

Testimony of Brian J. Love
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California Assembly Select Committee on High Technology
Informational Hearing on Patent Assertion Entities
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Committee Members and Chairman Fong, thank you for the opportunity to speak here today. My name is Brian Love, and I am an Assistant Professor of Law at Santa Clara University where I teach courses on Patent Law and other forms of Intellectual Property. In addition to this testimony, I have entered into the record a recent publication of mine titled *Expanding Patent Law's Customer Suit Exception* which discusses in greater detail many of the concepts I will address today.¹

I've been asked to give the Committee background information that will help set the stage for the panels to come. Specifically, I've been asked to speak on the topic of: what is a "patent assertion entity" and under what circumstances are their actions problematic.

I. What is a "Patent Assertion Entity"?

Let's begin with the topic of definitions.

Broadly speaking, a "patent assertion entity" – often simply referred to by the acronym P.A.E. – is a company that obtains patents not to support the development of new products, but rather for the purposes of suing those who develop and bring valuable new products to market.² In short, for technology companies patents are a means to an end: selling innovative products and services to customers. For PAEs, patents are themselves an end: the ability to threaten or initiate costly litigation. These entities are also often referred to by the more informal and colloquial term "patent troll," which itself has no widely-accepted definition.³ It is also worth noting that the

¹ Brian J. Love & James C. Yoon, *Expanding Patent Law's Customer Suit Exception*, 93 B.U. L. REV. 1605 (2013).

² Colleen Chien, who coined the term, defined PAEs as "entities . . . focused on the enforcement, rather than the active development or commercialization of their patents." Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 328 (2010). The term "excludes universities, startups and others who seek to commercialize . . . their technology." Colleen V. Chien, *Startups and Patent Trolls*, STAN. TECH. L. REV., at *1, n.3 (forthcoming), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2146251. Jeruss, Feldman, and Walker use a similar term, "patent monetization entity" (PME), which they define as "entities whose primary focus is deriving income from licensing and litigation, as opposed to making products." Sara Jeruss et al., *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE L. & TECH. REV. 357, 361 (2012). They exclude universities and individuals from the definition, but do include at least some IP-holding subsidiaries of product-producing companies. *Id.* at 369 ("[I]f a computer manufacturer were to spin part of its patent portfolio off into a separate entity . . . the spin-off should be classified as a patent monetization entity."), 371-72.

³ See, e.g., Press Release, The White House, Office of the Press Secretary, Fact Sheet: White House Task Force on High-Tech Patent Issues (June 4, 2013) ("Patent Assertion Entities (PAEs), companies that, in the President's words 'don't actually produce anything themselves,' and instead develop a business model 'to essentially leverage and

term PAE excludes many entities like universities and early-stage startups that don't sell a product but, nonetheless, are actively involved in the commercialization of technology either alone or in conjunction with existing product-producing companies.⁴

II. Why are PAEs Problematic?

With that definition in place, let's turn to the question of why PAEs can be bad for society.

At core, PAEs are problematic because they drastically change the economics of patent litigation in ways that allow them to extract from product-producing companies settlement payments that primarily reflect litigation costs, not the value of the patented technology. In other words, patent suits filed by PAEs often settle for "nuisance value."

Imagine a run-of-the-mill lawsuit with one plaintiff and one defendant. The plaintiff faces a cost of bringing that suit. And, the defendant faces a cost of defending that suit. In addition, both parties have some estimate of the amount of damages a jury might award down the road if the case were to proceed to trial. If the cost of litigation is small relative to the amount at stake in the suit, it is likely that the parties will settle the suit for an amount that primarily reflects the magnitude of the plaintiff's injury, not the litigation costs the defendant will avoid by settling, rather than fighting.

Patent suits, however, rarely fit this traditional model. In a suit between competitors in the high-tech industry, chances are that both companies own patents and both companies sell products that (at least arguably) infringe each other's patents. Thus, patent suits between competitors rarely involve a "plaintiff" suing a "defendant." Rather, they involve a patent owner suing an alleged infringer, who in turn responds by filing a mirror image countersuit. As a result, the plaintiff is a patent owner and an alleged infringer. And, the defendant is an alleged infringer and a patent owner. Both parties incur the cost of filing suit, both parties incur the cost of

hijack somebody else's idea and see if they can extort some money out of them' . . . are commonly known as 'patent trolls.'"), available at <http://www.whitehouse.gov/the-press-office/2013/06/04/fact-sheet-white-house-task-force-high-tech-patent-issues>; see also Post of Joff Wild to the Intell. Asset Mgmt. blog, *The Real Inventors of the Term "Patent Troll" Revealed* (Aug. 22, 2008) (recounting how the term "patent troll" was coined at Intel in 1999 because, among other reasons, the company wanted to develop "a pithy term or phrase" that would help bring public attention to the problem of abusive patent litigation).

⁴ *Id.* All patent holders that do not sell a product, including but not limited to PAEs, are generally referred to as non-practicing entities (NPEs) because, in patent parlance, they do not "practice" their patent rights. See John R. Allison, et al., *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 10-11 (2009) (introducing a taxonomy of NPEs that includes – in addition to PAEs – universities, pre-product startups, and IP-holding subsidiaries of product-producing parent companies). As a practical matter, the distinction between NPEs and PAEs is largely irrelevant because startups, universities, and IP-holding subsidiaries file a very small number of patent suits. See Robin Feldman, et al., *The AIA 500 Expanded: The Effects of Patent Monetization Entities*, U.C.L.A. J.L. & TECH, at *33 (forthcoming) (finding that universities filed just 0.4% (53 of 13,000) of patent suits filed during 2007-2008 and 2011-2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2247195; Brian J. Love, *An Empirical Study of Patent Litigation Timing: Could a Patent Term Reduction Decimate Trolls Without Harming Innovators?*, 161 U. PA. L. REV. 1309, 1341 (2013) (finding in a study of 421 patents litigated in 744 suits that universities asserted none of the patents, that a pre-product startup asserted one, and that IP-holding subsidiaries of product-producing companies asserted eight).

defending against a suit, and both parties face the prospect of paying damages to the other in amounts that may well cancel each other out. When these economic conditions are present, patent litigation is expensive for both parties, is unlikely to be lucrative for both parties, and as a result rarely takes place.⁵ Instead, disputes between high-tech companies are generally resolved with permissive cross-licensing arrangements that are negotiated cheaply and efficiently outside of court. As a result, high-tech companies compete most often, not in the courtroom with patents, but in the marketplace with new and improved products.

A. *Many PAEs Reduce Enforcement Costs and Increase Defense Costs by Suing Widely*

PAEs have the potential to cause trouble principally because they upset this traditional litigation-reducing balance by drastically altering the costs and benefits of patent litigation.

First, PAEs cannot be countersued for infringement because, by definition, they do not sell products. Second, many PAEs take additional steps specifically designed to drive down their costs of enforcement while at the same time driving up their opponents' costs of defense. If PAEs are successful at driving up the costs of defense so high that those costs are large relative to the value of the patented technology at issue, then the strength of their infringement allegations quickly becomes irrelevant. Tech companies accused of infringing a PAE's patent will be willing to – and, in fact, generally do – settle for amounts that primarily reflect the cost of fighting in court, and not the value of the patent that is allegedly infringed.

How do PAEs send the cost of defense skyrocketing?

One key way is by waiting for technology to mature – to be adopted widely throughout an industry – and then stepping out from the shadows to sue a large number of alleged infringers.⁶ Studies show that PAEs sue far more often than tech companies. On average, PAEs sue between five and six times as many companies per patent.⁷ Local tech giants like Apple, HP, Google, and Cisco face dozens of PAE suits every year. More accused infringers means more lawyers, more documents, more depositions, and thus more overall cost to drive up settlement amounts.

⁵ See, e.g., Brian J. Love, *No: Software Patents Don't Spur Innovation, but Impede It*, WALL ST. J., May 13, 2013, at R2 (“Patent stockpiles—like Cold War-era nuclear arms—engender a relatively tranquil state of mutually assured destruction. Everyone infringes everyone else's patents, so most companies don't sue for fear of an equally destructive counterattack.”). David Friedman has aptly and colorfully likened this scenario to ancient “feud”-based legal systems. David D. Friedman, *Feud as Law Enforcement, Ancient and Modern, or, Why is There a Patent Troll Problem and How Can it be Solved?* (working paper) (“[T]he practice of high-tech companies accumulating large inventories of patents, many of which they are unlikely to use . . . is the modern equivalent of the medieval Icelander accumulating weapons and allies just in case he ever needs them to prosecute his side of a feud. As in that case and the somewhat higher stakes version played by nations under the name of Mutual Assured Destructions, if the strategy works the weapons need never be used.”), available at <http://www.daviddfriedman.com/Academic/FeudThenandNow.html>.

⁶ See Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1335 (finding that NPEs wait, on average, about three years longer than product-producing companies before litigating patents they own).

⁷ *Id.* at 1341 (finding, in a sample of 421 litigated patents, that independent IP licensing companies asserted 57 patents in 234 suits against 920 total accused infringers, compared to product-producing companies, which asserted 333 patents in 456 suits against 964 total accused infringers).

B. Many PAEs Target Unsophisticated Small Businesses That Cannot Afford to Fight

More and more in recent years, PAEs are also increasing the number of parties they sue by targeting companies lower in the supply chain, like retailers and customers who simply purchased off-the-shelf consumer electronics. Patent law traditionally allows patent owners to sue those who make, sell, or use the patented technology.⁸ One manufacturer may make a product that is sold by dozens or hundreds of retailers and, in turn, used by hundreds or thousands of individual customers.

PAEs like GeoTag, Lodsys, E-Data, Sovereign Software, and Clear with Computers have collectively sued hundreds of retailers (including California natives like Levi Strauss, The Gap, California Pizza Kitchen, and Safeway⁹) for infringing patents that allegedly cover some aspect of routine e-commerce.¹⁰ PAEs ArrivalStar and PJC Logistics have likewise sued hundreds of trucking companies, private auto fleet owners, and public bus and rail authorities (including the Monterey-Salinas Transit Corporation and the cities of Vacaville and Visalia, California¹¹) simply because they use off-the-shelf GPS devices to track vehicles.¹²

In fact, the problem has become so pervasive that the majority of companies sued by PAEs are not large tech firms, but rather small business that lack experience with patent law and the federal court system.¹³ In recent months, hotels, coffee shops, and even non-profit medical providers, like the Children's Hospital of Philadelphia and the AIDS Healthcare Foundation, have been accused of patent infringement simply for buying and using off-the-shelf wireless

⁸ Under § 271(a) of the Patent Act, any entity that “makes, uses, offers to sell, or sells” subject matter covered by a patent claim is an infringer. 35 U.S.C. § 271(a) (2006). Moreover, unlike general tort law, patent law does not permit accused infringers to implead those who might be jointly and severally liable for the infringement. *See* Bernard Chao, *The Case for Contribution in Patent Law*, 80 U. CIN. L. REV. 97, 98 (2011) (“Under tort law’s theory of contribution, when one party is sued, it can implead other parties that may be jointly and severally liable and ask that they pay their fair share of any judgment. Although contribution theory has spread to numerous areas of the law, patent law is not among them. Thus, when a manufacturer is sued for patent infringement, it cannot seek contribution from the component supplier that included the patented technology in its component.”).

⁹ *See, e.g.*, *GeoTag, Inc. v. Royal Purple, Inc.*, No. 2:10-cv-00575 (E.D. Tex., filed Dec. 18, 2010); *GeoTag, Inc. v. Starbucks Corp.*, No. 2:10-cv-00572 (E.D. Tex., filed Dec. 17, 2012); *GeoTag, Inc. v. Frontier Commc’s Corp.*, No. 2:10-cv-00265 (E.D. Tex., filed July 23, 2010).

¹⁰ *See* Love & Yoon, *supra* note 1, at 1610-1611.

¹¹ *ArrivalStar S.A. v. City of Vacaville*, No. 2:12-cv-01642 (E.D. Cal., filed June 19, 2012); *ArrivalStar S.A. v. Monterey-Salinas Transit Corp.*, No. 3:12-cv-00990 (N.D. Cal., filed Feb. 27, 2012).

¹² *Id.*

¹³ Chien, *Startups and Patent Trolls*, *supra* note 2, at *1-2 (finding that 55% of PAE-suit defendants make less than \$10 million in annual revenue and that 66% make less than \$100 million in annual revenue); James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV., at *13 (forthcoming 2014) (finding that firms making less than \$100 million in annual revenue constitute 82% of NPE-suit defendants), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210&download=yes. More than a decade ago, suits against end-users of technology were virtually unheard of. Roger D. Blair & Thomas F. Cotter, *An Economic Analysis of Seller and User Liability in Intellectual Property Law*, 68 U. CIN. L. REV. 1, 3 (1999) (finding, based on an empirical analysis, that patent law is “almost never enforced” against private, noncommercial users of inventions).

routers, just like those many of you currently use in your offices or at home.¹⁴ To the extent it ever was, the PAE problem is no longer isolated to Silicon Valley. It has become a statewide and nationwide problem.¹⁵

With the median cost of defending even a low stakes patent suit somewhere in the neighborhood of \$600,000,¹⁶ very few of these companies can afford to fight regardless of the merits of a PAE's infringement claim. In fact, a vague threatening letter, by itself, can be enough to induce some small businesses to pay up to avoid even the slim chance that a suit might be filed down the road.¹⁷

C. High Defense Costs and High Settlement Rates Allow PAEs to Leverage Weak Patents

As a result, PAEs can – and often do – assert very weak patents and still operate quite profitably. Statistics bear this out.

For one, PAEs overwhelmingly assert narrow patents related to computing and telecommunications.¹⁸ Though products in some industries may be covered by just a handful of

¹⁴ Love & Yoon, *supra* note 1, at 1610 (“In the last two years, NPE Innovatio has asserted its patent rights – rights the company alleges cover any use of a Wi-Fi network – against hundreds of small businesses like coffee shops and hotels that offer wireless network access to patrons, invariably offering to settle for an amount far below the cost of mounting even the slightest defense.”); Colleen V. Chien & Edward Reines, *Why Technology Customers Are Being Sued En Masse for Patent Infringement & What Can Be Done*, at *2 (working paper) (“Last year, the Children’s Hospital of Philadelphia and the AIDS Healthcare Foundation were accused of patent infringement. Their alleged wrongdoing? Purchasing routers and using them to provide wireless services.”), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2318666.

¹⁵ See, e.g., Amended Complaint at 19, *Cisco Sys., Inc. v. Innovatio IP Ventures, LLC*, No. 1:11-cv-09308 (N.D. Ill. Oct. 1, 2012) (“Innovatio has sent more than 8,000 threatening letters to licensing targets [end users of Wi-Fi technology] in all 50 states.”).

¹⁶ AM. INTELLECTUAL PROP. LAW ASS’N, REPORT OF THE ECONOMIC SURVEY 2011, at I-155 to I-156 (2011) (reporting a median cost of \$650,000 among survey respondents involved in cases with less than \$1 million at stake); Bessen & Meurer, *supra*, at *17 (reporting a median cost of \$560,000 among 82 survey respondents involved in 1,184 NPE cases). These figures reflect only the direct costs of litigation, like attorneys’ fees. Bessen & Meurer, *supra*, at *4. They do not include other indirect costs of patent litigation, like “the opportunity costs of the effort exerted by legal, managerial, engineering, and scientific personnel inside the firm [accused of infringement], and other business disruption costs such as loss of goodwill, loss of market share, or disruption of innovative activities,” which may well be much larger than the direct costs. *Id.* at *3-4 (estimating that the total direct cost to companies accused of infringement by NPEs in the U.S. is \$29 billion per year and comparing that finding to an earlier estimate that the overall total cost to targets of U.S. NPE litigation is \$80 billion annually).

¹⁷ See Colleen V. Chien, Patent Assertion Entities, Presentation to the D.O.J./ F.T.C. Workshop on PAEs, at *27 (Dec. 10, 2012) (reporting an estimate that, for each PAE suit actually filed in court, there are 25 to 50 additional licensing demands are made by letter outside of court); Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509, 517 (2003) (reporting that E-Data, a company that “owns a patent which arguably covers financial transactions on the Internet,” reportedly sent demand letters to 75,000 alleged infringers before suing forty-one companies for patent infringement).

¹⁸ See Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1344 (finding that roughly 65% of NPE patent assertions were brought to enforce a software patent and 80% were brought to enforce a high-tech patent); James Bessen, et al., *The Private and Social Costs of Patent Trolls*, 34 REG. 26, 29 (2012) (finding that 62% of patents litigated by NPEs between 1990 and 2010 were “software patents” and 75% covered “computer and communications technology.”).

patents, high-tech products are by far the most patent-dense.¹⁹ This fact means that individual high-tech patents are on average relatively unimportant.²⁰ It also means that they are relatively plentiful, relatively cheap to acquire, relatively easy to assert against companies en masse, and thus particularly well-suited for use in a business model based on nuisance value litigation.

Even among the population of high-tech patents, PAEs tend to assert those that are disproportionately weak. Compared to patents asserted by product-producing companies, PAE patents are invalidated about 50% more often²¹ and are found not infringed about twice as often²² when they are actually scrutinized in court. Overall, PAEs lose about 90% of the time that their infringement allegations are actually tested on their merits by a judge or jury.²³

Nonetheless, despite this abysmal record of courtroom success, PAEs continue to file suit and continue to profit from doing so due to the high cost of litigation and their selection of targets. The vast majority of cases they file settle well before there is a ruling on the merits,²⁴ in amounts

¹⁹ Compare Lisa Larrimore Ouellette, *How Many Patents Does It Take To Make a Drug? Follow-On Pharmaceutical Patents and University Licensing*, 17 MICH. TELECOMM. TECH. L. REV. 299, 316-17 (2010) (reporting that pharmaceuticals are typically protected by just two to four patents per drug) with Brian J. Love, *Apple Bites Back: But Will the Company Come to Regret its Huge Court Victory?*, L.A. TIMES, Aug. 30, 2012, at A15 (“The average smartphone may arguably infringe as many as 250,000 patents, not to mention myriad copyrights and other design-related intellectual property.”).

²⁰ See Love, *Apple Bites Back*, *supra*, at A15 (“If you were to divide the average retail price of a smartphone – about \$400 – by those 250,000 potentially applicable patents, you’d find that each one would account for just \$0.0016 of the phone’s value. And in reality even that’s too much, once you factor in the costs of raw materials, labor, transportation, and marketing, which also contribute to the phone’s value.”).

²¹ Compare Jay P. Kesan & Gwendolyn G. Ball, *How Are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes*, 84 WASH. U. L. REV. 237, 246, 276 (2006) (finding in a study of all patent cases filed in 1995, 1997, and 2000 that, of 584 summary judgment and trial verdicts, 118 (19.8%) resulted in an invalidity judgment) with Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 482 (2012) (finding that, of 46 patent suits involving the “ten most litigious NPEs” in which there was a ruling on the merits, 13 (28.2.6%) invalidated all asserted claims of at least one patent). *But cf.* Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1346 (finding a roughly equal rate of invalidity among a much smaller sample of adjudicated patents).

²² Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1346 (finding that 29% of adjudicated patents owned by product-producing companies had been held not infringed at least once, compared to 56% of adjudicated patents owned by NPEs, and finding that this difference is statistically significant despite a relatively small sample size).

²³ See Robin Feldman, et al., *The AIA 500 Expanded*, *supra* note 4, at *77-79 (finding that, in U.S. patent cases filed in 2007-2008 and 2011-12, product-producing companies won about 31% of the time their patents were adjudicated on the merits, while PME and individuals won just 14% and 18% of the time, respectively); Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1346 (finding that, of litigated U.S. patents issued between May 1993 and May 1994, more than 83% owned by NPEs were found not-infringed or invalid, while almost 48% of those owned by product-producing companies were found valid and infringed); John R. Allison, et al., *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 689, 693 (2011) (finding that between 2000 and 2010, NPEs that asserted the same patent in eight or more cases lost more than 92% of the time when they litigated to a judgment, while equally-litigious product-producing companies won 40% of time).

²⁴ See Robin Feldman, et al., *The AIA 500 Expanded*, *supra* note 4, at *71 (finding that patent suits filed by NPEs in 2007-2008 and 2011-12 settled or ended with a consent judgment about 76% of the time, and only reached a judgment on the merits about 3% of the time); Love, *An Empirical Study of Patent Litigation Timing*, *supra* note 4, at 1346 (finding that, of litigated U.S. patents issued between May 1993 and May 1994, roughly 80% were never adjudicated on the merits); Allison et al., *Patent Quality and Settlement Among Repeat Patent Litigants*, *supra*, at

that primarily reflect cost, not technological value.²⁵ And, even when PAEs' claims are revealed to be clear losers in court, they rarely face any consequences. Though authorized by statute and by the Federal Rules of Civil Procedure,²⁶ sanctions and fee-awards are exceedingly rare in patent cases.²⁷

In conclusion: PAEs are in the business of asserting patents, not making products. And right now business is especially good. By avoiding counterclaims of infringement, by targeting numerous companies in numerous suits, and by targeting unsophisticated small businesses, many PAEs are able to turn weak patent rights into disproportionately profitable revenue streams – to the detriment of inventors who chose to commercialize their technology, to the detriment of retailers who sell that technology, and to the detriment of consumers who wish to buy that technology.

Respectfully submitted,



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694 (finding that between 2000 and 2010, patentees that asserted the same patent in eight or more cases settled about 88% of the time).

²⁵ Chien, Patent Assertion Entities, *supra* note 17, at *69 (reporting, based on data collected by RPX Corp. from 78 companies involved in 900 PAE suits, that the majority of PAE suits settle for less than the cost of defense), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2187314.

²⁶ 35 U.S.C. § 285 (2006) (“The court in exceptional cases may award reasonable attorney fees to the prevailing party.”). Fees are, on occasion, also awarded in patent suits under other statutes and rules. *See, e.g.*, Vinson & Elkins, LLP, Presentation, Attorneys’ Fee Awards in Patent Litigation (Aug. 9, 2010), available at http://www.velaw.com/uploadedFiles/VEsite/Resources/AjeetPaiAttorneysFeeAwardsPatentLitigationCLE_Aug2010.pdf (listing as additional bases for recovering attorney fees F.R.C.P. Rule 37, 28 U.S.C. § 1927, F.R.A.P. 38, and courts’ inherent powers).

²⁷ Colleen V. Chien, *Reforming Software Patents*, 50 HOUS. L. REV. 323, 375 (2012) (reporting that between 2005 and 2011, fees were awarded in just 56 of the approximately 3000 total patent suits in which there was a ruling on the merits).