court decisions *granting* transfer (overturning the district court in only 2 of 15 mandamus rulings, or 13.3%). In addition, once a district judge grants a transfer motion, the plaintiff probably doesn't want to seek reversal of the transfer order and have the case sent back to that very judge.

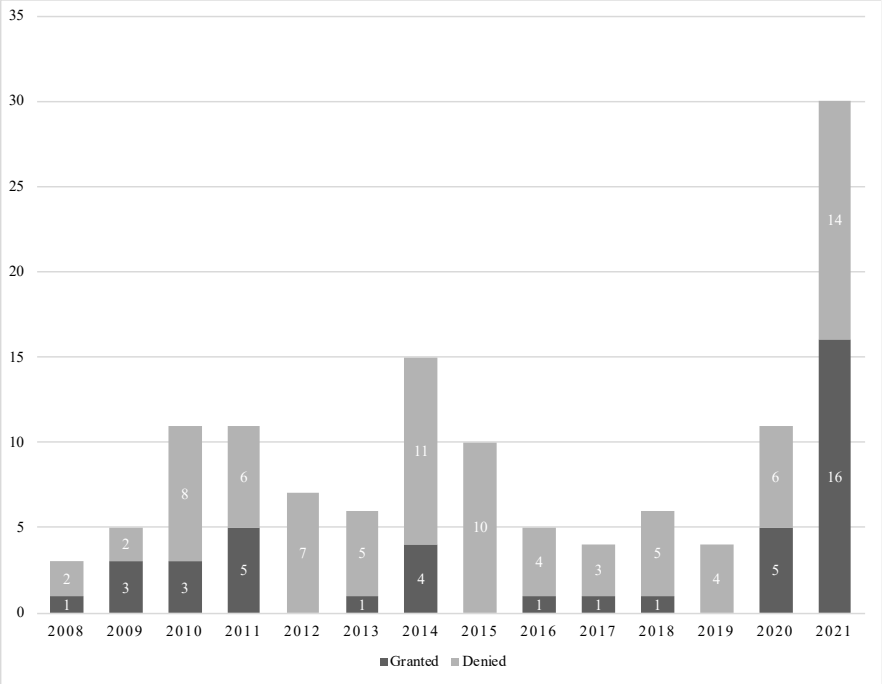
Figure 7 below illustrates how the number of filings and grant rates of petitions challenging § 1404(a) decisions have changed over time. When we break the Federal Circuit's mandamus decisions down on a year-by-year basis, it is possible to divine some trends.

AL., FEDERAL PRACTICE AND PROCEDURE § 3929, we include that forum non conveniens decision in this analysis of § 1404(a) decisions.

154. *See* Jason Rantanen, *Federal Circuit Dataset & Stats: 2021 Update*, PATENTLYO (Jan. 10, 2022), https://patentlyo.com/patent/2022/01/federal-circuit-statistics-package.html [https://perma.cc/NM3Y-JYB6].

155. *See* Love & Yoon, *supra* note 109, at 17 tbl.5.

FIGURE 7: FEDERAL CIRCUIT MANDAMUS DECISIONS ON TRANSFER UNDER § 1404(A) YEAR BY YEAR, 2008–2021



Basically, the Federal Circuit's mandamus practice on transfer of venue can be divided into five distinct eras:

(1) An initial period of high activity from 2008 through 2011 in the wake of *TS Tech*—the first-ever Federal Circuit decision to use mandamus to overturn a district court's § 1404(a) decision.[156]

(2) A lull in 2012 and 2013 for reasons that aren't entirely clear to us.

(3) A surge in filings in 2014 and 2015 as the Eastern District of Texas came to dominate district court litigation.[157]

(4) A lull from 2016 through 2019 around the time of *TC Heartland* as (a) fewer cases were being filed in the Eastern District of Texas[158] and (b) the cases that were being filed there were being challenged

156. *See supra* note 90.

157. In those two years, nearly 4,000 patent cases were filed in the Eastern District—over 36% of all patent cases filed nationwide. Anderson & Gugliuzza, *supra* note 17, at 443–44.

158. By 2019, the Eastern District was receiving fewer than 400 cases per year. *Id.*

for improper venue under § 1406(a), not inconvenient venue under § 1404(a).[159]

(5) A renewed surge in 2020 and 2021 surrounding the emergence of the Western District of Texas as a patent litigation hotspot.

It's also possible to identify two distinct increases in grant rates, one following *TS Tech*, in 2009 through 2011 (11 of 27 petitions, or 40.7%, were granted during that time period, as compared to zero before *TS Tech*,[160] and 8 of 57, or 14.0%, from 2012 through 2019) and another beginning in 2020 (21 of 41, or 51.2%, granted), tracking the emergence of the Western District of Texas. Because the Eastern and Western Districts of Texas are clearly driving trends and grant rates, we next analyze mandamus petitions from those two districts in more detail.

F. Petitions for Writs of Mandamus Seeking Convenience Transfer from the Eastern and Western Districts of Texas

Section 1404(a) mandamus petitions arising out of cases from the Eastern and Western Districts of Texas are far more likely to be granted than petitions arising from other districts (though cases arising from those two districts alone also account for the vast majority of § 1404(a) petitions decided by the Federal Circuit). The table below shows the number and percentage of mandamus petitions challenging § 1404(a) decisions that were granted and denied, organized by the district court from which the case arose. As Table 7 below makes clear, the Eastern and Western Districts of Texas lead the way in terms of total mandamus petitions decided by the Federal Circuit, petitions granted, and grant rate.

159. *See, e.g.*, *In re* Cray Inc., 871 F.3d 1355, 1357 (Fed. Cir. 2017); *see also supra* note 150 (discussing Federal Circuit mandamus grants in the wake of *TC Heartland*).

160. *See* Gugliuzza, *supra* note 13, at 345–47.

TABLE 7: FEDERAL CIRCUIT MANDAMUS DECISIONS ON § 1404(A), BY DISTRICT COURT OF ORIGIN, 2008–2021

DCT below	§ 1404 petitions decided	Granted	Denied	Grant rate
E.D. Tex.	66	18	48	27.3%
W.D. Tex.	36	20	16	55.6%
D. Del.	6	1	5	16.7%
N.D .Cal.	3	0	3	0.0%
C.D. Cal.	2	0	2	0.0%
E.D. Mich.	2	0	2	0.0%
S.D. Fla.	2	0	2	0.0%
S.D. Miss.	1	1	0	100.0%
W.D. Mo.	1	1	0	100.0%
C.D. Ill.	1	0	1	0.0%
D. Or.	1	0	1	0.0%
E.D. Va.	1	0	1	0.0%
M.D. Fla.	1	0	1	0.0%
N.D. Tex.	1	0	1	0.0%
W.D. Pa.	1	0	1	0.0%
W.D. Tenn.	1	0	1	0.0%
W.D. Wis.	1	0	1	0.0%
D. Colo.	1	0	1	0.0%

As a comparison to the Eastern and Western Districts of Texas, consider that the grant/denial/grant rate for § 1404(a) mandamus petitions arising out of all other districts is: 3 grants, 23 denials, for a grant rate of 11.5%. For the Eastern and Western Districts of Texas, combined, the grant/denial/grant rate is: 38 grants, 64 denials, for a grant rate of 37.3%. In other words, a § 1404(a) decision by the Eastern or Western District of Texas is over three times more likely to be overturned by the Federal Circuit than a § 1404(a) decision by another district court.

What about the converse: Where do parties who petition the Federal Circuit for mandamus seek transfer *to*? And how do grant rates vary across

proposed transferee districts? As for the first question, Table 8 below indicates that the most popular transferee district, by far, is the Northern District of California. It was the transferee district in 51 of 124 (41.1%) decisions (excluding three decisions in which the petitioner sought transfer to multiple districts and one decision in which the petitioner sought dismissal on the ground of forum non conveniens).

TABLE 8: FEDERAL CIRCUIT MANDAMUS DECISIONS ON § 1404(A), BY DISTRICT COURT TO WHICH TRANSFER WAS SOUGHT, 2008–2021

Transferee DCT	§ 1404 petitions decided	Granted	Denied	Grant rate
N.D. Cal.	51	21	30	41.2%
W.D. Wash.	7	3	4	42.9%
W.D. Tex.	6	2	4	33.3%
S.D. Tex.	6	1	5	16.7%
E.D. Mich.	5	2	3	40.0%
C.D. Cal.	5	2	3	40.0%
N.D. Ill.	5	1	4	20.0%
E.D. Tex.	5	0	5	0.0%
D.N.J.	4	1	3	25.0%
S.D.N.Y.	3	1	2	33.3%
D. Colo.	3	1	2	33.3%
D. Mass.	3	0	3	0.0%
D. Or.	3	0	3	0.0%
Multiple	3	0	3	0.0%
N.D. Ohio	2	1	1	50.0%
N.D. Tex.	2	1	1	50.0%
D. Del.	2	0	2	0.0%
E.D. Va.	2	0	2	0.0%
E.D.N.C.	1	1	0	100.0%
N.D. Ind.	1	1	0	100.0%
S.D. Fla.	1	1	0	100.0%
S.D. Ohio	1	1	0	100.0%
D. Ariz.	1	0	1	0.0%
D. Md.	1	0	1	0.0%
D. Nev.	1	0	1	0.0%
N.D. Fla.	1	0	1	0.0%
W.D. Mo.	1	0	1	0.0%
W.D.N.Y.	1	0	1	0.0%
[FNC]	1	0	1	0.0%

Cases involving transfer to the Northern District of California are more likely to have a mandamus petition granted than cases involving transfer to another district. As the table above indicates, the grant/denial/grant rate for petitions in which the Northern District of California is the transferee court is: 21 grants, 30 denials, for a grant rate of 41.2%. For all other transferee courts, the grant/denial/grant rate is: 20 grants, 57 denials, for a grant rate of 26.0%.[161]

Several prior studies on Federal Circuit decision-making have observed that case outcomes sometimes seem to turn on the identity of the judges who compose the panel.[162] Similarly, on mandamus petitions seeking transfer under § 1404(a), there is variability in the frequency with which individual judges vote to grant or deny mandamus. Table 9 below shows, for each Federal Circuit judge in our dataset who cast ten or more votes on § 1404(a) mandamus petitions, their total number of votes to grant or deny, with votes cast in dissent indicated separately. (Note that one § 1404(a) petition in our dataset was decided without any indication of which judges were on the panel, so we excluded that decision from the table below.)

161. Excluding the three petitions seeking transfer to multiple districts and the petition seeking dismissal on the ground of forum non conveniens.

162. *See, e.g.*, R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1112 (2004) (claim construction); Paul R. Gugliuzza & Mark A. Lemley, *Can a Court Change the Law by Saying Nothing?*, 71 VAND. L. REV. 765, 797–98 (2018) (patentable subject matter). *But cf.* Ted Sichelman, *Myths of (Un)certainty at the Federal Circuit*, 43 LOY. L.A. L. REV. 1161, 1189 (2010) ("Although panel-dependence may play a role for those issues with higher reversal rates, such as claim construction, obviousness, and lost profits, for many (if not most) issues, it seems to play a relatively minor role.").

TABLE 9: VOTES IN FEDERAL CIRCUIT MANDAMUS DECISIONS ON § 1404(A), 2008–2021

Judge	Total votes	Grant	Grant (in dissent)	Deny	Deny (in dissent)	% grant votes
Dyk	39	13	0	26	0	33.3%
Lourie	38	16	1	21	0	44.7%
Prost	38	15	0	23	0	39.5%
Reyna	29	7	0	22	0	24.1%
Hughes	27	12	0	15	0	44.4%
Taranto	27	8	0	19	0	29.6%
Bryson	24	7	0	16	1	29.2%
Newman	20	6	3	11	0	45.0%
Chen	20	3	0	17	0	15.0%
Linn	19	4	0	14	1	21.1%
Moore	17	4	0	12	1	23.5%
O'Malley	16	4	0	12	0	25.0%
Rader	12	6	0	6	0	50.0%
Stoll	12	1	0	11	0	8.3%

Though the numbers are somewhat small, it's possible to identify outliers. Most notably, four judges have cast votes in favor of granting mandamus in over 40% of § 1404(a) cases they have decided: Judges Lourie, Hughes, Newman, and Rader. Conversely, Judge Chen has voted in favor of granting mandamus in only 15.0% of cases and Judge Stoll has voted to grant in only one of the twelve cases she has decided (8.3%).

A few things are worth noting about the judge-specific data. To begin with, some of the variability in the number of § 1404(a) mandamus petitions decided by each judge is because several judges retired or took senior status during the period of our study.[163] Judge Rader, for instance, retired in 2014—roughly the midpoint of our study. And Judge Stoll was appointed in 2015, so she was on the bench for only about five years covered by our data. By contrast, Judges Dyk, Lourie, and Prost, who have decided the most § 1404(a) petitions in our dataset, were active judges on the court for the entire period of our study.

That said, § 1404(a) mandamus petitions do not seem to have been distributed among the court's judges evenly. The only publicly available

163. For a list of Federal Circuit judges and their dates of service, see *United States Court of Appeals for the Federal Circuit*, WIKIPEDIA https://en.wikipedia.org/wiki/United_States_Court_of_Appeals_for_the_Federal_Circuit [https://perma.cc/3K3B-LGVD].

rule about how the court forms the three-judge motion panels that decide mandamus petitions is the court's internal operating procedure #2, which states simply: "Each month, the chief judge appoints a three-judge motions panel and designates a lead judge."[164] Yet some judges who have served on the court for several years have decided very few § 1404(a) mandamus petitions. Judge Wallach, for instance, who served on the court for roughly ten years of our study, decided only seven § 1404(a) petitions (and hence is omitted from the table above). By contrast, Judge Hughes, who served for two years fewer than Judge Wallach, decided nearly four times *more* mandamus petitions. Though some of the disparity may be an accident of timing (as we showed above, the number of § 1404(a) mandamus petitions has ebbed and flowed over time), these disparities are at least worth noting.

Moreover, as our study makes clear, not all § 1404(a) petitions have an equal probability of being granted. Petitions in cases arising out of the Eastern and Western Districts of Texas are far more likely to be granted than the average petition. Thus, the table below again reports judge-specific voting data, but limits the data to § 1404(a) mandamus decisions arising out of the Eastern and Western Districts of Texas.

164. U.S. CT. OF APPEALS FOR THE FED. CIR., INTERNAL OPERATING PROCEDURES 3 (2022), https://cafc.uscourts.gov/home/rules-procedures-forms/internal-operating-procedures [https://perma.cc/2735-E2DA].

TABLE 10: VOTES IN FEDERAL CIRCUIT MANDAMUS DECISIONS ON § 1404(A), CASES ARISING FROM THE EASTERN AND WESTERN DISTRICTS OF TEXAS ONLY, 2008–2021

Judge	Total votes	Grant	Grant (in dissent)	Deny	Deny (in dissent)	% grant votes
Prost	32	15	0	17	0	46.9%
Lourie	28	14	1	13	0	53.6%
Dyk	27	11	0	16	0	40.7%
Hughes	24	12	0	12	0	50.0%
Taranto	23	8	0	15	0	34.8%
Reyna	23	6	0	17	0	26.1%
Bryson	19	6	0	12	1	31.6%
Chen	17	3	0	14	0	17.6%
Moore	16	3	0	12	1	18.8%
Newman	15	6	2	7	0	53.3%
O'Malley	14	3	0	11	0	21.4%
Linn	13	4	0	8	1	30.8%
Rader	10	5	0	5	0	50.0%
Stoll	10	1	0	9	0	10.0%

With the data limited in that way, the outliers become more pronounced. Four judges (Lourie, Hughes, Newman, and Rader) have voted to grant mandamus in half or more of the § 1404(a) cases they have decided from the Eastern and Western Districts of Texas. By contrast, Judges Chen, Moore, and Stoll have voted to grant mandamus in less than 20% of the § 1404(a) cases they have heard from the Eastern and Western Districts of Texas.

To be sure, we are working with a relatively small population of decisions, so some disparities may stem from the happenstance of which judges sat on the motions panel during a given month.[165] For instance, the three mandamus petitions granted on a single day noted in the introduction were decided by the same panel—Judges Dyk, Prost, and Hughes—and that panel had also granted another mandamus petition the week prior.[166] Still, the differences in voting behavior among Federal Circuit judges are large and are worth tracking as the court's mandamus practice continues to evolve.

165. *See generally id.* (detailing the court's process for resolving mandamus petitions).
166. *In re* Quest Diagnostics Inc., No. 21-193, 2021 WL 5230757 (Fed. Cir. Nov. 10, 2021).

*****

Our empirical study shows that mandamus is, by and large, a difficult remedy to obtain from the Federal Circuit. The court grants only about 14% of the mandamus petitions it decides. But that figure jumps to 22% when the dataset is limited to petitions arising from the federal district courts. On § 1404(a) issues in district court cases, the grant rate jumps again to 32%. And in decisions involving transfer of venue under § 1404(a) in cases from the Eastern or Western District of Texas, the grant rate is 37%. By contrast, the grant rate for all district court petitions *not* involving transfer of venue under § 1404(a) in a case from the Eastern or Western District of Texas is a mere 7%. In short, mandamus in the Federal Circuit is an extraordinary and unusual form of relief—except on transfer of venue issues under § 1404(a) in patent cases in two federal judicial districts in the State of Texas, where the Federal Circuit grants mandamus over a third of the time.

IV. FIFTH CIRCUIT COMPARISON

Both the Eastern and Western Districts of Texas lie within the Fifth Circuit. Accordingly, the decision about whether to grant mandamus to transfer venue is, under Federal Circuit precedent, governed by the law of the Fifth Circuit.[167] As discussed, the Fifth Circuit's *Volkswagen* ruling played a crucial role in the Federal Circuit's *TS Tech* decision,[168] which was the first of what is now nearly forty Federal Circuit decisions granting mandamus to require a district court in Texas to transfer a patent case under § 1404(a). So, to assess whether the Federal Circuit's mandamus practice really *is* unusual, it's worth comparing the Federal Circuit's practice to that of the Fifth Circuit.

To conduct this comparison, we studied the dockets of both circuits during calendar year 2021.[169] We described the Federal Circuit docket dataset above.[170] To construct our Fifth Circuit dataset, we searched Bloomberg Law's Fifth Circuit docket database (which draws from PACER—the same source as our Federal Circuit docket dataset) for dockets that contained the term "writ of mandamus." We then reviewed the docket itself to determine whether the proceeding, in fact, involved a petition for a

167. *See* Sturiale, *supra* note 89, at 476.

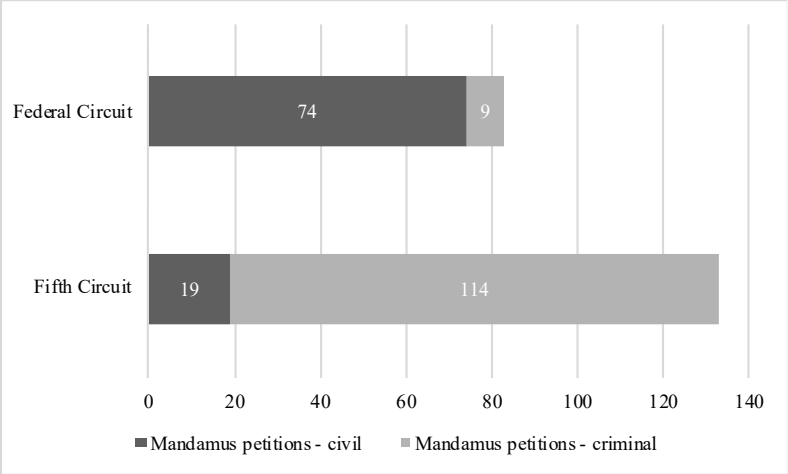
168. *See supra* Section I.D.

169. Though it would have been ideal to compare the courts across multiple years, determining whether a regional circuit case involves a mandamus petition requires an extensive manual review of individual case dockets, as we describe below. Moreover, we have no reason to think that the composition of the Fifth Circuit's mandamus docket changes dramatically from year to year, so a study of the most recent year should be relatively informative of the court's general practice.

170. *See supra* Part II.

writ of mandamus. Through this review, we determined that the Fifth Circuit received 131 petitions for writs of mandamus in 2021. From our Federal Circuit docket dataset, we determined that the Federal Circuit received eighty-three mandamus petitions over the same time period.[171] For the Fifth Circuit dockets that we classified as mandamus petitions, we further coded for whether the petition was from a criminal case or civil case.

FIGURE 8: MANDAMUS PETITIONS AT THE FEDERAL CIRCUIT AND THE FIFTH CIRCUIT, 2021



As the figure above makes clear, the Fifth Circuit and Federal Circuit have starkly different mandamus dockets. Though the Federal Circuit occasionally receives mandamus petitions in criminal cases, those petitions are invariably dismissed for lack of jurisdiction.[172] Conversely, roughly 85% of the mandamus petitions at the Fifth Circuit were in criminal cases. In fact, in 2021 at the Fifth Circuit we could identify only nineteen petitions for mandamus in civil cases,[173] as compared to seventy-four at the Federal Circuit.

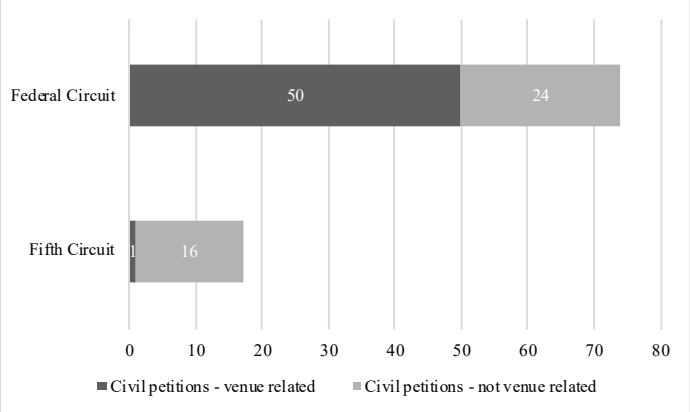
171. This number excludes results that consisted of an appeal of the Court Appeals for Veterans Claims' denial of a petition for writ of mandamus to that court. These appeals were not a writ of mandamus to the Federal Circuit.

172. *See e.g.*, *In re* Raghubir, No. 22-102 (Fed. Cir. Oct 12, 2021).

173. Petition for Writ of Mandamus, *In re* Reticulum Mgmt., LLC, No. 21-10935 (5th Cir. Sept. 17, 2021) (evidentiary ruling); Petition for Writ of Mandamus, *In re* Mulacek, No. 21-20461 (5th Cir. Sept. 3, 2021) (asking tax case to be reassigned to a different judge); Petition for Writ of Mandamus, *In re* Baylor Univ., No. 21-50786 (5th Cir. Aug. 25, 2021) (evidentiary ruling); Petition for Writ of Mandamus, *In re* Heisler, No. 21-30517 (5th Cir. Aug. 24, 2021) (requesting stay); Petition for Writ of Mandamus, *In re* Clarkston, No. 21-50708 (5th Cir. Aug. 7, 2021) (subject matter jurisdiction); Petition

The subject matter of the petitions in civil cases differs as well. Most notably, the Federal Circuit received fifty petitions regarding transfer of venue;[174] the Fifth Circuit received one, which it denied.[175] Interestingly, when focusing on civil mandamus petitions that did *not* involve venue, the two courts received similar numbers of petitions: sixteen for the Fifth Circuit and twenty-four for the Federal Circuit.

FIGURE 9: VENUE-RELATED CIVIL MANDAMUS PETITIONS AT THE FEDERAL CIRCUIT AND FIFTH CIRCUITS: 2021



The upshot is that, although the law of transfer of venue and mandamus in the Fifth Circuit and Federal Circuit is ostensibly the same, in *practice*

for Writ of Mandamus, *In re* Pie Dev., LLC No. 21-60577 (5th Cir. July 21, 2021) (requesting that the case be reassigned); Petition for Writ of Mandamus, *In re* Smith, No. 21-30361 (5th Cir. June 28, 2021) (summary judgment); Petition for Writ of Mandamus, *In re* Pritchard Indus. (Sw.), LLC, No. 21-50552 (5th Cir. June 18, 2021) (class action); Petition for Writ of Mandamus, *In re* Baylor Univ., No. 21-50386 (5th Cir. May 11, 2021) (document production); Petition for Writ of Mandamus, *In re* Hong Kong uCloudlink Network Tech. Ltd., No. 21-40308 (5th Cir. Apr. 19, 2021) (transfer); Petition for Writ of Mandamus, *In re* 2999TC LP, LLC, No. 21-10361 (5th Cir. Apr. 12, 2021) (time extension); Petition for Writ of Mandamus, *In re* Boeing Co., No. 21-40190 (5th Cir. Mar. 19, 2021) (evidentiary ruling); Petition for Writ of Mandamus, *In re* Dondero, No. 21-10219 (5th Cir. Mar. 9, 2021) (leave to appeal); Petition for Writ of Mandamus, *In re* PepsiCo, No. 21-40117 (5th Cir. Feb. 21, 2021) (preliminary injunction); Petition for Writ of Mandamus, *In re* Cargo Transporters, No. 21-60095 (5th Cir. Feb. 8, 2021) (administrative rulemaking); Petition for Writ of Mandamus, *In re* Badaiki, No. 21-20040 (5th Cir. Jan. 27, 2021) (mediation requirement); Petition for Writ of Mandamus, *In re* Ragusa, No. 21-30746 (5th Cir. Dec. 9, 2021) (removal to state court).

174. In the analysis in this part of the article, we included among the "venue-related" petitions any petition that was challenging the transfer or non-transfer of a case to a different court, any petition that challenged the venue as improper, any petition that challenged the application of the "first-to-file rule," and any petition for the district judge to rule on any venue matter.

175. *In re* Hong Kong uCloudlink Network Tech. Ltd., No. 21-40308 (5th Cir. Apr. 29, 2021) (denying petition seeking transfer from the Eastern District of Texas to the Northern District of California under the first-to-file rule).

the courts vary widely: venue-related mandamus petitions are a common occurrence in the Federal Circuit, but they are rare in the Fifth Circuit.

V. IMPLICATIONS

The past decade-plus of mandamus petitions at the Federal Circuit, particularly in cases involving transfer of venue under § 1404(a), has brought attention to what is, typically, a little-noticed area of appellate practice. Though nominally an "extraordinary" remedy, mandamus has become a common fixture of Federal Circuit jurisprudence in venue disputes, particularly in patent cases arising out of the Eastern and Western Districts of Texas.

This final part of the article takes a critical look at the Federal Circuit's mandamus practice and proposes better paths forward.

A. Rules v. Standards

The standard for granting a petition for a writ of mandamus is, on its face, exacting. The judicial system benefits from this high standard because it reduces meritless mandamus petitions by deferring to the district judge's determination in all but the most extreme cases. Also, it enhances efficiency by deterring interlocutory appeals. This system grants district judges broad deference, which is justified by the nature of the decision being made. This is doubly true when the underlying decision, such as transfer under § 1404(a), is itself discretionary. This system of extraordinary mandamus grants works well for most federal judges and in most cases. Indeed, though the federal district courts transfer thousands of cases every year,[176] as our data indicates, those transfer decisions are almost never challenged on appeal—except in patent cases. And, even in patent cases originating in the district courts, the number of mandamus petitions is overall quite small: 545 petitions were filed at the Federal Circuit and 362 were decided on the merits (that is, they were granted or denied, not dismissed) over the thirteen-year period covered by our study.[177] On the whole, our study suggests that mandamus is the "extraordinary" remedy it is designed to be, sought and employed in only a small minority of cases.

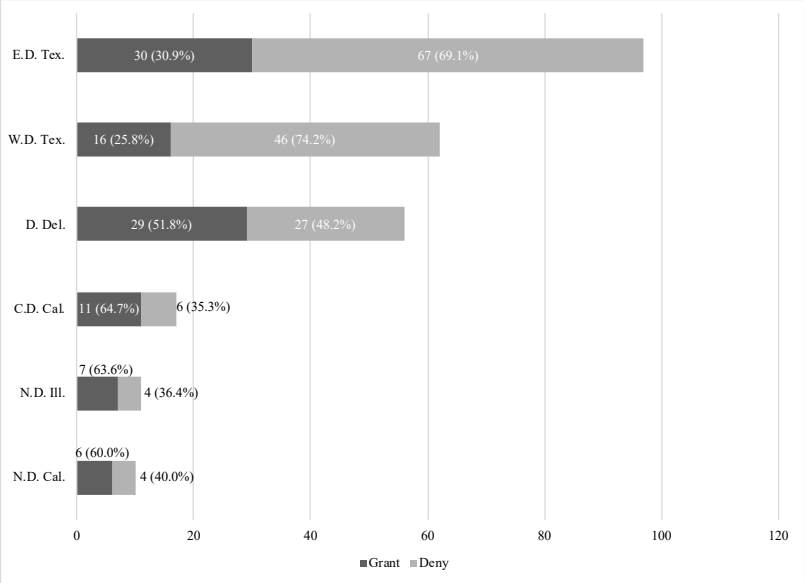
But our study also makes clear that there are areas for concern. Most notably, some district judges have used their discretion in § 1404(a) transfer

176. *See* David E. Steinberg, *The Motion to Transfer and the Interests of Justice*, 66 NOTRE DAME L. REV. 443, 446 n.11 (1990) (showing that the district courts transferred more than 3,000 cases annually from 1985 through 1989). As far as we can tell, the Administrative Office of the United States Courts does not publish statistics on § 1404(a) motions or subsequent mandamus petitions.

177. *See supra* Table 2.

decisions to entice patent plaintiffs to file cases in their courtrooms.[178] Frequent refusal to transfer cases away from a district—as has been the practice in the Eastern and Western Districts of Texas—is one part of a larger story of court competition described above.[179] Indeed, as Figure 10 below indicates, the Eastern and Western Districts of Texas grant motions to transfer under § 1404(a) in patent cases far less frequently than other district courts with large patent dockets.

FIGURE 10. OUTCOMES OF MOTIONS TO TRANSFER PATENT CASES UNDER § 1404(A) IN VARIOUS DISTRICT COURTS, 2019–2021[180]



In the Western District of Texas, all the motions to transfer reported on the figure above were decided by Judge Albright. Judge Albright achieves a low transfer rate because the standard for transfer under § 1404(a) is just that: a standard. It is well understood that legal standards, as opposed to legal *rules*, offer judges more flexibility. [181] Indeed, the defining

178. *See* Gugliuzza & Anderson, *supra* note 17.

179. *See* J. Jonas Anderson, *Reining in a "Renegade" Court:* TC Heartland *and the Eastern District of Texas,* 39 CARDOZO L. REV. 1569, 1575–76 (2018).

180. The data in this figure was compiled from Docket Navigator. DOCKET NAVIGATOR, https://brochure.docketnavigator.com/ (last visited Sept. 18, 2022). This figure excludes transfers from one division in a district to another division in the same district, to avoid any distortion from the once-ubiquitous intra-district transfers from the Waco division of the Western District of Texas to the Austin division. *See* Anderson & Gugliuzza, *supra* note 17, at 423–24.

181. *See, e.g.*, Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581, 1581–82 (2006).

characteristic of a legal standard is that it leaves for the judge to decide what, precisely, is the key fact that determines legal liability.[182] For example, a law that "no one may drive in excess of fifty miles per hour" is a legal rule: it leaves no discretion to the judge on the law, and simply asks the judge to find the facts—how fast was the car traveling? Whereas a similar highway law that states "no driving above a safe speed" is a legal standard: it leaves to the judge to find both what the facts are as well as what the legal standard is, namely, what speed is "safe" given the conditions at the time.[183] Just as with legal rules, a legal standard requires the judge to establish the facts of the case; but legal standards also grant the judge discretion to identify "what conduct is permissible."[184]

28 U.S.C. § 1404(a) is assuredly a standard. The statute tells district judges that they "*may* transfer" a case.[185] The only restrictions are: (1) the transferee court must be one in which the parties could have brought suit initially (or to which all parties consent),[186] (2) the transfer must be "in the interest of justice," and (3) the transfer must be "[f]or the convenience of parties and witnesses."[187] These limitations are, simply, fuzzy. The only part of § 1404(a) that could be described as rule-like is the requirement that the transferee court would have had jurisdiction at the outset. And even then, the inquiry into personal jurisdiction in many cases is very much a standard.[188] Accordingly, as appellate courts have repeatedly stated, district courts enjoy "broad discretion" in applying § 1404(a).[189]

The factors courts use to decide the "convenience" and "justice" aspects of § 1404(a) motions make this discretion clear. Many courts, including the Fifth Circuit (and the Federal Circuit, when it is applying Fifth Circuit law), use the factors articulated by the Supreme Court in *Gulf Oil Corp. v. Gilbert*, a case involving the common law doctrine of forum non conveniens,[190] to decide § 1404(a) transfer motions.[191] The *Gilbert* factors are a combination of public and private interest considerations. The private interest factors are:

182. *See, e.g.*, Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 561–62 (1992) ("One can think of the choice between rules and standards as involving the extent to which a given aspect of a legal command should be resolved in advance or left to an enforcement authority to consider.").

183. *See id.* at 560.

184. *Id.*

185. 28 U.S.C. § 1404(a) (emphasis added).

186. *See* Hoffman v. Blaski, 363 U.S. 335, 344 (1960).

187. 28 U.S.C. § 1404(a).

188. *See* Cassandra Burke Robertson & Charles W. "Rocky" Rhodes, *The Business of Personal Jurisdiction*, 67 CASE W. RESERVE. L. REV. 775, 777 (2017) (noting that, under the Supreme Court's recent precedent on personal jurisdiction, "future cases will rely heavily on factual development to determine the scope, type, duration, and effect of the defendant's in-forum contacts").

189. *E.g.*, Balawajder v. Scott, 160 F.3d 1066, 1067 (5th Cir. 1998).

190. 330 U.S. 501 (1947).

191. *See In re* Volkswagen of Am., Inc., 545 F.3d 304, 313 (5th Cir. 2008) (en banc).

(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious, and inexpensive. The public interest factors are: (1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern the case; and (4) the avoidance of unnecessary problems of conflict of laws or in the application of foreign law.[192] However, these factors are not necessarily exhaustive or exclusive, and none are of dispositive weight.[193] Thus, district judges retain broad discretion to determine the factors and to weigh them in judgment of whether transfer is appropriate.

1. Two Similar Cases, Two Different Outcomes

As shown in Figure 10 above, the judges of the Western and Eastern Districts of Texas have used this discretion to deny most § 1404(a) motions they decide. At the same time, the quantity and frequency of mandamus grants from those two districts dwarf every other district.[194] This is most likely due to two factors. First, those courts hear a great many motions to transfer patent cases—far more than any other district court—as shown in Figure 10. The Eastern and Western Districts of Texas receive an exceptionally large number of transfer motions because they receive an exceptionally large percentage of patent cases filed nationwide,[195] because they have reputations as patentee-friendly (making defendants eager to escape), and because places like Marshall and Waco are not terribly logical places for patent cases to be filed (giving accused infringers a good argument that litigation elsewhere would be more convenient). Second, the denial rate in both Texas district courts is high, and, as discussed above, a denial of a motion to transfer is more likely to lead to a mandamus reversal than a grant of a motion to transfer.[196]

And yet, the standard-like nature of transfer and mandamus decisions often permits similar cases to be decided differently, both in the district courts and at the Federal Circuit. Consider, for example, two recent transfer

192. *Gilbert*, 330 U.S. at 508–09.

193. *Volkswagen*, 545 F.3d at 315 (quoting Action Indus., Inc. v. U.S. Fid. & Guar. Co., 358 F.3d 337, 340 (5th Cir. 2004)).

194. *See supra* Table 7.

195. Along with the District of Delaware, these three districts account for over half the patent case filings in the United States. Ryan Davis, *WDTX Now Has 25% of All U.S. Patent Cases*, LAW360 (July 2, 2021, 5:16 PM), https://www.law360.com/articles/1400052/wdtx-now-has-25-of-all-us-patent-cases [https://perma.cc/C9MJ-H5JF].

196. *See supra* Table 6.

decisions from the Western District of Texas that were challenged on mandamus.

a. EcoFactor v. Google

On April 16, 2021, Judge Albright found that Google (a Delaware LLC with corporate headquarters in Mountain View, California) had not shown that a case filed against it by EcoFactor, Inc. (a California corporation with corporate headquarters in Palo Alto, California) should be transferred to the Northern District of California.[197] In doing so, Judge Albright downplayed the importance of three of the four private interest factors listed above.

With regards to the first factor, the relative ease of access to sources of proof, Judge Albright focused solely on documents, not witnesses, and stated that "this Court has stressed that the focus on physical location of electronic documents is out of touch with modern patent litigation" (despite Fifth Circuit law to the contrary).[198] He then dismissed Google's argument that any relevant documents are "likely in Palo Alto, California" as vague and conclusory and found the factor neutral.[199] This, despite the fact that everything in the suit (witnesses, documents, servers, inventors, researchers, etc.) seemed to be located in the Northern District of California.

Judge Albright also found the second private interest factor, availability of compulsory process, to be neutral. He dismissed the fact that the inventors of the patent-in-suit as well as any researchers were located in Palo Alto by stating that this second factor should not be considered when parties have not been shown to be unwilling to attend trial in the chosen forum.[200] Similarly, the third factor, the cost of attendance of witnesses, was also determined to be neutral, despite the fact that both companies have the bulk of their employees in California.[201]

Judge Albright found the last private interest factor, everything that makes trials less expensive, weighed heavily against transfer.[202] Because EcoFactor had filed multiple lawsuits against other companies based on the same patent in the Western District of Texas, the court found that judicial economy would best be preserved by keeping the case in the Western District.[203] That is, because Judge Albright had already received multiple

197. EcoFactor, Inc. v. Google LLC, 6-20-CV-00075-ADA, 2021 WL 1535413, at *1 (W.D. Tex. Apr. 16, 2021), *mandamus denied sub nom. In re* Google LLC, 855 F. App'x 767 (Fed. Cir. 2021).
198. *Id.* at *2–3.
199. *Id.*
200. *Id.* at *3–4.
201. *Id.* at *5.
202. *Id.*
203. *Id.*

cases that involved the same patent, this one ought to stay before him as well.

On the public interest factors, Judge Albright found that everything pointed toward Texas. As to the first factor (court congestion), he found that his Waco court was less congested (despite the 900 patent cases being filed there annually) than Northern California courtrooms. Judge Albright also pointed to his earlier scheduled trial dates as well as to the Waco courtroom being open for trials while those in the Northern District of California were closed due to the COVID-19 pandemic. Judge Albright viewed the second factor (local interest) to be neutral, despite that fact that both companies are headquartered in Northern California.[204] Google's rented office space and 1,400 employees in Austin, in Judge Albright's view, gave his district a significant interest.[205] The third and fourth factors were not contested by the parties.[206]

In short, Judge Albright was able to hold that two of eight relevant factors favored the Western District of Texas as compared to zero favoring Northern California—in a dispute between two Northern California companies. And frankly, it's hard to say that Judge Albright was wrong, legally speaking. Because the test for convenience transfer is such a mushy standard, we can't say that he was legally required to have weighed the fact that all of the documents and nearly all of the witnesses were in California more heavily than the facts that there are 1,400 Google employees in Austin and that trials in the Northern District of California had been suspended indefinitely; the standards of § 1404(a) don't give any guidance on weighing such considerations. Though we might suggest that the witness convenience factor *should* have weighed in favor of Northern California and outweighed whatever convenience having trial in the Western District of Texas would have had for the few (if any) relevant Google employees in Austin, the law of § 1404(a) does not seem to *mandate* that decision.[207]

And the Federal Circuit apparently viewed things the same way. Despite disagreeing with Judge Albright's findings on which court had a greater local interest in the dispute[208] and despite doubting whether the Western

204. *Id.* at *5–6.

205. *Id.* at *6.

206. *Id.*

207. Though the Federal Circuit has since made clear that the relevant consideration is "not merely the parties' significant connections to each forum writ large, but rather the 'significant connections between a particular venue and *the events that gave rise to a suit*.'" *In re* Apple Inc., 979 F.3d 1332, 1345 (Fed. Cir. 2020) (citation omitted).

208. *In re* Google LLC, 855 F. App'x 767, 768 (Fed. Cir. 2021) ("To be sure, Google's mere presence in the Western District of Texas insofar as it is not tethered to the events underlying the litigation is not entitled to weight in analyzing the local interest factor in this case. Nor should mere allegations of infringement in EcoFactor's selected forum dictate which forum has a greater local interest.") (citation omitted).

District of Texas was just as convenient as the Northern District of California for the witnesses and evidence,[209] the court found that "Google has not made a clear and indisputable showing that transfer was required."[210] The discretion given to district judges regarding transfer motions, and the high standard for granting mandamus relief, makes reversing extremely difficult. Sometimes.

b. Uniloc v. Apple

Judge Albright entered a similar ruling in a § 1404(a) decision in a lawsuit between Apple and Uniloc.[211] As to the first private interest factor, Judge Albright found that the location of the documents in the case were mostly in Northern California, but that Uniloc had some documents in another Texas district court and that Apple had accounting documents in Austin that might be useful in determining remedies.[212] Therefore, according to Judge Albright, the location of relevant documents was neutral as between the Western District of Texas and California. Like he did in the *EcoFactor* case, Judge Albright then found the second and third private interest factors neutral. Similarly, on the fourth (everything that contributes to a fast, inexpensive trial), Judge Albright concluded that the record "weigh[ed] heavily against transfer" out of the Western District of Texas.[213] Because of the Northern District of California's large civil docket, the judge concluded that Western Texas was the less congested docket.[214] Furthermore, Judge Albright noted that the case had proceeded to a point at which it would decrease judicial efficiency to transfer it. The case had already been through a *Markman* hearing after which the court issued its claim construction ruling.[215] This despite the fact that Apple had moved to transfer the case before the *Markman* hearing had occurred. Thus, just like in *EcoFactor*, Judge Albright found that one out of four private interest factors favored not transferring the case, and he found that it weighed heavily in Western Texas's favor. As for the public interest factors, Judge Albright again found that the first (court congestion) weighed heavily against transfer. The last three factors he found to be neutral.

209. *Id.* ("[W]e may have our doubts as to whether Western Texas is just as convenient as Northern California for prospective evidence and witnesses . . . .").

210. *Id.*

211. Uniloc 2017 LLC v. Apple Inc., No. 6-19-CV-00532-ADA, 2020 WL 3415880 (W.D. Tex. June 22, 2020).

212. *Id.* at *8–9. His finding that this factor "slightly weighs in favor of transfer" to the Northern District of California, *id.* at *10, was reversed as legal error by the Federal Circuit. *See In re* Apple Inc., 979 F.3d 1332, 1339 (Fed. Cir. 2020).

213. *Uniloc*, 2020 WL 3415880 at *14.

214. *Id.* at *15.

215. *Id.* at *14.

But, unlike in *EcoFactor*, the Federal Circuit granted Apple's mandamus petition, ordering the case transferred to the Northern District of California.[216] In doing so, the Federal Circuit criticized Judge Albright for conflating the parties' connections to the respective venues with those connections which gave rise to the suit.[217] The Federal Circuit held that "[b]ecause of Uniloc's 'presence in NDCA' and absence from WDTX; because the accused products were designed, developed, and tested in NDCA; and because the lawsuit 'calls into question the work and reputation of several individuals residing' in NDCA," the suit was more conveniently heard in California.[218]

Judge Moore wrote a blistering dissent. Before critiquing her colleagues' holding on the individual factors, she bemoaned the majority's "exercise [of] de novo dominion," in lieu of deferring to "the district court's individual fact findings and the balancing determination that Congress has committed 'to the sound discretion of the trial court.'" [219] She worried that "the majority's blatant disregard for the district court's thorough fact findings and for our role in a petition for mandamus will invite further petitions based almost entirely on ad hominem attacks on esteemed jurists similar to those Apple" waged against Judge Albright in this case."[220]

The different appellate outcomes of two similar cases raise questions about how much panel compositions determine the outcomes in mandamus appeals, an issue we noted above.[221] It should also alert us to the fact that some of the judges who are on the Federal Circuit may be worried about the concentration of patent cases in so few district judges' hands. But, mainly, it highlights how the test for convenience transfers is not really a test; it is more a list of things to consider. Because it is multi-factored, it invites judicial decisions—both at the district court and appellate levels—that make ad hoc determinations about what the truly important facts are in a given case.

2. Changing the Law of Transfer and Mandamus

To bring more predictability to decision-making under § 1404(a) and perhaps stem the flow of mandamus petitions from Eastern and Western

216. *Apple*, 979 F.3d at 1335.
217. *Id.* at 1345.
218. *Id.* (quoting *In re* Hoffmann-La Roche Inc., 587 F.3d 1333, 1336 (Fed. Cir. 2009)).
219. *Id.* at 1347 (Moore, J., dissenting) (quoting *In re* Vistaprint Ltd., 628 F.3d 1342, 1346 (Fed. Cir. 2010) (citing 28 U.S.C. § 1404(a))).
220. *Id.* at 1348.
221. The panel that granted mandamus in the *Apple* case was then-Chief Judge Prost, Judge Hughes, and Judge Moore (in dissent). The panel that denied mandamus in *Google* was Judge O'Malley, Judge Reyna, and Judge Chen.

Texas, the Federal Circuit could refine the governing legal standards to be more rule-like.[222] At minimum, the court could reduce the eight, unweighted *Gilbert* factors—several of which are rarely relevant in patent cases (such as concerns about conflicts of laws and the local interest in the dispute[223])—into a simpler inquiry that looks more directly at the policy concerns motivating § 1404(a): (1) where are the parties, witnesses, and evidence and (2) in which district will litigation be most efficient?[224] Of course, the Federal Circuit's unusual choice-of-law regime, under which the court's own precedent is supposedly non-binding,[225] could complicate any effort to reform the law of § 1404(a).[226]

Still, Judge Albright has a point in critiquing the Fifth Circuit's interpretation of the *Gilbert* factors as anachronistic.[227] The Fifth Circuit insists that the physical location of documents is highly relevant, but modern patent litigants couldn't care less about the location of documents when practically everything is available electronically. Likewise, the physical location of witnesses and employees is less relevant in an era when depositions and witness interviews can be easily conducted via videoconference.[228] It may be time to update the § 1404(a) factors for the digital age.[229] And given how Texas has become the center of U.S. patent litigation in the past decade, it would behoove the Federal Circuit to more fully enumerate which factors are relevant and which are not for patent cases.

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222. Though the Federal Circuit has sometimes been criticized for being overly enamored with bright-line legal rules, *see* Timothy R. Holbrook, *The Supreme Court's Complicity in Federal Circuit Formalism*, 20 SANTA CLARA COMPUT. & HIGH TECH. L.J. 1 (2003); John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771 (2003), we think the inquiry we sketch below would usefully get more directly to the policy heart of § 1404(a): where's the evidence and which court would be most convenient for all interested parties?

223. *See* J. Jonas Anderson & Paul Gugliuzza, *Community Ties in Patent Litigation*, PATENTLYO (Jan. 24, 2022), https://patentlyo.com/patent/2022/01/community-patent-litigation.html [https://perma.cc/DKY5-YQCM] (showing that "the overwhelming majority" of patentees who file suit in the Waco Division of the Western District of Texas "are not *from* Waco, the Western District, or even Texas; they are filing in Waco because they know that they will get Judge Albright").

224. For a general critique of multifactor legal tests obscuring the core purpose of the relevant law, see RICHARD A. POSNER, REFLECTIONS ON JUDGING 86–87 (2013).

225. *But see* Paul R. Gugliuzza, *The Federal Circuit as a Federal Court*, 54 WM. & MARY L. REV. 1791, 1848–50 (2013) (cataloguing examples of the Federal Circuit treating its transfer-related mandamus case law as essentially binding precedent).

226. For a critique of the Federal Circuit's choice-of-law regime, see Christopher A. Cotropia, "*Arising Under" Jurisdiction and Uniformity in Patent Law*, 9 MICH. TELECOMMS. & TECH. L. REV. 253 (2003).

227. *See supra* note 198.

228. *See* David Freeman Engstrom, *Post-COVID Courts*, 68 UCLA L. REV. DISC. 246, 257 (2020).

229. For an example of such an update, see Timothy T. Hsieh, A Tale of Seven Districts: Understanding the Past, Present and Future of Patent Filings to Form Stronger Patent Venue Jurisprudence Under 28 U.S.C. § 1404(a) (Apr. 2, 2021) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3817951 [https://perma.cc/QGK4-Y23J].

The Federal Circuit is exceptional among the federal courts of appeals in using an extraordinary writ to engage in what is essentially interlocutory error correction. On first glance, we might view this as a flaw with the Federal Circuit: the specialized court is too zealously exercising its final authority over patent law and wasting party and judicial resources by policing discretionary district court rulings on an issue that's entirely separate from the substantive merits of the case. But Judge Albright's aggressive efforts to attract patent cases to Waco—and his occasional disregard of appellate precedent on transfer of venue[230]—have forced the Federal Circuit's hand. Predictable judge assignments have encouraged what is essentially a race to the bottom among district judges who want to attract patent infringement plaintiffs. The mechanism for competition is procedural rules—and procedural rulings—that are extremely favorable to plaintiffs. And so the stakes over transfer of venue decisions are unusually high in patent cases. This suggests that the writ of mandamus—a procedural mechanism from the dustiest corner of civil procedure—will play a crucial role in determining the future of the U.S. patent system.

B. Panel Dependence

The Federal Circuit's mandamus jurisprudence in § 1404 transfer cases seems like it might be panel dependent, as discussed above.[231] What does this potential panel dependence tell us about the Federal Circuit's mandamus practice?

First, panel dependence could explain some of the attraction of mandamus petitions before the Federal Circuit. If a litigant has been denied transfer, the high standard for mandamus should scare away most potential petitioners. Yet petitions for writ of mandamus continue to increase at the Federal Circuit.[232] Knowing that the result may turn on which judges are assigned to the panel may convince the petitioner to roll the dice on filing. If the composition of a panel determines whether a case is litigated in Waco or the Bay Area, litigants may be willing to take the chance of upsetting the district judge if mandamus is denied on the chance that they draw a favorable panel assignment.

Second, we see shadows of disagreement among Federal Circuit judges with regard to the best way to police "renegade" district courts. This

230. *See generally* Ryan Davis, *How Judge Albright's Transfer Denials Riled the Fed. Circ.*, LAW360 (Sept. 21, 2021, 7:24 PM), https://www.law360.com/articles/1423013 [https://perma.cc/G9Y9-36Y2] (discussing several case examples).

231. *See supra* Section III.F.

232. *See supra* Figure 7.

disagreement has been bubbling up since the emergence of the Eastern District of Texas as a patent hotbed. We suspect at least some of the judges on the Federal Circuit are somewhat uncomfortable with the efforts of certain district judges to increase the attractiveness of their courtrooms to plaintiffs.[233] High grant rates on transfer-related mandamus petitions, then, might not actually be about the quality of district judges' transfer decisions themselves—they could be proxies for dislike of court competition for patent cases.

C. Court Competition

It's important to emphasize that, overall, the Federal Circuit's approach to mandamus doesn't differ markedly from other circuits. The unusual aspects of mandamus practice in the Federal Circuit are caused by the behavior of *district judges* competing for patent cases. Thus, rather than focusing on the law of transfer or the standards for granting mandamus, more meaningful reform would address the reality of judicial behavior in the Western and Eastern Districts of Texas.

In previous work, two of us suggested two changes that would reduce the incentives for and viability of court competition: randomizing case assignment among district judges and requiring that a plaintiff demonstrate venue with respect to the division in which the case is filed, not just the district as a whole.[234] Those changes would blunt the power of individual district judges to solicit patent plaintiffs to their courtrooms.

As this article was going to press, in July 2022, the chief judge of the Western District of Texas entered an order changing how patent cases are assigned to judges in the Waco Division. Previously, if a patent case was filed in Waco, it was assigned to the only judge sitting in Waco—Judge Albright.[235] This predictability of judge assignment is largely what drove nearly a thousand patent cases a year into Waco from 2019 through 2022. Under the new order, however, all patent cases filed in Waco—and only patent cases filed in Waco—will be assigned randomly among twelve of the

233. *See* Anderson, *supra* note 179, at 1588–89 (chronicling Federal Circuit judges' public statements regarding the Eastern District of Texas); Gugliuzza, *supra* note 13, at 391 (suggesting that the judges of the Federal Circuit are "displeased with the efforts of district courts, like the Eastern District of Texas, that have informally become judicial centers for patent litigation").

234. Anderson & Gugliuzza, *supra* note 17, at 478–81.

235. CHIEF DIST. JUDGE ORLAND L. GARCIA, AMENDED ORDER ASSIGNING THE BUSINESS OF THE COURT (2021), https://www.txwd.uscourts.gov/wp-content/uploads/Standing%20Orders/District/Amended%20Order%20Assigning%20Business%20of%20the%20Court%20051021.pdf [https://perma.cc/8ZRD-FZX5].

district's judges, who sit in divisions as far flung as Austin, San Antonio, El Paso, and Midland.[236]

This randomized case assignment procedure prevents plaintiffs from choosing their judge by simply filing their case in the Waco Division. Indeed, it will likely stop plaintiffs from filing cases in Waco altogether: the odds of having the dispute sent 200 miles away to San Antonio (5 in 12) or 600 miles away to El Paso (2 in 12) are too great. Also, there's no guarantee that the other eleven judges who now share Waco patent cases with Judge Albright will offer the plaintiff-friendly features of Judge Albright's court. With the assignment of patent cases filed in Waco now randomized, a sizable chunk of mandamus petitions at the Federal Circuit will likely evaporate for the time being because patentees will have a reduced incentive to shop into a court, like the Waco Division of the Western District of Texas, that has little connection to the case.

That said, the new order mandating randomized case assignment applies only in the Western District of Texas, only to patent cases, and, in fact, only to patent cases filed *in the Waco Division*. And the Western District could withdraw the randomization order just as suddenly as it was put in place; the chief judge of the Western District could simply change or withdraw the order whenever he chooses. Until randomized case assignment is required by statute or the Federal Rules of Civil Procedure, judge shopping remains possible in many districts.[237] If the past is any indication, a new court competitor for patent litigation will soon emerge.[238] And the cycle of increased concentration of patent case filings, denied transfer motions, and mandamus petitions will begin anew.

CONCLUSION

Requiring randomized case assignment to thwart judge shopping would benefit the judiciary as a whole. Transfer proceedings and mandamus petitions require judicial time: the district court spends time dealing with the transfer motion initially and then the Federal Circuit has to deal with the mandamus petition. Sometimes the district court must deal with a

236. CHIEF DIST. JUDGE ORLAND L. GARCIA, ORDER ASSIGNING THE BUSINESS OF THE COURT AS IT RELATES TO PATENT CASES (2022), https://www.txwd.uscourts.gov/wp-content/uploads/Standing%20Orders/District/Order%20Assigning%20the%20Business%20of%20the%20Court%20as%20it%20Relates%20to%20Patent%20Cases%20072522.pdf [https://perma.cc/9JVB-6WLF].

237. *See* Botoman, *supra* note 29, at 319 (finding that "[i]n at least eighty-one divisions, spread across thirty district courts, one or two judges hear all the division's cases").

238. *See* Anderson, *supra* note 179, at 1613 (writing, shortly after the Supreme Court's decision in *TC Heartland* made it more difficult to establish venue in the Eastern District of Texas: "that does not mean that other courts . . . could not achieve a high concentration of patent cases by employing the same tactics that have proven successful in the Eastern District of Texas").

mandamus order that partially grants mandamus relief or orders reconsideration. [239] Venue discovery must occur and venue-related discovery disputes must be resolved.[240] These practices cost litigants time and money.

Recent changes to case assignment practices in the Western District of Texas will likely stem the flow of Federal Circuit mandamus petitions related to transfer motions for now. But, as we have shown, mandamus is a less-than-ideal mechanism to stop the court competition that causes patent cases to pile up in unexpected locales, like Waco and Marshall. The case-by-case nature of the writ, the nominally deferential standard of review, the panel-to-panel variability in Federal Circuit outcomes, and the expense of pursuing an interlocutory appeal, makes us skeptical that mandamus is anything more than a band-aid for well-resourced defendants to challenge the most obviously incorrect transfer decisions by district courts. To fix the judge shopping/court competition problem on a systemic basis, Congress or the Judicial Conference of the United States should intervene to mandate random case assignment or more finely tune the law of venue for patent infringement cases.

239. *See, e.g.*, *In re* DISH Network L.L.C., 856 F. App'x 310, 311 (Fed. Cir. 2021) (finding that "the district court here erred in relying on [the defendant's] general presence in Western Texas without tying that presence to the events underlying the suit" but denying mandamus "because we are confident the district court will reconsider its determination in light of the appropriate legal standard and precedent on its own").

240. *See* DIST. JUDGE ALAN D. ALBRIGHT, AMENDED STANDING ORDER REGARDING VENUE AND JURISDICTIONAL DISCOVERY LIMITS FOR PATENT CASES (2021), https://www.txwd.uscourts.gov/wp-content/uploads/Standing%20Orders/Waco/Albright/Amended%20Standing%20Order%20Regarding%20Venue%20and%20Jurisdictional%20Discovery%20Limits%20for%20Patent%20Cases%20060821.pdf [https://perma.cc/92GQ-R73X].

DATA METHODOLOGY ADDENDUM

This addendum provides additional information on how we obtained the data used in this article.

To collect the relevant terminating documents and dockets, we began with the Federal Circuit Dataset Project, a set of related databases containing information about all documents published on the Federal Circuit's website, as well as all dockets in Federal Circuit proceedings since 2000 that are available on the Public Access to Court Electronic Records (PACER) system.[241] Full details on the Federal Circuit Dataset Project are available in the documentation for that dataset.[242]

We created the miscellaneous docket dataset for this article by limiting the dataset of all Federal Circuit dockets available on PACER to dockets possessing a three-digit suffix—exploiting the court's numbering system described above.[243] To assess whether the resulting dataset captured all of the Federal Circuit's miscellaneous dockets, we compared our set of docket numbers to a list of all possible docket numbers.[244] This comparison revealed no gaps, indicating that our dataset comprised the entirety of the Federal Circuit's miscellaneous dockets.

We also collected the miscellaneous dockets themselves from PACER. This allowed us to obtain information about the type of proceeding (such as a petition for writ of mandamus) and the judge and court or administrative agency from which the case originated. In addition, we coded the outcome (granted, denied, dismissed, etc.) of the miscellaneous matter based on the text contained in the docket itself.

Creation of the document dataset was more challenging because we wanted to be sure that we had all of the terminating orders for petitions for writs of mandamus, and no existing source contained all of those documents. We began creating the document dataset with the documents available in the *Compendium of Federal Circuit Decisions*, which contains every

241. The data used in this study is available at Jason Rantanen, *Replication Data for Extraordinary Writ or Ordinary Remedy? Mandamus at the Federal Circuit*, HARVARD DATAVERSE (2022), https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/AGZNNN [https://perma.cc/MWH2-2E56].

. Details on the construction and structure of these datasets is available in Rantanen, *supra* note 121.

242. *See The Compendium of Federal Circuit Decisions*, UNIV. OF IOWA COLL. OF L. EMPIRICAL STUD. CLEARINGHOUSE, https://empirical.law.uiowa.edu/compendium-federal-circuit-decisions [https://perma.cc/3F94-785G].

243. *See supra* p. 22 & notes 123–26. We did not include miscellaneous docket numbers below 100. These are extremely rare and relate to special matters such as attorney discipline.

244. The set of theoretical docket numbers consisted of all possible docket numbers in the relevant contiguous ranges for each year. For example, the numbers for 2009 consisted of 2009-00887 to 2009-00912, for 2010, 2010-00913 to 2010-00961, etc. For additional description of this method, see Rantanen, *supra* note 121.

opinion and order available on the Federal Circuit's website.[245] As with the docket dataset, we limited records in the document dataset to those associated with a docket number with a three-digit suffix to capture only decisions involving miscellaneous dockets. We then reviewed the resulting documents to determine whether they actually terminated a proceeding at the Federal Circuit (that is, that they were an order deciding the petition on the merits, dismissing the case, or transferring the case), or whether they were instead a non-terminating document, such as an order granting a request to extend time.[246] In this article, we refer to any order disposing of a petition or appeal, including orders on the merits of the petition, dismissals, and transfers, as a "terminating document."

In order to assess the completeness of the document dataset—that is, our set of terminating documents for miscellaneous matters—we used the docket numbers on the court's decisions themselves to match the document dataset to the docket dataset described in the previous subpart. The initial analysis indicated that, while many miscellaneous dockets corresponded to a terminating document in the document dataset (with some instances of multiple dockets corresponding to the same terminating document), not every docket corresponded to a terminating document.

The following table shows, for dockets created between 2008 and December 31, 2021, whether a docket had a terminating document available on the Federal Circuit's website. Note that although the Federal Circuit acts quickly on matters on the miscellaneous docket (the average time from filing to a decision on the merits of the petition is seventy-three days—substantially shorter than a typical post-judgment appeal, which takes over a year on average),[247] there are some petitions docketed in 2021 that remain pending.

245. The documents available on the court's website date back to 2004, although as we discuss below, not all decisions of the court—especially orders—are released by the court on its website. For more detail, see Rantanen, *supra* note 125.

246. There were a substantial number of these non-terminating documents for the period 2010–2014, during which the Federal Circuit published on its website a variety of procedural orders, such as those deciding motions to extend time.

247. *See Median Disposition Time for Cases Decided by Merits Panels*, U.S. CT. OF APPEALS FOR THE FED. CIR., https://cafc.uscourts.gov/wp-content/uploads/reports-stats/disposition-time/06_Med_Disp_Time_MERITS_Line_Chart.pdf [https://perma.cc/CNC9-U293].

ADDENDUM TABLE 1

Year appeal was docketed at CAFC	Document available on CAFC website		
	No	Yes	Total
2008	18	10	28
2009	2	28	30
2010	2	46	48
2011	1	39	40
2012	5	26	31
2013	6	35	41
2014	26	36	62
2015	43	2	45
2016	28	1	29
2017	39	14	53
2018	40	7	47
2019	9	19	28
2020	10	44	54
2021	42	63	105
Total	271	370	641

In total, 43% of the miscellaneous dockets created between 2008 and the end of 2020 (229 of 536) did not have a terminating order on the Federal Circuit's website.[248]

To obtain the missing terminating documents, our research team reviewed the miscellaneous dockets themselves and collected any available terminating document from PACER. This allowed us to obtain all but twenty-eight of the missing documents. Some dockets created prior to March 2012, however, are stored only on a legacy system that does not allow for electronic access to the terminating order. So, to identify additional decisions from the earlier time period of our study, we drew on a dataset of mandamus orders that one of us created, using Westlaw, for an earlier study of Federal Circuit mandamus practice.[249] This added an additional twelve terminating documents. Finally, for any docket for which

248. A search of Westlaw for the string "Petition for Writ of Mandamus" indicated better document availability for this period, but it still did not include everything. That search returned 383 results for the period 2008–2020. Our final total dataset for that period, however, was 426 documents terminating petitions for writs of mandamus. In addition, the Westlaw search results were overinclusive, in that they include appeals of denials of petitions for a writ of mandamus by the Court of Appeals for Veterans Claims and some orders denying reconsideration of a denial of a petition for writ of mandamus.

249. Gugliuzza, *supra* note 13.

we were unable to obtain a record of the terminating document itself, we determined the outcome based on the docket information. There are twelve of these.

Collecting the missing terminating documents from PACER allowed us to have a nearly complete set of Federal Circuit decisions in cases involving miscellaneous dockets from 2008 through late 2021. Table 2 below shows the final number of dockets that have a terminating document in our document dataset by the year in which the docket was created at the Federal Circuit.[250] Excluding matters docketed in 2021 (several of which have not yet been decided), 521 out of 536 dockets have a terminating document in our dataset (98%). In other words, in our empirical study, we were able to examine essentially the entire population of Federal Circuit decisions on miscellaneous dockets—something no study has previously done.

ADDENDUM TABLE 2

Year appeal was docketed at CAFC	Terminating document in dataset		
	No	Yes	Total
2008	6	22	28
2009	1	29	30
2010	1	47	48
2011	1	39	40
2012	0	31	31
2013	0	41	41
2014	2	60	62
2015	1	44	45
2016	0	29	29
2017	0	53	53
2018	1	46	47
2019	2	26	28
2020	0	54	54
2021	13	92	105
Total	28	613	641

Once the orders were collected, we coded information about them. For all of the terminating documents in our dataset, we supplemented the coding already available in the *Compendium* for panel membership and opinion

250. Additional details on the assembly of the datasets used in this study are contained in the project STATA code. Note that missing documents from petitions filed in 2021 are expected because they hadn't yet been decided at the time of collection.

authorship, whether there were separate opinions, tribunal of origin, decision date, en banc status, and whether the order was designated as "precedential." We also coded additional fields for the terminating orders in our dataset: the type of proceeding (mandamus petition, petition for permission to appeal, or "other"), the type of order (merits order, dismissal order, transfer order, order-treat as appeal, or other), the outcome (granted, granted-in-part, denied, dismissed, transferred, or other), and the reason the appeal was terminated (merits, voluntary dismissal, mootness, failure to prosecute, transferred, or "other"). For petitions for a writ of mandamus terminated on the merits of the petition, we also coded whether certain issues were addressed in the decision, as discussed in more detail above.[251]

For mandamus petitions from federal district courts that involved an actual decision on the issue of venue, transfer, or stays of litigation, two of us coded for additional details: the name of the judge for the originating action, the action requested by the petitioner, the transferee court (if a transfer was requested), the outcome at the district court, whether certain issues were at issue in the decision (such as improper venue or inconvenient venue), and the outcome at the Federal Circuit.[252]

251. *See supra* Part II.

252. The coding framework used in the study is provided in the project codebook, which is available with the rest of our data on the Harvard Dataverse. *See supra* note 117. Each study author independently coded the orders, points of general disagreement were resolved, and the coders rechecked their coding for records on which they disagreed. Disagreements remaining after this process were jointly resolved by the coders.