

Nos. 2015-1944, -1945, -1946

United States Court of Appeals
for the Federal Circuit

WI-FI ONE, LLC,

Appellant,

v.

BROADCOM CORPORATION,

Appellee,

MICHELLE K. LEE, DIRECTOR, U.S. PATENT AND TRADEMARK OFFICE,

Intervenor.

*Appeals from the United States Patent and Trademark Office, Patent Trial
and Appeal Board in IPR2013-00601, IPR2013-00602, IPR2013-00636*

**BRIEF OF AMICI CURIAE PROFESSORS OF PATENT AND
ADMINISTRATIVE LAW IN SUPPORT OF NEITHER PARTY**

Saurabh Vishnubhakat
Associate Professor of Law
Associate Professor of Engineering
Texas A&M University
1515 Commerce Street
Fort Worth, TX 76102
(817) 212-4196
sv10@law.tamu.edu

Counsel for Amici Curiae

February 23, 2017

CERTIFICATE OF INTEREST

Pursuant to Federal Circuit Rules 28(a)(1) and 47.4(a), counsel for amici curiae states the following:

1. The full name of every party or amicus represented by me is:

Professors of Patent and Administrative Law—See Appendix A

2. The name of the real party in interest represented by me is:

Not applicable

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amici curiae represented by me are:

Not applicable

4. The names of all law firms and the partners or associates that appeared for the party or amici now represented by me in the trial court or agency or are expected to appear in this court are:

Saurabh Vishnubhakat
Associate Professor of Law
Associate Professor of Engineering
Texas A&M University

Dated: February 23, 2017

/s/ Saurabh Vishnubhakat
Saurabh Vishnubhakat

Counsel for Amici Curiae

TABLE OF CONTENTS

TABLE OF AUTHORITIES	ii
INTEREST OF AMICI CURIAE	1
SUMMARY OF ARGUMENT	1
ARGUMENT	2
I. The Supreme Court’s limited holding in <i>Cuozzo</i> implicates the court-agency balance of the power to review patent validity.	2
A. The one-year bar of § 315(b) allocates power between the USPTO and the courts as mutual substitutes for reviewing patent validity.	3
B. The history of the America Invents Act reveals a robust legislative and executive consensus that <i>inter partes</i> review in the USPTO would serve as a substitute for court evaluation of patent validity.	5
II. Empirical evidence reveals that the court-agency balance of power that Congress allocated in the AIA has significant scope and impact beyond the USPTO and in the federal courts.	7
A. Administrative review of patent validity has been a significant substitute for judicial review and has generated strategic behavior in both the USPTO and the courts.	8
B. Strategic substitution between the USPTO and the courts in reviewing patent validity underscores the significant scope and impact of power-allocating provisions such as § 315(b).	9
C. The power-allocation function that § 315(b) serves necessarily pushes its scope and impact out of the USPTO and into the courts.	13
CONCLUSION	14

TABLE OF AUTHORITIES

	Page
CASES	
<i>Achates Reference Publishing, Inc. v. Apple, Inc.</i> , 803 F.3d 652 (Fed. Cir. 2015).....	1, 12, 13
<i>Cuozzo Speed Techs., LLC v. Lee</i> , 136 S. Ct. 2131 (2016)	1, 2, 3, 13
<i>In re Cuozzo Speed Technologies, LLC</i> , 793 F.3d 1297 (Prost, C.J., dissenting from the denial of the petition for rehearing en banc)	5
STATUTES	
35 U.S.C. § 314	3, 10
35 U.S.C. § 315(a)(1)	4
35 U.S.C. § 315(a)(2)	4
35 U.S.C. § 315(a)(2)(A)-(C).....	4
35 U.S.C. § 315(b).....	<i>passim</i>
35 U.S.C. § 315(c).....	4, 10, 13
35 U.S.C. § 315(e)(2)	4
RULES AND REGULATIONS	
Fed. R. App. P. 29(c)(5).....	1
OTHER AUTHORITIES	
157 Cong. Rec. 952 (Feb. 28, 2011)	6
157 Cong. Rec. 1053 (Mar. 1, 2011).....	6
157 Cong. Rec. 1350 (Mar. 8, 2011).....	6
157 Cong. Rec. S1352 (Mar. 8, 2011).....	6
157 Cong. Rec. S1376 (Mar. 8, 2011).....	5
Executive Office of the President, Statement of Administration Policy, H.R. 1249–America Invents Act (June 21, 2011).....	6
Executive Office of the President, Statement of Administration Policy, S. 23–Patent Reform Act of 2011 (Feb. 28, 2011).....	6

TABLE OF AUTHORITIES – Continued

	Page
Gary Locke, Letter to the Hon. Lamar Smith, Chairman of the House Committee on the Judiciary (May 31, 2011)	7
H.R. Rep. No. 112-98 pt.1 at 48 (2011)	5
Saurabh Vishnubhakat, Arti K. Rai & Jay P. Kesan, Strategic Decision Making in Dual PTAB and District Court Proceedings, 31 BERKELEY TECH. L.J. 45 (2016)	<i>passim</i>

INTEREST OF AMICI CURIAE¹

Amici are professors who write and teach on the administrative law and process of the patent system from a range of theoretical and empirical perspectives. We have no personal interest in the outcome of this case, but a professional commitment to ensuring that the interrelated institutions of the patent system function coherently and effectively.

SUMMARY OF ARGUMENT

This case implicates a significant balance in the patent system between the competing powers of the federal courts and the U.S. Patent and Trademark Office to review patent validity. Although Congress already allocated these powers through various provisions of the America Invents Act, this Court's decision in *Achates Reference Publishing, Inc. v. Apple, Inc.*, 803 F.3d 652 (Fed. Cir. 2015), failed to take account of that balance of power and now threatens to obstruct this Court's ability to safeguard the balance from further disruption. Intervening guidance from the Supreme Court in *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016), sheds new light on the court-agency balance of patent powers, whose scope and impact extend well beyond the USPTO Patent Trial and Appeal Board and into the courts.

¹ No party's counsel authored this brief in whole or part; no party or party's counsel contributed money intended to fund preparing or submitting this brief; no person other than the amici, their members, or their counsel contributed money intended to fund preparing or submitting this brief. Fed. R. App. P. 29(c)(5).

New empirical evidence reveals that litigants use the USPTO to a significant extent as a strategic substitute for courts in reevaluating patent validity. Strategic substitution is subject to important statutory constraints, especially the one-year bar of 35 U.S.C. § 315(b). These constraints promote repose for litigants, conservation of both court and agency resources, and inter-branch respect for the judgments of competing tribunals. Notably, these constraints appear to channel litigants into socially desirable collective action but may also foster undesirable harassment of patent owners and delay in adjudicating patent disputes. Accordingly, in deciding the judicial reviewability of USPTO determinations regarding timeliness under § 315(b), this Court should take careful account of the significant scope and impact that § 315(b) has beyond the *inter partes* review setting in preserving the balance of power that Congress has allocated to the USPTO and to the courts.

ARGUMENT

I. The Supreme Court’s limited holding in *Cuozzo* implicates the court-agency balance of the power to review patent validity.

In *Cuozzo*, the USPTO overcame the strong presumption that otherwise favored judicial review of the agency’s routine decisions whether to institute *inter partes* review. 136 S. Ct. at 2137. The Court, however, expressly declined to extend its finding of nonreviewability to other broad categories of appeals from the USPTO. These other appeals, which *Cuozzo* did not immunize from review, include those “that present other questions of interpretation that reach, in terms of

scope and impact, well beyond” the decision under 35 U.S.C. § 314 of whether institution of *inter partes* review is appropriate. *Id.* at 2141. The balance of power between the USPTO and the courts to review patent validity presents just this sort of far-reaching scope and impact.

A. The one-year bar of § 315(b) allocates power between the USPTO and the courts as mutual substitutes for reviewing patent validity.

Under the America Invents Act, a party may raise a challenge to a patent’s validity in the federal courts or may raise the challenge in the USPTO—but, generally, not both. A number of statutory provisions that define *inter partes* review allocate patent validity review power between the courts and the agency by forcing petitioners to choose between them. This necessary choice makes the USPTO and the courts substitutes for each other.

The one-year bar of § 315(b) is a prime example of the statutorily imposed choice. A petitioner who has been served with a complaint alleging infringement of a patent must seek *inter partes* review within one year or else be satisfied to make its arguments to the court. 35 U.S.C. § 315(b) (service upon the petitioner’s real party in interest or privy also triggers the bar). Petitioners who challenge the same patent may be joined together, and a *request* for joinder may come more than one year after the earlier civil action. *Id.* (providing that “a request for joinder under subsection (c)” of § 314 is exempt from the one-year bar). Nevertheless, even joinder is permitted only if each underlying petition “warrants the institution

of *inter partes* review under section 314”—that is, only if each petition separately satisfies the one-year bar. 35 U.S.C. § 315(c). Similarly, a would-be petitioner who wishes to challenge the validity of a patent in court must forgo any subsequent *inter partes* review on the same patent. 35 U.S.C. § 315(a)(1) (a civil action by the petitioner’s real party in interest also triggers the bar).

The choice is enforced no less against those who seek agency review first. A petitioner who requests *inter partes* review and then challenges the same patent in court is held in abeyance by a mandatory stay of the civil action. 35 U.S.C. § 315(a)(2) (a civil action by the petitioner’s real party in interest also triggers the mandatory stay). The stay can be lifted only if the patent owner takes certain actions or if the petitioner dismisses the duplicative court challenge altogether. 35 U.S.C. § 315(a)(2)(A)-(C). Likewise, court-agency estoppel forbids a petitioner who reaches a final written decision in *inter partes* review to reassert in litigation not only arguments that it actually raised but also those that it reasonably could have raised during *inter partes* review. 35 U.S.C. § 315(e)(2) (the estoppel also subsequently binds the petitioner’s real parties in interest and privies).

The allocation of power through substitution of the USPTO for the courts is not merely an incidental effect of § 315(b) and the other court-agency boundary provisions. Rather, it is a key aim of Congress in designing the system of *inter partes* review as a “viable alternative to district court adjudications of patent

validity.” *In re Cuozzo Speed Technologies, LLC*, 793 F.3d 1297, 1303 (Prost, C.J., dissenting from the denial of the petition for rehearing en banc). *See also* Saurabh Vishnubhakat, Arti K. Rai & Jay P. Kesan, *Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 BERKELEY TECH. L.J. 45, 50-51 (2016) (introducing a discussion of *inter partes* review and other administrative review proceedings as substitutes for federal court litigation).

B. The history of the America Invents Act reveals a robust legislative and executive consensus that *inter partes* review in the USPTO would serve as a substitute for court evaluation of patent validity.

The legislative history of the America Invents Act confirms that substitution of the USPTO for the courts was one of the major motivations for post-grant patent validity review. The Report of the House Committee on the Judiciary identified the purpose of *inter partes* review as “providing quick and cost effective alternatives to litigation.” H.R. Rep. No. 112-98 pt.1 at 48 (2011). A number of senators, including members of both parties in the Senate Committee on the Judiciary, also echoed a substitutionary view. Senator Jon Kyl, a leading advocate of the AIA, explained that *inter partes* review would “completely substitute for *at least* the patents-and-printed-publications portion of the civil litigation.” 157 Cong. Rec. S1376 (Mar. 8, 2011) (emphasis added). Senator Patrick Leahy, chairman of the Judiciary Committee and the main Senate co-sponsor, similarly

indicated that *inter partes* review would “be a more efficient alternative to litigation.” 157 Cong. Rec. 1350 (Mar. 8, 2011).

Senator Sheldon Whitehouse of the Judiciary Committee argued that the *inter partes* review system would “improve administrative processes so that disputes over patents can be resolved quickly and cheaply without patents being tied up for years in expensive litigation.” 157 Cong. Rec. 1053 (Mar. 1, 2011).

Senator Charles Grassley argued that *inter partes* review would “provide faster, less costly alternatives to civil litigation to challenge patents.” 157 Cong. Rec. 952 (Feb. 28, 2011). Senator Mark Udall agreed that *inter partes* review would “serve as a less-expensive alternative to courtroom litigation.” 157 Cong. Rec. S1352 (Mar. 8, 2011).

While a consensus emerged in Congress about the importance of court-agency substitution, executive branch actors who would implement *inter partes* review and other forms of post-grant review also agreed that a major purpose of these proceedings was to substitute the USPTO for the courts in evaluating patent validity. The Obama administration, in supporting *inter partes* review, noted that it reflected a “productive” and “effective administrative” alternative to “costly and complex litigation.” See Executive Office of the President, Statement of Administration Policy, H.R. 1249–America Invents Act (June 21, 2011); Executive Office of the President, Statement of Administration Policy, S. 23–Patent Reform

Act of 2011 (Feb. 28, 2011). Secretary of Commerce Gary Locke, who oversaw the USPTO, agreed that *inter partes* review and other post-grant review procedures offered “efficient and timely alternatives to litigation as a means for reviewing questions of patent validity.” Gary Locke, Letter to the Hon. Lamar Smith, Chairman of the House Committee on the Judiciary (May 31, 2011).

II. Empirical evidence reveals that the court-agency balance of power that Congress allocated in the AIA has significant scope and impact beyond the USPTO and in the federal courts.

The necessary choice for litigants between the USPTO and the courts as mutual substitutes is one that Congress intended, the executive branch expected and welcomed, and the plain language of the *inter partes* review provisions now embody. Detailed empirical evidence now shows that litigants make this choice in two distinct ways. One approach is so-called standard substitution, whereby a defendant in district court litigation defensively challenges the validity of the asserted patent in *inter partes* review. Vishnubhakat, Rai & Kesan, 31 BERKELEY TECH. L.J. at 49. The other is nonstandard substitution, whereby the petitioner for *inter partes* review is not the target of any prior district court lawsuit on the same patent and instead strikes preemptively. *Id.* The significant usage of both standard

and nonstandard petitioning reflects the broad scope and high impact that court-agency substitution has beyond the USPTO and into the courts.²

A. Administrative review of patent validity has been a significant substitute for judicial review and has generated strategic behavior in both the USPTO and the courts.

Patent validity challenges in the USPTO are closely connected with the threat or fact of infringement litigation in the courts. *Id.* at 70. Detailed data from the start of AIA review on September 16, 2012, through June 30, 2015, shows that a large majority—70 percent—of those who sought *inter partes* review were standard petitioners, who had previously been sued on the patents that they challenged in the PTAB. *Id.* at 73. An even larger majority—86.7 percent—of the patents that were involved in a PTAB challenge were also involved in one or more district court lawsuits. *Id.* at 69. The close connection between PTAB review of a patent and parallel district court disputes involving the same patent reaffirms the importance of § 315(b) and other boundary provisions in allocating power between the USPTO and the courts.

² The *Strategic Decision Making* study is the first—and, to the amici’s knowledge, only—academic empirical analysis of the PTAB that goes beyond solely tabulating petitions, institutions, outcomes, and patents involved in *inter partes* review. The study goes further by matching patent-petitioner pairs in PTAB proceedings to litigant data from the federal courts and so draws novel and detailed conclusions about timing, strategic behavior such as serial petitioning, and the collective action problem in patent challenges where competitors would also enjoy the benefits of patent invalidation. The study also includes, in Appendix A, a discussion of data and methodology to aid researchers in replicating the results. See Vishnubhakat, Rai & Kesan, 31 BERKELEY TECH. L.J. at 88-90.

Nonstandard petitioners striking preemptively still made up a substantial minority—30 percent overall—of those who sought *inter partes* review. *Id.* at 73-74. The share of standard and nonstandard petitioners, moreover, varied during this period across technologies. *Id.* at 74, 102 (discussing Figure 15a). For example, among *inter partes* reviews upon patents directed to chemical inventions and computers and communications-related inventions, the share of nonstandard petitions was only slightly above 30 percent. *Id.* at 102. By contrast, for patents directed to drugs and medical-related inventions, nonstandard petitioners actually made up the majority—51.5 percent—of those who sought *inter partes* review. *Id.*

Because nonstandard petitioners by definition have not previously been sued in the courts, it may seem as if the one-year bar of § 315(b) has no relevance to this form of strategic substitution of the USPTO in place of the courts. Closer scrutiny reveals the opposite, however.

B. Strategic substitution between the USPTO and the courts in reviewing patent validity underscores the significant scope and impact of power-allocating provisions such as § 315(b).

Among patents in certain technology areas, there are substantial disparities “between the share of *petitioners* who were previously sued and the share of IPR *petitions* with at least one petitioner who was previously a defendant on the challenged patent.” *Id.* at 74 (emphasis in original). For drug and medical-related patents, for example, 48.5 percent of the petitioners were previously sued

defendants whereas 70.8 percent of the petitions had at least one previously sued defendant as a petitioner. *Id.* at 102-103. The petitioner-petition disparity for mechanical-related patents was 53.1 percent versus 70.2 percent. *Id.*

These large technology-specific gaps suggest that, to a significant extent, nonstandard petitioners were joining petitions filed by standard petitioners. *Id.* at 74. Like original petitions for *inter partes* review that are subject to the one-year bar of § 315(b), petitions may be joined together only if each petition “warrants the institution of *inter partes* review under section 314”—that is, only if each petition satisfies the one-year bar. 35 U.S.C. § 315(c). In some cases, the apparent joinder of *inter partes* reviews may have reflected socially desirable collective action by multiple parties who were willing to share the cost of invalidating a questionable patent rather than free-ride upon the litigation efforts of one or a few challengers. In other cases, joinder may have been a means to cause harassment and delay through serial and duplicative filings. *Id.* Disaggregating these effects is the subject of ongoing research, *id.* at 74-75, but their relevance to the balance of power between the USPTO and the courts is stark.

A particularly helpful way to appreciate this relevance is to measure the actual observed lag between the filing of civil actions asserting patent infringement and the filing of the first *inter partes* review challenging the validity of the same patent. For example, one may measure the lag between the first civil action

involving a patent and the first *inter partes* petition on that patent and see that the lags produce a largely normal distribution—except for a sharp spike at the one-year mark, consistent with petitioners seeking *inter partes* review within the deadline set by § 315(b). *Id.* at 79, 110 (discussing Figure 17). This first-lawsuit-to-first-petition lag “takes a broad view of how court-agency lags are distributed” and, as expected, includes a notable share of patents—23.4 percent—for which the lag exceeds one year. *Id.* at 78-79. This is to be expected, as the first defendant sued on patent need not be the one to mount an *inter partes* challenge on that patent where the patent will be asserted multiple times. *Id.* at 79.

Similarly one may also measure the lag between the *last* civil action asserting a patent before *inter partes* review would be initiated and the first *inter partes* petitions on that patent and see that the lags again produce a largely normal distribution—again with a sharp spike at the one-year mark due to the § 315(b) deadline. *Id.* at 79, 111 (discussing Figure 18). This last-lawsuit-to-first-petition lag reveals “cases where earlier lawsuits against others have revealed useful information about the patent owner’s enforcement strategy so that less time is needed to decide whether and how to prepare an IPR challenge.” *Id.* at 79. As expected, the result is a far smaller share of patents—11.4 percent—for which the lag exceeds one year. *Id.* at 78-79.

Both distributions of court-agency lag compare civil actions involving a given patent and *inter partes* review petitions on the same patent, and both reveal a significant adherence to the one-year bar of § 315(b) during a time period prior to *Achates*. It stands to reason that if enforcement of § 315(b) were weakened or ignored, the current spikes of legal compliance at the one-year mark would likely fall, and court-agency lags would extend further out in time, for any rational petitioner would take as much time as the USPTO would allow in practice, not merely the one year that Congress enacted.

Thus, the one-year bar of § 315(b) has meaningfully and measurably constrained and defined the ability of federal court defendants to use *inter partes* review as a substitute for judicial review of patent validity. As a result, substantial shares of nonstandard petitioners have chosen to strike first in the USPTO before they could be sued and their one-year clock could start to run. Standard and nonstandard petitioners have apparently used the joinder provision quite often. The close connection between PTAB review of a patent and district court disputes involving the same patent empirically supports the intuitive importance of § 315(b) and other boundary provisions in allocating power between the USPTO and the courts.

C. The power-allocation function that § 315(b) serves necessarily pushes its scope and impact out of the USPTO and into the courts.

Data from nearly three years of USPTO review and district court litigation reveals complex relationships of substitution and overlap between the USPTO and the courts as to the patents that are challenged in *inter partes* review, the petitions that are filed upon those patents, and the petitioners who file them. These substitutions and overlaps represent an equilibrium undergirded by the one-year bar of § 315(b), the joinder safeguards of § 315(c), and other aforementioned provisions. The observation window for this data and research, however, precedes this Court's *Achates* decision on September 30, 2015.

That decision, which itself preceded the Supreme Court's guidance in *Cuozzo*, took no account of the court-agency balance of power that Congress allocated in the *inter partes* review statute. Instead, it purported to "proscribe review of the institution determination *for whatever reason.*" 803 F.3d 652, 658 (Fed. Cir. 2015) (emphasis added). The Court has since clarified the need to determine the "scope and impact" of an *inter partes* review provision whose judicial reviewability is at stake. 136 S. Ct. at 2137.

Accordingly, this Court should take careful account of the disruption that *Achates* is likely to inflict upon the equilibrium between USPTO review and judicial review of patent validity. The scope and impact of the one-year bar and similar power-allocating provisions are not limited to the USPTO. Because they

preserve an inter-branch balance of power, these provisions reach well outside the walls of the agency and into the federal courts with whom the USPTO competes.

The impact of this balance is felt by litigants, particularly patent owners, who cannot achieve repose if litigating in court for more than a year offers them no guarantee against the creation of new parallel disputes in the USPTO. The impact is also felt by courts whose scarce resources are squandered if, after a lengthy development of facts and legal argument, a petitioner may start anew in the USPTO. In such cases, the ability to ignore the balance of court-agency power embodied in § 315(b) would leave courts in the awkward position of staying their own hand in order to avoid letting future agency resources go to waste—while their own judicial resources are already sunk beyond what Congress intended.

CONCLUSION

For the foregoing reasons, amici respectfully urge this Court to take careful account of the significant scope and impact that § 315(b) has not only in the *inter partes* review context but also in the federal courts. The one-year bar of § 315(b) is a key fulcrum for preserving the balance of power that Congress has allocated to the USPTO and to the courts. That balance must not be ignored when deciding the reviewability of USPTO determinations regarding timeliness under § 315(b).

Respectfully submitted,
/s/ Saurabh Vishnubhakat
Saurabh Vishnubhakat
Associate Professor of Law
Associate Professor of Engineering
Texas A&M University
1515 Commerce Street
Fort Worth, TX 76102
(817) 212-4196
sv10@law.tamu.edu

Counsel for Amici Curiae

Dated: February 23, 2017

APPENDIX A
Full List of Amici Curiae*

Ann Bartow
Professor of Law
University of New Hampshire School
of Law

Gregory Dolin
Associate Professor of Law
University of Baltimore School of
Law

Christopher Holman
Professor of Law
University of Missouri-Kansas City
School of Law

Jay P. Kesan
Professor of Law
H. Ross & Helen Workman Research
Scholar
University of Illinois College of Law

Irina D. Manta
Professor of Law
Maurice A. Deane School of Law
Hofstra University

Adam Mossoff
Professor of Law
Antonin Scalia Law School
George Mason University

Michael V. Risch
Professor of Law
Charles Widger School of Law
Villanova University

Ted Sichelman
Professor of Law
University of San Diego School of Law

Saurabh Vishnubhakat
Associate Professor of Law
Associate Professor of Engineering
Texas A&M University

* Institutions of all signatories are for identification purposes only. The undersigned do not purport to speak for their institutions, and the views of amici should not be attributed to these institutions.

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system on February 23, 2017, which will serve via e-mail notice of such filing to all registered CM/ECF users.

Dated: February 23, 2017

/s/ Saurabh Vishnubhakat
Saurabh Vishnubhakat

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 29(a)(5), I certify that the foregoing *Amicus Curiae* Brief is 3,551 words in length, according to the word processing system used in preparing it, excluding those portions exempted by Fed. R. App. P. 32(f) and Fed. Cir. R. 32(b).

This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in 14 point Times New Roman.

Dated: February 23, 2017

/s/ Saurabh Vishnubhakat
Saurabh Vishnubhakat