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The FTC PAE Study in Context

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Maureen K. Ohlhausen¹
Commissioner, Federal Trade Commission

¹ The views expressed in these remarks are my own and do not necessarily reflect the views of the Federal Trade Commission or any other Commissioner.

Introduction

The FTC's recent case study on patent-assertion entities is an important milestone.² PAEs, which are non-practicing companies that buy and license patents on threat of suit, create strong views. Some commentators decry PAEs as high-tech extortionists that tax innovators. Others argue that PAEs create liquid, patent-licensing markets in which individual inventors can monetize their technologies and manufacturers can secure the permissions they need to sell their products lawfully. Claims on both sides, however, have been light on facts and heavy on aspersions. That is why the FTC's report, which discloses previously unknown facts about how PAEs operate, is so important. It embraces an evidentiary approach and moves away from the casual denunciation that often characterized prior debates in this area. The report advances our understanding of PAEs and their role within the patent system. Perhaps it will also help us to appreciate how PAEs affect the larger innovation environment.

The Technology Policy Institute has assembled an exceptional panel this morning to address the case study and the proper conclusions to draw from it. In my opening remarks today, I hope to contextualize the report by addressing the background economic conditions that both underlie technology-licensing markets and drive the business of patent aggregation and licensing. I will also touch on the report's most significant findings and recommendations, though I will leave the finer details to the distinguished panelists gathered before you. Finally, as the FTC report covers a period from 2009 to 2014 – and because the last two years have been unusually eventful on the patent front – I will also mention developments relevant to PAEs and patent holders more generally since 2014.

² FED. TRADE COMM'N, PATENT ASSERTION ENTITY ACTIVITY: AN FTC STUDY (2016) ["FTC PAE REPORT"], https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study.pdf.

Patent-Assertion Entities as Part of the Larger IP System

To understand the business model and effects of PAEs, one must begin with the larger patent system and the economics of technology licensing. Patents, of course, give their owners exclusive rights to practice the claimed technologies.³ As property rights, patents can be sold and licensed.⁴ Their justification, as recognized in the Constitution, is to spur innovation.⁵ They allow inventors to capture more of the social value of their technologies than they could absent IP protection. This is the “public goods” theory of patents.

Importantly, a single act of invention rarely marks the end of the story. Innovation varies by industry from a continual process of incremental improvement over the status quo (as in software) to revolutionary, sporadic, and unpredictable leaps forward (as occurs from time to time with blockbuster drugs). Thus, there is more to patents than guarding against free-riding off an initial idea, a danger that applies to some – but not all – forms of patentable invention. Identifying a promising technology and securing a patent mark the beginning of what is typically a costly and lengthy process. To monetize their discoveries, inventors must commercialize their technologies by developing them to the point of marketability. That commercialization process is itself vulnerable to free-riding, meaning that patents can induce firms to devote the private capital necessary to bring cutting-edge technologies to consumers.⁶

This process represents a case for patent protection in itself. Edmund Kitch famously articulated a “prospect theory” of patents, in which granting the owner of a pioneer invention a strong property right could efficiently induce the patentee to guide the technology’s subsequent

³ 35 U.S.C. § 271.

⁴ 35 U.S.C. § 261.

⁵ U.S. CONST. art. VIII, § 8, cl. 8.

⁶ See, e.g., F. Scott Kieff, *Property Rights and Property Rules for Commercializing Inventions*, 85 MINN. L. REV. 697 (2001).

refinement.⁷ That process represents what economists call the “Coase Theorem” in action.⁸ By voluntarily contracting with one another based on an initial allocation of property rights, parties efficiently reallocate entitlements to higher-value uses.

In the patent setting, that dynamic occurs in the form of “technology transfer.”⁹ Some people have expertise in inventing early-stage technologies, which others may be better placed to develop into sellable products. Patent rights allow an efficient transfer of ownership. The prices agreed upon will reflect the universe of available substitute technologies, and alternative product designs, available to the technology user. In that ex ante setting, patents facilitate unambiguously desirable assignment and licensing transactions. In 2011, the FTC explained that dynamic in detail in its report on *Patent Notice and Remedies*.¹⁰ Prominent examples of ex ante technology transfer involve many patent assignments by universities and semiconductor design houses.

It is important to note that whether the original patentee is a practicing or non-practicing entity is irrelevant to the efficiency of ex ante licensing. Unfortunately, the reality of technology licensing in many industries is more complicated. Just as the Coase Theorem ceases to apply when transaction costs rise to prohibitive levels, so technology transfer struggles to occur when it becomes difficult for owners and users of technology to find each other.

Having reviewed the empirical literature on the subject, I am sure that strong patent rights are an integral part of our successful innovation platform.¹¹ But that does not mean that today’s patent system is in all respects ideal. Some significant problems frustrate efficient, ex ante

⁷ Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 265-66, 268 (1977).

⁸ See generally Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

⁹ FED. TRADE COMM’N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION (2011) [“PATENT NOTICE AND REMEDIES”], <https://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf>.

¹⁰ *Id.*

¹¹ Maureen K. Ohlhausen, *Patent Rights in an Era of IPR Skepticism*, 30 HARV. J.L. & TECH. __ (forthcoming 2016).

contracting, and a number of these are likely inevitable. First, the patent system has to absorb technological innovations that themselves change over time. As electronics goods incorporate an increasingly large number of discrete technologies, manufacturers must obtain rights to an ever greater number of patents to avoid infringement.

When ownership rights in those inventions are disaggregated, two problems may result. First, Cournot complements – or royalty stacking – effects may lead owners of technologies that must be combined in an end product to charge more than the optimal price. Second, as the number of patentees with whom a technology user must secure licenses increases, so do the requisite search, identification, and bargaining costs.

Unfortunately, the universe of patents relevant to certain industries is exceptionally large. For instance, RPX – a defensive patent-buying fund – estimated that over a quarter-of-a-million active patents relevant to smartphones exist.¹² Exacerbating the difficulty is the ambiguous scope of many patents outside of the life sciences industry, where the field of chemistry allows those skilled in the art to claim technologies with relative precision.

Compounding that phenomenon is a long-expressed concern with software patents, which claim methods for achieving a particular goal using a computer. Following the Federal Circuit’s 1998 decision in *State Street Bank*, which found that business methods and other processes that produce a “useful, concrete, and tangible result” are patentable,¹³ the PTO issued many business-method and software-related patents.¹⁴ Some commentators argue that, given the dearth of prior

¹² RPX Corp., Amendment No. 3 to Form S-1, 59 (Apr. 11, 2011), <http://www.sec.gov/Archives/edgar/data/1509432/000119312511240287/ds1.htm> (last visited Oct. 19, 2016).

¹³ *State Street Bank & Trust Co. v. Signature Fin’l Grp., Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998).

¹⁴ See, e.g., John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 BERKELEY TECH. L.J. 987, 990-04 (2003).

art, the PTO was too lax in awarding those patents.¹⁵ Indeed, there is some evidence that patent invalidity is a chronic issue.¹⁶

As a result of such conditions – whether real or perceived – many technology firms decide to press ahead in building products without securing the necessary permissions first.¹⁷ Some research indicates that companies even instruct their engineers to ignore patents in designing next-generation goods to avoid claims of willful infringement.¹⁸ This dynamic is clearly imperfect. Patents cannot perform their teaching function of disclosing new technologies if people deliberately avoid them. When product manufacturers press ahead without licenses, they deprive patentees of compensation in the first instance. And when patent-licensing negotiations do arise, they often do so ex post – that is, after an infringer is selling the accused product.

As the FTC explained in 2011, ex post patent licensing raises tricky issues that differ from ex ante technology transfer. If companies invest in their new products, they may become locked-in, meaning that – when faced with claimed infringement – they can no longer use alternative designs that may have been available ex ante. Therein lies the potential for hold-up, a theoretical possibility that is, however, far from a certainty or even a likelihood after the Supreme Court’s *eBay* decision and recent Federal Circuit decisions that limited the possibility of systemically inflated royalty awards.¹⁹ In that respect, hold-up requires courts to err by not calculating royalties at the point of a hypothetical ex ante negotiation.

¹⁵ See, e.g., Katherine J. Strandburg, *What If There Were a Business Method Use Exemption to Patent Infringement?*, 2008 MICH. ST. L. REV. 245, 262.

¹⁶ See, e.g., John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998) (finding that 46 percent of patents litigated to judgment were found invalid).

¹⁷ See Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19 (2008).

¹⁸ *Id.*

¹⁹ See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006); *Commonwealth Sci. & Indus. Research Org. v. Cisco Sys.*, 809 F.3d 1295 (Fed. Cir. 2015); *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d 1201 (Fed. Cir. 2014).

Nevertheless, it is true that the bargaining realities differ ex post to ex ante, when parties negotiate with more options than simply proceeding to court. But whether ex post patent licensing is a good or bad thing depends on questions to which we lack answers. If most accused infringers independently invented the technologies that they adopt in their goods, that raises different issues than if they copied them from the patentees. If ex post licensing takes place over probably invalid or not infringed patents, then patent assertion may begin to resemble a tax on innovation. By contrast, if a firm owns valid, infringed patents and sues companies that deliberately ignored its exclusive rights, then the ensuing ex post patent license is appropriate and beneficial. We also cannot ignore efforts by technology users to avoid paying patentees – or to delay doing so as long as possible – because hold-out could deprive inventors of their due rewards.

Several market realities can limit ex post patent licensing. Technology firms are slow to sue one another because doing so invites a countersuit. Hence, patent holdings often serve a defensive function, granting companies marketing freedom.²⁰ Similarly, antitrust laws sometimes limit the ability of a firm to sue its competitors for patent infringement. *Noerr-Pennington* immunity does not reach sham litigation, *Walker-Process* fraud, or lawsuits brought pursuant to a horizontal conspiracy.²¹ And finally patent litigation is expensive, particularly in the discovery phase. Hence, most patents remain unenforced, even ex post.

The reality that I have described in the last few minutes is messy and flawed. There was – and perhaps is – a disconnect between upstream inventors and the downstream manufacturers that sell technological products to consumers. If an intermediary were to emerge that efficiently

²⁰ *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 917 (N.D. Ill. 2012) (Posner, J., sitting by designation), *aff'd in part & rev'd in part*, 757 F.3d 1286 (Fed. Cir. 2014).

²¹ See generally FTC STAFF REPORT, ENFORCEMENT PERSPECTIVES ON THE *NOERR-PENNINGTON* DOCTRINE (2006), <https://www.ftc.gov/policy/policy-actions/advocacy-filings/2006/10/ftc-staff-report-concerning-enforcement-perspectives> (addressing the proper reach of the *Noerr-Pennington* doctrine).

bridged the gap between patentees and technology users, it could bring new solutions and functionality to manufacturers while rewarding patentees and encouraging further innovation.

It is in that murky space that patent-assertion entities arose. PAEs buy and license patents under threat of suit. They do not invent or manufacture technologies. They seek to license their patent portfolios to entities that manufacture or use the claimed technologies. Their business model is, in many respects, a function of today's patent system – a natural consequence, rather than a cause.

Because they do not practice their technologies, PAEs are not vulnerable to infringement counterclaims. Nor are they susceptible to antitrust counterclaims directed at any product market.²² Further, by specializing in patent assertion, PAEs may realize scale economies in litigation. And because they do not invent technologies, their discovery costs may be much less than those of the manufacturing firms they sue.²³ In short, they may be effective patent-monetization vehicles.

The economic effects of PAEs turn on several factors. Do they amass valid, infringed patents or weak ones? Do they license their technologies on the merits or secure revenue based on credible threats of nuisance litigation? Are they effective intermediaries, channeling licensing revenues from downstream users to upstream inventors? Do they facilitate liquid and transparent licensing markets? Or do they create bottleneck-licensing positions, siphoning off much revenue for themselves and sharing little or none with original inventors? And in identifying patents for acquisition, do they seek the highest quality intellectual-property rights or abstract ones suitable for broad assertions of infringement?

²² *Discon, Inc. v. NYNEX Corp.*, 93 F.3d 1055, 1062 (2d Cir. 1996) (“[I]t is axiomatic that a firm cannot monopolize a market in which it does not compete.”), *rev'd on other grounds*, 525 U.S. 128 (1998).

²³ FTC PAE REPORT, *supra* note 2, at 7 n.12.

Those subtleties largely escaped attention, when PAEs began to emerge as significant players in patent markets roughly a decade ago. For technology users accused of infringement, PAEs were high-tech extortionists, selling protection against threats of their own creation.

For PAEs, however, their business model creates an otherwise-absent market for inventors who lack the capital to monetize their patent holdings. Manufacturers complain when approached for a license, PAEs might say, because they had previously used proprietary technologies for free and refused good-faith licensing talks.

The anti-PAE crowd waged an extensive battle in the court of public opinion. I don't have time to address the full array of commentary, but I touch on some notable examples. In 2013, President Obama opined that PAEs “don't actually produce anything themselves. They're just trying to essentially leverage and hijack somebody else's idea and see if they can extort some money out of them.”²⁴ The same year a presidential report concluded that the percentage of lawsuits for which PAEs accounted rose from 29% in 2010 to 62% in 2012.²⁵ An influential – albeit methodologically criticized – study claimed that NPEs imposed \$29 billion of direct costs on licensees in 2011 alone.²⁶

Arguably the single greatest blow to PAEs was self-inflicted, when MPHJ Technologies sent demand letters to over 16,000 small-business owners across America. The FTC intervened to protect consumers in that instance,²⁷ and in a 2011 report more broadly noted its concerns that

²⁴ President Obama Participates in a Fireside Hangout on Google+, YOUTUBE (Feb. 14, 2013), https://www.youtube.com/watch?v=kp_zigxMS-Y.

²⁵ EXECUTIVE OFFICE OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION 5 (June 2013), http://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf.

²⁶ James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 387 (2014). *But see* David L. Schwartz & Jay P. Kesan, *Analyzing the Role of Non-Practicing Entities in the Patent System*, 99 CORNELL L. REV. 425 (2014) (arguing the Bessen-Meurer study is methodologically deficient).

²⁷ *In re MPHJ Tech. Investments, LLC*, FTC Dkt. No. C-4513, Compl., Mar. 17, 2015, <https://www.ftc.gov/system/files/documents/cases/150317mphjtechcmpt.pdf>.

“[e]ven if PAEs arguably encourage invention, they can deter innovation by raising costs and risks without making a technological contribution.”²⁸

My December 2013 Speech on Patent-Assertion Entities and the Need for Evidence

While some PAE activities gave me pause, the frenzied reaction within the technology industry, academic community, executive branch, and even on the Hill worried me. The new economy is rapidly evolving, subjecting the patent system to new challenges. In our market system, private-ordering solutions to emerging problems are to be expected. Hence, we should exercise caution before condemning new business models before fully understanding them. This is but one application of my larger philosophy of regulatory humility, by which we appreciate the limits of our knowledge and act with due regard for the cost of erroneous intervention. That factor weighs heavily with respect to the patent system, which has long been a central pillar of America’s innovation platform.

Hence, in December 2013, I gave a speech in London, counseling “caution before making any sweeping changes” and urging an evidence-based approach by taking “steps to understand whether there is a problem with PAEs and, if so, the nature and scope of the problem.”²⁹ I noted patent-reform bills under consideration in Congress, including the Innovation Act, the Saving High-tech Innovators from Egregious Legal Disputes (or SHIELD) Act, the Patent Litigation and Innovation Act, the Patent Abuse Reduction Act, the Patent Quality Improvement Act, the End Anonymous Patent Act, and the Patent Transparency and Improvements Act.³⁰

The sheer number of competing bills is telling. The bills reflect the perceived urgency at the time to do something about abusive patent litigation. Certain bills had some sensible

²⁸ PATENT NOTICE AND REMEDIES, *supra* note 6, at 9.

²⁹ Maureen K. Ohlhausen, *A Pragmatist’s Approach to Navigating the Intersection of IP and Antitrust*, Dec. 4, 2013, <https://www.ftc.gov/public-statements/2013/12/pragmatists-approach-navigating-intersection-ip-antitrust>.

³⁰ *Id.*

provisions – such as recording the parties in interest – but many of them would bring potentially disruptive changes to the patent system, like cost-shifting. Those effects would reach beyond PAEs to affect the full universe of patent holders. And, no less importantly, it was unclear to me that a cool, dispassionate review of the evidence revealed that PAEs were unambiguously harming innovation. Observing the limited empirical work to date, I noted the “mixed and incomplete evidence on the economic effects of PAE activity and on the causes of the recent surge in patent litigation.” And while PAE conduct may raise some troubling questions, I commented that “PAEs offer a means for small companies and individual inventors to more efficiently protect and monetize their inventions.”³¹

For those reasons and more, I explained the need for caution and above all facts before embarking on wholesale changes to patent law. The cost of erroneous intervention could be to do “more harm than good by chilling legitimate infringement litigation and diminishing the basket of rights that have successfully fueled our innovative economy for so many years.”³² Hence, I embraced the FTC’s Section 6(b) study on PAEs, which had only recently been announced.

The FTC’s 2016 PAE Report

Here we are – almost three years later – with the report hot off the presses. I must begin by commending staff, including Suzanne Munck who’s on this panel, for their dedicated work. Their painstaking empirical analysis has paid dividends.

We should first make clear what the FTC’s report does not do.

First, it takes no position on the efficiency of PAE business models.³³ A key issue in normatively analyzing PAE conduct is to calculate how much revenue travels to upstream inventors. Due to data limitations, FTC staff could not reliably calculate revenue-sharing

³¹ *Id.*

³² *Id.*

³³ FTC PAE REPORT, *supra* note 2, at 8.

consistently across PAEs in the study. Hence, although some commentators may try to suggest otherwise, the report does not in itself show that patent aggregation and licensing by PAEs harm (or enhance) social welfare.

Second, the report is a case study, not a statistical sampling that tests hypotheses about the full universe of PAEs. No doubt, the panelists today and many other commentators will discuss the conclusions we can reliably extrapolate from the data about PAEs more generally. The FTC's efforts to include both the most economically important PAEs and ones of various sizes, however, produced a universe of 22 Study PAEs and over 2,500 related entities.³⁴ Those Study PAEs may account for over 75% of all U.S. patents that PAEs held at the end of 2013.³⁵

Perhaps the result is sufficiently representative that we can at least discuss inferences about other PAEs. In any event, the FTC's report discloses a variety of fascinating information about the Study PAEs, which makes for interesting reading in its own right.

As to its substantive findings, the report was worth the wait. For me, the standout conclusion was that there is no one PAE business model. Rather, a glaring distinction exists between Portfolio PAEs, on the one hand, and Litigation PAEs, on the other.

Portfolio PAEs appear to be sophisticated firms that aggregate hundreds or thousands of patents, license their portfolios for millions of dollars apiece, and capitalize themselves through institutional and other investors. Despite making up only 9% of the licenses in the study, they generated four-fifths of the revenue.³⁶ They hire specialized IP-licensing professionals and

³⁴ *Id.* at 2.

³⁵ *Id.* at 125.

³⁶ *Id.* at 3.

typically negotiate licenses without first suing their prospective licensees.³⁷ On average, the patents they acquired were over three years younger than those that Litigation PAEs obtained.³⁸

All told, Portfolio PAEs engage in conduct that is potentially consistent with an efficient aggregation service. Given the sums that change hands in arms-length transactions between Portfolio PAEs and their licensees – amounts that seem often to exceed the cost of litigation – it appears that technology users paid sums that may reflect the quality of the licensed patents. Furthermore, in aggregating thousands of presumably complementary patents into a single source, Portfolio PAEs may alleviate royalty-stacking effects associated with divided ownership of complementary property rights.

Of course, it does not necessarily follow that Portfolio PAEs enhance social welfare. It is possible, for example, that Portfolio PAEs share little revenue with upstream inventors, many of their patents would not have been asserted but-for their accumulation, their licensees independently invented the claimed technologies, or that their IPR holdings are of poor quality. To be clear, the FTC's report does not ask whether PAEs benefit innovation. But the facts unearthed about the Portfolio PAEs in the study reveal complex businesses that, at least potentially, serve a valuable aggregation function. Thus, the FTC report does not show that Portfolio PAE activity harms innovation. There is no basis to claim otherwise.

Some litigation PAEs, by contrast, may engage in nuisance litigation.³⁹ They generally sued technology users without first negotiating and they settled shortly afterward. The portfolios that they licensed often comprised no more than a few patents. They generated royalties that typically were less than \$300,000, an amount that accused infringers could expect to spend

³⁷ *Id.* at 46.

³⁸ *Id.* at 139.

³⁹ *Id.* at 4.

through initial discovery.⁴⁰ Despite filing 96% of the lawsuits in the study and representing 91% of licenses, they accounted for only 20% of the reported revenue.⁴¹

There are too many other relevant findings for me to recount in these opening remarks. A few conclusions, however, bear mention.

First, demand-letter campaigns by PAEs did not – in themselves – produce revenue.⁴² Hence, it appears that the *MPHJ* case may have been an outlier.⁴³ Second, PAEs largely acquired and licensed software-related patents covering technologies in information and communications technology.⁴⁴ Of course, those patents – more than most – have come in for criticism on quality grounds. The fact that Study PAEs generally focused on software-related patents has policy consequences that I shall address momentarily. Third, despite the prominence of claims surrounding harmful assertion of RAND-encumbered standard-essential patents, less than 1% of the patents in the study were declared SEPs with RAND commitments.⁴⁵

Finally, the evidence suggests that some PAEs target end users of technologies, rather than those that built the infringing devices.⁴⁶ While I emphasize that patentees can legitimately sue anyone who “uses” their claimed inventions without permission, parallel litigation against the maker and purchasers of an infringing component can introduce wasted litigation and private costs. That is especially so when a manufacturer has superior discoverable information about how the accused device operates.

In response to these and other findings, the report presents measured, limited recommendations to alleviate potential litigation abuses by PAEs. For instance, the report

⁴⁰ *Id.*

⁴¹ *Id.* at 43.

⁴² *Id.* at 5.

⁴³ *See supra* note 27.

⁴⁴ FTC PAE REPORT, *supra* note 2, at 5.

⁴⁵ *Id.* at 136.

⁴⁶ *Id.* at 6, 63-66.

suggests that Congress pass rules increasing transparency and encourages courts to use tools they already have to stay litigation by PAEs against end users when parallel proceedings are already underway against the manufacturer.

I support those proposals because they would not hinder patent holders in enforcing their legitimate rights. Importantly, their limited scope means that they would not have unintended consequences in fields far removed from PAE activity. For instance, the report's proposals for reform do not venture into questions of mandatory cost-shifting – a disruptive change that could produce unforeseen harms to patent value and incentives to invent.

Subsequent Developments

I look forward to hearing from our distinguished panel momentarily. As we weigh the PAE report at a policy level, however, consider how the patent environment has changed since the study period closed in mid-September 2014.

I opined in 2013 that, to the extent there is a problem with PAEs, it is likely to be a function of patent quality, particularly with respect to software patents.⁴⁷ The 2016 PAE report is consistent with that proposition, given the prevalence of ICT patents at issue and the fact that some Litigation PAEs may use nuisance-value lawsuits to extract revenue.

But in weighing next steps, we must consider what has already happened. The Supreme Court's 2014 decision in *Alice* was a watershed moment in patent law, having ramifications that are becoming more apparent by the day.⁴⁸

With a couple of notable exceptions, the Federal Circuit has repeatedly found software-related patents directed at abstract concepts to be patent ineligible under *Alice*.⁴⁹ Less than a

⁴⁷ See *supra* note 29.

⁴⁸ See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014).

⁴⁹ Compare, e.g., *In re TLI Comm'cns LLC Patent Litig.*, 823 F.3d 607 (Fed. Cir. 2016); *Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One*, 792 F.3d

month ago, in a case by a large PAE, Intellectual Ventures, against Symantec, the court found the patents at issue to be invalid.⁵⁰ In a concurring opinion, Judge Mayer wrote that “[s]oftware lies in the antechamber of patentable invention”⁵¹ and concluded that “claims directed to software implemented on a generic computer are categorically not eligible for patent.”⁵² While I disfavor absolutes, it seems that patents claiming potentially abstract computer-implemented methods stand in a precarious position.

Other changes have also materialized. In *Octane Fitness* and *Highmark*, the Supreme Court made it less difficult for prevailing accused infringers to recoup their attorneys’ fees and costs.⁵³ In *Nautilus*, the Court effectively strengthened the definitiveness condition of patentability.⁵⁴ In *Limelight*, it made it harder for patent owners to show induced infringement.⁵⁵ In *Cuozzo* earlier this year, it upheld the PTAB’s use of the “broadest reasonable construction” standard in interpreting claims in *inter partes* review – a broader standard than applies in federal court.⁵⁶ There’s even more to come. Nine days ago, the Supreme Court held oral argument in *Samsung v. Apple* concerning damages for a design patent that applies to only one component of a larger product.⁵⁷

1363 (Fed. Cir. 2015); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. 2014); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014); *Content Extraction & Transmission LLC v. Wells Fargo Bank Nat’l Ass’n*, 776 F.3d 1343 (Fed. Cir. 2014) *with* *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

⁵⁰ *Intellectual Ventures I LLC v. Symantec Corp.*, 2016 U.S. App. LEXIS 17695 (Fed. Cir. Sept. 30, 2016).

⁵¹ *Id.* at 7 (Mayer J., concurring).

⁵² *Id.* at 1 (Mayer J., concurring).

⁵³ *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749 (2014); *Highmark Inc. v. Allcare Health Mgmt. Sys.*, 134 S. Ct. 1744 (2014).

⁵⁴ *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014).

⁵⁵ *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111 (2014).

⁵⁶ *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016).

⁵⁷ Transcript of Oral Argument, *Samsung Elecs. Co., v. Apple Inc.*, 2016 U.S. LEXIS 4456 (Oct. 11, 2016) (No. 15-777), https://www.supremecourt.gov/oral_arguments/argument_transcripts/2016/15-777_1b82.pdf.

There have been other changes, too. As the FTC's new report observes, as of December 2015 the minimum pleading standard articulated in *Twombly* applies to patent cases.⁵⁸ And there are signs that 2016 will produce fewer patent cases filed in federal court. Last week, for example, Lex Machina, found that plaintiffs filed 1,127 patent cases in the third quarter of 2016, a 12.6% reduction over the prior quarter.⁵⁹

Given these – and other – changes already in progress, we must ask ourselves an important question. If Litigation PAEs create problems, is a solution already underway? If so, further tinkering with the patent system may do more harm than good. That is why I favor incremental, modest reforms, like those identified in the FTC report.

Conclusion

Thank you for inviting me to speak with you today. I look forward to your questions, but especially to hearing the panel's insights.

⁵⁸ FTC PAE REPORT, *supra* note 2, at 13.

⁵⁹ Brian Howard, *2016 Third Quarter Litigation Trends*, LEX MACHINA (Oct. 11, 2016), <https://lexmachina.com/2016-third-quarter-litigation-trends/>.