

PATENT ALLIANCE: DEFENSIVE AGGREGATION—THE MARKET SOLUTION TO NON-PRACTICING ENTITIES?

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ABSTRACT

In recent times, patent litigation involving Non-Practicing Entities (“NPEs”) has increased drastically over the last decade, at an average rate of 24% per annum. Patent Assertion Entities (“PAEs”), a subcategory of NPEs, are responsible for approximately one-fifth of the total patent suits in federal courts with firms accruing around \$29 billion of direct costs due to these assertions of patent rights. NPE assertions have become such a critical problem that even United States President Barack Obama mentioned them in his State of the Union address. Although legislative reform is a widely recognized solution to NPE patent assertion problems, Congress has been notoriously slow to act in the area of patent reform. Consequently, industries have looked to potentially quicker solutions, such as the formation of patent alliances that aggregate patent rights for their members’ use but do not offensively assert the acquired patents against third parties. Such alliances, however, pose their own unique challenges in creating an efficient defense against NPE patent assertions.

This article examines the business models of two established Patent Alliances, AST and RPX; both endorse the non-assertion philosophy yet use different business

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models to achieve their defensive goals. This article contends that operation under a principle of non-assertion serves as a major source of economic inefficiencies in the alliances, resulting in higher licensing costs for practicing entities, as well as a potential hotbed for antitrust violations. This article asserts that upon modifications to AST’s and RPX’s current business models, efficiency can be improved. Nevertheless, these patent alliances still have highly questionable, long-term viability because of the impracticality in their preemptive purchasing strategy and the difficulty in managing a large member pool to support this strategy. In addition, without reassessing the non-assertion goals, and modifying current practices implementing such goals, even the modifications proposed to strengthen patent alliances may ultimately prove an ephemeral solution to the problem.

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INTRODUCTION

“If we were all better people the world would be a better place.”¹ This optimistic view of the world however, seems to lie behind most efforts to deal with the problems of Non-Practicing Entities (“NPEs”)—so called “patent trolls” in common parlance—under U.S. patent law.² The hope is

¹ David K. Levine, *What is Game Theory?*, DEPARTMENT OF ECONOMICS, U.C.L.A., <http://levine.sscnet.ucla.edu/general/whatis.htm> [<https://perma.cc/YC68-CDKV>].

² The term “NPE” has an indistinct and shifting definition. For example, PatentFreedom defines NPE as “any entity that earns or plans to earn the majority of its revenue from the licensing or enforcement of its patents”. *All About NPEs*, PATENTFREEDOM, <https://www.patentfreedom.com/about-npes/background/> (last visited Oct. 8, 2013). By contrast, others use the term NPE to refer to the entities who use abusive tactics to enforce sometimes questionable patents against smaller entities. *See infra* Part I.B. Others use the term “patent assertion entity” (“PAE”) to refer to a subcategory of NPEs which adopt aggressive patent assertion strategy in their business model. *See* U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-13-465, INTEL. PROP.: ASSESSING FACTORS THAT AFFECT PAT. INFRINGEMENT LITIG. COULD HELP IMPROVE PAT. QUALITY 2n.6 (Aug. 22, 2013), *available at* <http://www.gao.gov/assets/660/657103.pdf> [hereinafter 2013 GAO REP.]. These diverse meanings underscore some of the difficulties in dealing with NPEs. For ease of convenience, this article will generally use the term NPE to refer to those entities that adopt

that by making all patent holders “better people”³—because they do not assert patent rights in the abusive manner that some NPEs do—the world will be a “better place.” On a literal basis, NPEs are patent holders that do not practice the inventions on whose patents they hold. Such NPEs can serve as licensors, but they can also lie in wait and cause disruption when they eventually spring forth to assert their rights. We can still vividly remember the famous Blackberry shutdown saga in which Research in Motion (“RIM”), manufacturer of the Blackberry device, was forced to settle the case with “a tiny patent-holding firm” for \$612.5 million so as to avoid a catastrophic shutdown of its widely used wireless device.⁴

Yet on the more quantitative side of the story, statistical data has shown that NPE activities have flourished in recent times. According to one source,⁵ patent litigation involving NPEs has increased drastically over the last decade, at an average rate of 24% per annum since 2004.⁶ According to another study, “Patent Assertion Entities” (“PAEs”)—a subcategory of NPEs that adopt aggressive

aggressive (and often abusive) patent assertion strategies. For a more detailed discussion on definition of NPE, *see infra* Part I.B.

³ Game Theory defines “better people” as people who are more altruistic, or more generous. *See* Levine, *supra* note 1.

⁴ Unless otherwise indicated, all amounts are in U.S. dollars. Mark Heinzl & Amol Sharma, *RIM to Pay NTP \$612.5 Million To Settle BlackBerry Patent Suit*, WALL ST. J., Mar. 4, 2006, available at <http://online.wsj.com/news/articles/SB114142276287788965> [<https://perma.cc/UT9L-SDHV>].

⁵ *Litigations Over Time*, PATENTFREEDOM, <https://www.patentfreedom.com/about-npes/litigations/> (last visited Oct. 8, 2013).

⁶ PatentFreedom defines NPEs as “any entity that earns or plans to earn the majority of its revenue from the licensing or enforcement of its patents”. *All About NPEs*, *supra* note 2. This definition of NPE is essentially that of PAEs discussed below. *See infra* Part I.B.

patent assertion strategies as a business model⁷—are responsible for approximately one-fourth of the total patent suits in federal courts.⁸ Yet the latest PricewaterhouseCoopers (“PwC”) Patent Litigation Study continues to observe the trend in which the median damage awards for NPEs is significantly higher than that of practicing entities,⁹ at \$8.9 million, and \$2.0 million, respectively.¹⁰

By 2011, the median total litigation cost for a small or medium sized company has been estimated at \$318,000 and \$646,000, respectively.¹¹ Firms accrued approximately

⁷ For detailed discussion on NPE subcategories, *see infra* Part I.B.

⁸ 2013 GAO REP., *supra* note 2, at 17. The GAO study was conducted using data from other sources such as Lex Machina and RPX database. *Id.* at 49. Therefore, its finding is independently derived from those relied upon in PatentFreedom, which maintains its own database. *See e.g.*, PATENTFREEDOM, *supra* note 5.

⁹ PwC’s definition of an NPE includes non-offensive entities in addition to PAEs. PRICEWATERHOUSECOOPERS, 2013 PATENT LITIGATION STUDY: BIG CASES MAKE HEADLINES, WHILE PATENT CASES PROLIFERATE 34 (2013), http://www.pwc.com/en_US/us/forensic-services/publications/assets/2013-patent-litigation-study.pdf [hereinafter 2013 PwC REP.]. Surprisingly, there seems to be very little concern from academia and the industry with which to provide a definition for practicing entity. Generally speaking, a practicing entity is one which works the patented invention by making, using, offering to sell, selling, or importing into the U.S. the invention. *See generally*, 35 U.S.C. § 271(a) (2012). It is the opposite of a non-practicing entity. *See infra* Part I.B.

¹⁰ PRICEWATERHOUSECOOPERS, 2015 PATENT LITIGATION STUDY: A CHANGE IN PATENTEE FORTUNES 4 (2015), *available at* <https://www.pwc.com/us/en/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf>.

¹¹ James E. Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes* 15 (B.U. Sch. L. & Econ. Res. Paper No. 12-34, 2012), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210. Note that this study includes “patent assertion entities, individual inventors,

\$29 billion of direct costs, including the cost of outside legal services and license fees,¹² due to the assertion of patent rights by NPEs.¹³

Today, NPE patent assertions have become such a critical problem that even United States President, Barack Obama, mentioned them in his State of the Union address on January 29, 2014,¹⁴ and although legislative reform is a widely recognized solution to NPE patent assertion problems, Congress has been notoriously slow to act in the area of patent reform.¹⁵ Fearing that “. . . [i]n the long run we are all dead,”¹⁶ industries have looked to potentially quicker solutions, for “if we are to better the future we must

universities, and non-competing entities (operating companies asserting patents well outside the area in which they make products and compete)” under its NPE definition. *Id.* at 8. As noted above, *see supra* note 2, these differing definitions make it difficult to track precisely the scope of the problem. But regardless of such difficulties, they demonstrate that patent assertions by NPEs create serious economic consequences that may lead to costly inefficiencies in the functioning of the patent system as currently envisaged.

¹² *Id.* at 4.

¹³ *Id.* at 2.

¹⁴ OFFICE OF THE PRESS SECRETARY, THE WHITE HOUSE, PRESIDENT BARACK OBAMA'S STATE OF THE UNION ADDRESS (Jan. 28, 2014), <http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address> (urging “pass[ing] a patent reform bill that allows [U.S.] businesses to stay focused on innovation, not costly, needless litigation”).

¹⁵ Office of The Press Secretary, The White House, President Obama Signs America Invents Act, Overhauling the Patent System to Stimulate Economic Growth, and Announces New Steps to Help Entrepreneurs Create Jobs (Sep. 16, 2011), <http://www.whitehouse.gov/the-press-office/2011/09/16/president-obama-signs-america-invents-act-overhauling-patent-system-stim> [https://perma.cc/PMZ9-S3QB] (referring to the America Invents Act as “the most significant reform of the Patent Act since 1952”).

¹⁶ JOHN M. KEYNES, A TRACT ON MONETARY REFORM 80 (1923).

disturb the present.”¹⁷ One such solution is the creation of patent alliances.¹⁸ Broadly speaking, patent alliances are organizations that aggregate patent rights for their members’ use but who do not offensively assert the acquired patents against third parties.¹⁹ Such alliances pose their own unique challenges in creating an efficient defense against NPE patent assertions.

This article analyzes whether participating in a patent alliance is an effective way for practicing entities to alleviate the problem of NPE patent assertions. Section I sets the stage on which NPEs and practicing entities continue to battle. In a patent system in which patent holders can charge third parties for using their patented inventions and transfer their patent rights to others freely, NPEs germinated and proliferated. As a result, defensive mechanisms such as patent alliances emerged, with the aspiration that such alliances would not only curb assertions from NPEs, but would also avoid contributing to the NPE assertion problem by declining to assert any acquired patent rights against others.

Section II examines the business models of two established Patent Alliances, AST and RPX; both endorse the non-assertion philosophy yet use different business models to achieve their defensive goals. Despite their different business models, this article contends that operation under a principle of non-assertion, while perhaps laudable, serves as a major source of economic inefficiencies in the alliances. To the contrary, non-assertion ultimately results in higher licensing costs for practicing entities and

¹⁷ CATHERINE BOOTH. The precise origin of this quote is unknown. But Catherine Booth, co-founder of the Salvation Army, is believed to be “the source of this brilliant quote.” DAVID SCHROEDER, UPFRONT MUSINGS: CHRIST AND CULTURE ON THE CAMPUS 147 (2006).

¹⁸ For a more detailed definition of patent alliances, *see infra* Part I.C.

¹⁹ *See infra* Part I.C.

serves as a potential hotbed for antitrust violations.

Section III proposes modifications to AST's and RPX's current business models to address the identified inefficiencies. Although efficiency can be improved, patent alliances ultimately have highly questionable, long-term viability because of the impracticality in their preemptive purchasing strategy, and the difficulty in managing a large member pool to support this strategy.

Section IV concludes by proposing specific modifications to current patent alliance business model to alleviate current inefficiencies. It further highlights the paradoxical and perhaps inconvenient verity that non-assertion may not be as noble and rational a gesture as many has once believed. In fact, it contends that without reassessing the non-assertion goals, and modifying current practices invoking such goals, even the modifications proposed to strengthen patent alliances may prove an evanescent solution to the problem.

I. BACKGROUND

The threat that NPEs pose to the growth and development of today's market actually inheres in the exclusionary rights granted patent owners.²⁰ Although aggressive patent assertion models for NPEs are not the only choice for business to capture the value of their patent portfolios, they have become an increasingly popular choice.²¹ Yet, if the present patent law provides the legal basis for harmful patent assertion techniques it also provides the framework for patent alliances that have sprung up to defend against these practices. Despite the potential salutary effect these patent alliances may have on the problem of aggressive patent assertions, they are not without their

²⁰ See 35 U.S.C. § 271(a) (2012).

²¹ See *supra* notes 5–13 and accompanying text.

problems and inefficiencies.

A. An introduction to the U.S. Patent System.

“Patent” is the short form for “letters patent”, derived from the Latin phrase *Litterae patentes*,²² is one type of Intellectual Property protected under U.S. laws.²³ In the U.S., the patent system is delimited by the Patent Clause of the U.S. Constitution which gives Congress the power to make laws “[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries[.]”²⁴ Under the present Patent Act, a patent may be granted to “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”²⁵ An invention is patentable if it constitutes proper subject matter and is novel, non-obvious, and useful.²⁶

A patent confers on its owner the right to exclude others from exploiting the patented invention without the patentee’s authority. Exploitation encompasses a wide range of acts, including “mak[ing], us[ing], offer[ing] to sell, or sell[ing] any patented invention, within the United States or import[ing] into the United States any patented invention during the term of the patent therefor.”²⁷ Accordingly, a patent gives its owner a legal “monopoly” over the

²² CRAIG A. NARD ET AL., *THE LAW OF INTELLECTUAL PROPERTY* 19 (3d ed. 2011).

²³ *Id.* at 2. The other forms include copyrights, trademarks and trade secrets. *See generally, id.*

²⁴ U.S. CONST. art. I, § 8, cl. 8.

²⁵ 35 U.S.C. § 101 (2012).

²⁶ *Id.* §§ 101–03.

²⁷ *Id.* § 271(a). *See also id.* §§ 271(b), (c), (f), & (g).

underlying invention, but not necessarily an economic one.²⁸

At its heart, a patent merely grants exclusionary rights to a “paper invention.” That is, there is no obligation that an inventor reduces her invention to practice by creating a working model to secure patent protection.²⁹ Nor is there a requirement that the patented invention actually works in the precise manner disclosed in the patent specification as a whole.³⁰

²⁸ NARD, *supra* note 22, at 19–20.

²⁹ An invention is patentable if it constitutes proper subject matter, is novel, non-obvious, and useful. 35 U.S.C. §§ 101–03. While the law requires the inventor to disclose “the best mode contemplated by the inventor of carrying out his invention,” *id.* § 112, specific examples of an embodiment are not required. *In re Gay*, 309 F.2d 769, 774 (C.C.P.A. 1962). Further, inventors need not “personally construct and test their invention.” *Tucker v. Naito*, 188 U.S.P.Q. (BNA) 260, 263 (B.P.A.I. July 16, 1975). Accordingly, while the law does not protect inventions lacking utility, 35 U.S.C. § 101; *see also infra*, note 30; protection can be obtained by providing a description (specification) of the invention (constructive reduction) that looks good on paper. *See* 35 U.S.C. §§ 101–03; *see also Tucker*, 188 U.S.P.Q. at 263.

³⁰ Two related concepts are implicated here: utility and enablement. 35 U.S.C. §§ 101 & 112. Utility and enablement are different but sometimes related requirements. *See* U.S. PAT. & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2164.07, *available at* <http://www.uspto.gov/web/offices/pac/mpep/s2164.html> (last modified Sep. 13, 2012) [hereinafter M.P.E.P.]. Utility demands “some specific, substantial, and credible use be set forth for the invention,” *id.*, while enablement requires “an indication of how the use . . . can be carried out, i.e., how the invention can be used.” *Id.* The threshold for utility is low that “[t]o violate [35 U.S.C.] § 101 the claimed device must be totally incapable of achieving a useful result.” *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571 (Fed. Cir. 1992). Further,

an invention does not lack utility merely because the particular embodiment disclosed in the patent lacks perfection or performs crudely . . . A commercially successful product is not required . . . Nor is it essential

Moreover, although a patent gives its owner the right to exclude others from exploiting the patented invention, there is no requirement that the owner personally exploits the patent or works the underlying invention.³¹ Rather, a U.S. patent represents a property right; it may be transferred, licensed, or mortgaged.³²

that the invention accomplish all its intended functions . . . or operate under all conditions . . . partial success being sufficient to demonstrate patentable utility . . . In short, the defense of non-utility cannot be sustained without proof of total incapacity.

M.P.E.P § 2107.01 (citing *In re Brana*, 51 F.3d 1560 (Fed. Cir. 1995); *E. I. du Pont de Nemours & Co. v. Berkley & Co., Inc.*, 620 F.2d 1247, 1260 (8th Cir. 1980); *In re Gardner*, 475 F.2d 1389, *reh'g denied*, 480 F.2d 879 (C.C.P.A. 1973); *In re Marzocchi*, 439 F.2d 220, (C.C.P.A. 1971)). Enablement, on the other hand, seeks to “ensure that the invention is communicated to the interested public in a meaningful way.” M.P.E.P. § 2164. Enablement is satisfied if “. . . one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” *U.S. v. Teletronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988); *see also Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916); *In re Wands*, 858 F.2d 731, 737, (Fed. Cir. 1988). “Compliance with the enablement requirement . . . does not turn on whether an example [working or prophetic,] is disclosed.” M.P.E.P. § 2164.02. Utility and enablement become intertwined when an invention fails to meet utility requirement. M.P.E.P. § 2164.07. Intuitively, “[if] compositions are in fact useless, appellant’s specification cannot have taught how to use them.” *In re Fouche*, 439 F.2d 1237, 1243 (C.C.P.A. 1971). Thus, clearly, a patent specification need not disclose every detail of the invention, *Wands*, 858 F.2d at 737, and the mere failure to produce all the technical results disclosed in the specification need not render a patent invalid. *See* M.P.E.P § 2107.01.

³¹ *See* 2013 GAO REP. *supra* note 2, at 1 (“In the United States . . . the patent owner . . . is not required to put the patent to use in order to profit from it; he can also license others to use it.”).

³² *See generally* 35 U.S.C. § 261; *see also* U.S. PAT. & TRADEMARK OFFICE, GENERAL INFO. CONCERNING PATS., ASSIGNMENT & LICENSES,

These features of the U.S. patent system enable patent owners to exploit their patented inventions by asserting their legal rights against unlicensed end users. The ultimate result is a system that allows patent owners to seek compensation for working inventions they do not work themselves. This system creates the possibility for patent owners to exercise market power without working the patented invention.³³ Arguably, these very features have also provided the breeding ground for NPEs that have been widely accused of reaping at what they have not sown.³⁴

B. An introduction to Non-practicing Entities and Patent Assertion Entities.

In spite of a great deal of attention surrounding NPEs, there is no settled definition to that term.³⁵ Some refer

http://www.uspto.gov/patents/resources/general_info_concerning_patents.jsp (last visited Dec. 24, 2013) [<https://perma.cc/ZCT9-97GN>] [hereinafter USPTO GENERAL INFO.].

³³ Exploitation of patent is thought to affect three markets: innovation market, technology market, and goods market. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELL. PROP. 7–10 (Apr. 1995), <http://www.justice.gov/atr/public/guidelines/0558.pdf> [hereinafter DOJ ANTITRUST GUIDELINES]. “To work a patent” means to practice the underlying invention of a patent, such as to “make, use, offer to sell, or sell” any patented invention[.]” See 35 U.S.C § 271(a). To exploit a patent, on the other hand, includes working the underlying invention (practicing); licensing or transferring rights conferred by a paper patent (some dealings with respect to a personal property); or both. See generally USPTO GENERAL INFO., *supra* note 32.

³⁴ See *infra* Part I.B.

³⁵ See, e.g., *Is RPX An NPE?*, RPX, INC., <http://www.rpxcorp.com/rpx-blog&tagid=23> (Nov. 2, 2010) (stating “[a]sk[ing] 12 people to describe a non-practicing entity and you are likely to get a dozen different definitions”); *What Is An NPE*, PATENTFREEDOM, <https://www.patentfreedom.com/about-npes/background/> (last visited Dec. 24, 2013) (commenting there are “many different types” of

to NPEs as “patent trolls,” emphasizing their troll-like behavior in aggregating and assembling patent portfolios.³⁶ A more neutral but much broader definition, on the other hand, defines an NPE as “an entity that does not have the capability to design, manufacture, or distribute products with features protected by the patent.”³⁷ Under this broad definition, universities, research labs, and patent holding companies are all NPEs.³⁸ Nevertheless, neither definition sufficiently reflects, at least on its face, the patent “assertion” aspect of many of the NPE business models. But it is precisely this “assertion” behavior exhibited primarily through demands for licensing fees from entities working the patented inventions that lies at the heart of the problem of today’s NPEs.

NPEs.); *Non-Practicing Entities: Debunking The Myths* 1, INNOVATION ALLIANCE, <http://innovationalliance.net/files/4.%20Non-Practicing%20Entities%20%20Debunking%20the%20Myths.pdf> (May 2012) (recognizing NPEs are defined differently by different studies). See also *supra* note 2. It is certainly not difficult to find academic works, commentaries, and Reports on the topic of NPEs—they have not only attracted attentions of personnel in the U.S. but also academics, commentators, and practitioners worldwide. Examples of such works include those cited in this article. But more importantly, activities of NPEs have captured significant attention from Congress in which Section 34 of Leahy–Smith American Invents Act (“AIA”) mandated GAO to “conduct a study of the consequences of litigation by non-practicing entities, or by patent assertion entities, related to patent claims made under Title 35, United States Code, and regulations authorized by that title.” Leahy–Smith America Invents Act, Pub. L. No. 112-29, § 34, 125 Stat. 284 (2011) [hereinafter AIA].

³⁶ Jared A. Favole & Brent Kendall, *Obama Plans to Take Action Against Patent-Holding Firms*, WALL ST. J. (June 4, 2013), <http://online.wsj.com/article/SB10001424127887324563004578524182593163220.html> [<https://perma.cc/MT84-QH53>] (noting some NPEs “amass portfolios of patents.”).

³⁷ 2013 PWC REP. *supra* note 9, at 34.

³⁸ See *id.*

As a result of this growing recognition of the potential harm caused by aggressive assertion of patent rights by some NPEs, later studies and commentaries have attempted to further differentiate NPEs,³⁹ based at least partly on their scope of activity and their value capture models.⁴⁰ In recognition of the offensive assertion business model employed by many NPEs, a subcategory of NPEs, often referred to as PAEs, “whose business model[s] primarily focus[] on purchasing and asserting patents,” have

³⁹ See, e.g., AIA, *supra* note 35, § 34 (separately listing “patent assertion entities” and “non-practicing entities.”); 2013 GAO REP., *supra* note 2, at 19–20 (dividing NPEs into various types such as PME and likely PME, Entities Relating to Operating Companies, Research Firms, and Universities.); Allen W. Wang, *Rise of the Patent Intermediaries*, 159 BERKELEY TECH. L.J. 160, 171, 177 (2010) (recognizing subcategories of NPEs such as defensive aggregators and offensive aggregators based on their role as patent intermediaries.); Peter J. Stern & Timothy G. Doyle, *Trends and Developments Regarding Nonpracticing Entities in the U.S.*, 61 CHIZAI KANRI 445, 445 (2011), available at <http://www.mofo.com/files/Uploads/Images/110400-Trends-and-Developments-Regarding-Nonpracticing-Entities-in-the-US.pdf> (similarly recognizing offensive and defensive NPEs); Section 34 of AIA also separately lists “patent assertion entities” and “non-practicing entities”. *Supra* note 35.

⁴⁰ “Scope of activity” may be thought of as a business decision with regard to what activities to undertake and which relations to develop; e.g., doing something in-house versus outsourcing it, or not doing something altogether. See generally Stephen P. Bradley, Harvard Business School, *Capturing the Value: Competitive Strategies That Work*, (Harvard Business School Publishing Class Lecture, 2004), available at <http://www.hbs.edu/faculty/Pages/item.aspx?num=23077>. In the case of NPEs, different scopes of activities include choices regarding whether to “release” or “hold” any acquired patents, see *infra* Parts I.D & I.E, and whether to purchase granted patents only or patent pending applications, too, see *infra* Part II.B. “Value capture” may be thought of as how a business makes money; e.g., by making smartphones, or a critical component of the phone; by becoming an authorized dealer of the phone; or by developing operation platforms for the phone. See generally Bradley, *supra*.

been carved out from the more generic pool of NPEs.⁴¹ Today, the term PAE appears to reflect the new understanding of what was once called a “patent troll,”⁴² or more precisely, a recognition that simply failing to work a patented invention without more is neither illegal nor necessarily objectionable.⁴³

Regardless of which category applies, NPEs represent the leading example of patent owners who exercise

⁴¹ FED. TRADE COMM’N, *THE EVOLVING IP MARKET PLACE: ALIGNING PAT. NOTICE & REMEDIES WITH COMPETITION* 8 n.5 (Mar. 2011), available at <http://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf>. Note however, that the Federal Trade Commission (FTC) also uses a related term, Patent Monetization Entities (“PMEs”), to refer to NPEs “whose business model solely focuses on asserting typically purchased patents.” According to this definition, PMEs also include entities “that might use third-party NPEs to assert patents for them.” 2013 GAO REP., *supra* note 2, at 2 n.6. In this variation, PAEs consist of both PMEs and likely PMEs. *Id.* at 19. The FTC defines PMEs and likely PMEs as entities “that “d[o] not develop technology or sell products but, instead, derive[] most of their revenue from asserting patents against operating companies.” *Id.*

⁴² See EXEC. OFF. OF THE OFFICE OF THE PRESIDENT, THE WHITE HOUSE, *PATENT ASSERTION & U.S. INNOVATION* 2 (Jun. 2013), available at http://www.whitehouse.gov/sites/default/files/docs/patent_Rep.pdf [hereinafter 2013 EXEC. OFF. REP.] (referring to PAEs as Patent Trolls throughout the report). Due to the lack of a standardized definition for NPE, some studies employ NPE data using the more generic definition which encompasses non-offensive NPEs, such as universities and individual inventors. See, e.g., Bessen & Meurer, *supra* note 11, at 8. While others use the term NPEs, but are really referring to PAEs. See, e.g., *What Is An NPE*, *supra* note 35. For purposes of this article, however, such inconsistency is not fatal because whichever definition governs, the goal of Patent Alliances remains the same; that is, to mitigate members’ exposure to patent assertions.

⁴³ See *supra* note 35.

their market power without working the patented inventions. Insofar as extracting revenue is concerned, NPEs mostly license their patents to third parties under the threat of litigation. This value capture model differs from those that simply license patents without necessarily resorting to litigation or other abusive enforcement techniques.

For NPEs whose value capture model is patent assertion, it is unsurprising that aggressive litigation tactics become their “hallmark.”⁴⁴ In a single instance PAEs can “threaten[] to sue thousands of companies . . . without specific evidence of infringement against any of them; creating shell companies that make it difficult for defendants to know who is suing them; and asserting that their patents cover inventions not imagined at the time they were granted.”⁴⁵

To practicing entities, NPE assertions are worrisome in a number of aspects. Not only are NPE suits voluminous,⁴⁶ and expensive to defend,⁴⁷ NPEs also pursue a wide range of defendants in many industries.⁴⁸ According to PatentFreedom, technology companies doing business in areas such as hardware, software, semiconductors, communications, and consumer electronics, as well as

⁴⁴ 2013 EXEC. OFF. REP., *supra* note 42, at 1.

⁴⁵ *Id.*; see also 2013 GAO REP., *supra* note 2, at 18 (acknowledging that “PMEs tend to sue more defendants per suit than operating companies,” and that “PMEs sued close to one-third of the overall defendants” though they brought one-fifth of the total litigation for the chosen study period).

⁴⁶ See *supra* notes 5–8 and accompanying text.

⁴⁷ See *supra* notes 9–13 and accompanying text.

⁴⁸ PatentFreedom, *Exposure by Industry*, PATENTFREEDOM, <https://www.patentfreedom.com/about-npes/industry/> [<http://web.archive.org/web/20150918191033/https://www.patentfreedom.com/about-npes/industry/>] (last visited Oct. 9, 2013).

technology users and vendors are all preyed upon by NPEs.⁴⁹

Given practicing entities' substantial exposure to NPE suits, they have attempted in various ways to alleviate the risks of such suits. The formation of Patent Alliances is only one method used to combat the market power of NPEs. This could be a powerful technique, but this article will demonstrate—as currently modeled—such patent alliances have critical inefficiencies that negate this power.

C. *An introduction to Defensive Aggregation and Patent Alliance.*

Defensive aggregators are cooperatives that “acquire patent rights and license them to subscriber companies.”⁵⁰ They fit within the broad definition of NPEs because they do not work the underlying inventions of the patents they have acquired.⁵¹ As the name suggests, they are direct counterparts to offensive patent aggregators, namely, the PAEs.⁵²

As a head-on confrontational technique to challenge PAEs' offensive aggregation strategy, defensive patent aggregation naturally comes to mind. Some suggest that the concept existed when practicing entities seeking to defend against NPE suits invested in a third-party patent holding entity, essentially an NPE, in exchange for a non-exclusive license to the latter's patent portfolio.⁵³ For example, in 2008, technology companies including Google, Inc. and

⁴⁹ *Id.*

⁵⁰ Wang, *supra* note 39, at 160, 171, 177.

⁵¹ See *supra* text accompanying note 37.

⁵² See Wang, *supra* note 39, at 171.

⁵³ Amol Sharma, *Tech Giants Join Together to Head Off Patent Suits*, WALL ST. J. (June 30, 2008), <http://online.wsj.com/article/SB121478271751614435.html> [<https://perma.cc/Y9RC-USQN>].

Cisco, Inc. invested in Intellectual Ventures (“IV”) to obtain a non-exclusive license over IV’s patent portfolios.⁵⁴ Nevertheless, the lurking fear that such NPEs might themselves become offensive aggregators soon motivated practicing entities into organizing their own patent alliances.⁵⁵ In this sense, the term “patent alliance” is very much merely another way of saying “defensive aggregator.”⁵⁶ Yet, while these “defensive aggregators” may have a similar purpose, different models have developed to achieve those purposes. Of these various models, Allied Security Trust and RPX, Inc. represent the most prominent models for such patent alliances.⁵⁷

D. Allied Security Trust

Allied Security Trust (“AST”) is a non-profit, member-owned cooperative established in 2008 with eleven initial members.⁵⁸ To date, it has twenty-six members,⁵⁹ including Google, HP, Intel, IBM, and Oracle,⁶⁰ all of which

⁵⁴ *Id.*

⁵⁵ *Id.*; see also Wang, *supra* note 39, at 171.

⁵⁶ See generally Wang, *supra* note 39.

⁵⁷ *Id.* at 171.

⁵⁸ Scott Moritz, *Big Tech Gets Legal Aid in the Patent Wars*, CNN MONEY (June 30, 2008), <http://money.cnn.com/2008/06/30/technology/patents.fortune> [<http://archive.fortune.com/2008/06/30/technology/patents.fortune/index.htm?postversion=2008063012>].

⁵⁹ AST member has grown to 19 in 2010, and 26 in 2013. *AST Members*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/ASTMembers.aspx> [<http://web.archive.org/web/20130812025240/http://alliedsecuritytrust.com/ASTMembers.aspx>] (last visited Oct. 1, 2012, and Oct. 8, 2013, respectively) (showing AST membership had grown to 19 in 2010, and 26 in 2013).

⁶⁰ *Id.*

are high-tech sector practicing entities.⁶¹ An AST applicant must be “an operating company” with a minimum annual revenue of \$500 million.⁶² Upon acceptance into the alliance, members must pay a \$200,000 annual “member fee.”⁶³ Despite its relatively small member pool limited to the high-tech sector, AST has a demonstrated interest in patents in a wide range of areas, including: Information Technology, Software, Semiconductors, Internet Technologies, Consumer Electronics, Communications (both wired and wireless), Cable TV or Entertainment, and Information Based Medical Devices.⁶⁴

⁶¹ *Id.* (last visited Oct. 10, 2013). According to information published on AST’s website, AST members are from Europe, North America, and Asia, and are in the areas of “Information Technology, Semiconductors, Consumer Electronics, Social Networking, Communications (both wired and wireless), Medical Information Systems and other High Tech areas.” Representative members include: ARM Ltd., Avaya, Google, HP, IBM, Intel, Oracle, Philips, Sony, and Research in Motion. *Id.* Quite clearly, these companies make, use, offer to sell, or sell some patented technology in some way. Interestingly, however, that some of AST’s founding members, such as Verizon Communications Inc. and Cisco Systems, Inc., have left the alliance. See Sharma, *supra* note 53 (indicating Verizon and Cisco are among the founding members).

⁶² *AST Members*, *supra* note 59.

⁶³ *Id.* AST claims that the amount of member fees will decrease as the number of AST members increases. *Id.* (last visited Oct. 10, 2013). However, it appears that the annual member fee has been \$200,000 since 2010 even though the number of AST members has grown since its founding. *Id.* (last visited Dec. 28, 2010).

⁶⁴ *What Kinds of Patents AST is Seeking*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/SellingtoAST/WhatKindsofPatentsASTisSeeking.aspx> [http://web.archive.org/web/20131001163909/http://www.alliedsecuritytrust.com/SellingtoAST/WhatKindsofPatentsASTisSeeking.aspx] (last visited Oct. 10, 2013). For a comprehensive list of AST’s current technology interests, see *List of the Technology Categories in Which AST Has Interest*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/SellingtoAST/ListofCategories.asp>

AST adopts a “catch, license and release” model in its defensive aggregation of patents.⁶⁵ This model mandates that AST acquire patents that members deem desirable (“catch”), license them to members who desire such a license, and eventually dispose of all acquired patents (“release”) so that the cooperative remains “purely defensive” in nature.⁶⁶ The founding members “wanted to ensure by charter that AST could never become an entity that could threaten others with an aggregated patent portfolio.”⁶⁷ Another advantage of disposing of AST’s patent portfolio could be a reduced risk of antitrust violations.⁶⁸

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[<http://web.archive.org/web/20130812014431/http://alliedsecuritytrust.com/SellingtoAST/ListofCategories.aspx>] (last visited Oct. 10, 2013).

⁶⁵ *Divestiture Process*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/Services/DivestitureProcess.aspx> [<http://web.archive.org/web/20130812015159/http://alliedsecuritytrust.com/Services/DivestitureProcess.aspx>] (last visited Oct. 9, 2013).

⁶⁶ See note 68 *infra*.

⁶⁷ *Divestiture Process*, *supra* note 65.

⁶⁸ See Sharma, *supra* note 53 (reporting AST’s then chief executive was of the view that the cooperative would not be entangled with antitrust issues because AST is not a “profit-making venture” and its members do not own the patents). About two years after the chief executive’s statement to the *Wall Street Journal*, AST was sued for antitrust violations of “collusion to achieve devaluation of patents, concerted refusals to deal, and deceptive price-fixing.” *Siti-Sites.com, Inc. v. Verizon Communs., Inc.*, 222 No. 10 Civ. 37512, 2010 U.S. Dist. LEXIS 137557, at *1 (S.D.N.Y. Dec. 29, 2010), *aff’d*, 428 F. App’x 100 (2d Cir. 2011). Nevertheless, AST and the other defendants successfully moved for a motion to dismiss. *Id.* at 17. It is beyond the scope of this article to discuss in detail the antitrust issues concerning NPE activities. For a detailed discussion of this topic, see JOSHUA D. WRIGHT, WHAT ROLE SHOULD ANTITRUST PLAY IN REGULATING THE ACTIVITIES OF PATENT ASSERTION ENTITIES? (Apr. 17, 2013), available at

http://www.ftc.gov/sites/default/files/documents/public_statements/wh-at-role-should-antitrust-play-regulating-activities-patent-assertion-

The “catch, license and release” model comprises three phases in operation: acquisition, licensing, and divestiture.⁶⁹ During the acquisition phase, AST sources patents from a global network.⁷⁰ When a patent of interest is identified, AST conducts preliminary due diligence and patent analysis of the patent,⁷¹ then transmits its findings to the members,⁷² purportedly to help the members focus on patents of potential interest.⁷³ Each member then decides

entities/130417paespeech.pdf. For an in-depth discussion of antitrust issues with Intellectual Property in general, see MARK D. JANIS & MARK A. LEMLEY, *IP & ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELL. PROP. LAW* (2001). See also R. HEWITT PATE, ACTING ASSISTANT ATT’Y GEN., ANTITRUST DIV., U.S. DEP’T OF JUST., *ANTITRUST & INTELL.PROP.*, (Jan. 24, 2003), available at <http://www.justice.gov/atr/public/speeches/200701.pdf>; and U.S. DEP’T OF JUST. & FED. TRADE COMM’N, *ANTITRUST GUIDELINES FOR THE LICENSING OF INTELL. PROP.*, (Apr. 6, 1995), available at <http://www.justice.gov/atr/public/guidelines/0558.pdf>.

⁶⁹ *Services*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/Services/AcquisitionModel.aspx> [<http://web.archive.org/web/20130812021945/http://alliedsecuritytrust.com/Services/AcquisitionModel.aspx>] (last visited Oct. 10, 2013).

⁷⁰ AST claims that it sources such patents from “a worldwide network of over 170 brokers, operating companies, law firms, academic institutions, individual inventors and other patent holders”. *Acquisition Model*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/Services/AcquisitionModel.aspx> [<http://web.archive.org/web/20130812021945/http://alliedsecuritytrust.com/Services/AcquisitionModel.aspx>] (last visited Oct. 10, 2013).

⁷¹ AST’s preliminary due diligence includes clarifying chain of events associated with the patent, whether there are existing license on the patent, its ownership and brokerage status, patent family status, and its applicable technology areas and strength of the patent. See *id.*

⁷² AST members receive information on “all patents, AST analyses and marketing materials supplied by the seller” via a secured web-based application called f-AST IP. *Id.*

⁷³ *Id.*

whether it wants to pursue the patent through AST.⁷⁴ Interested members inform AST of their interest and place bids in an escrow account in order to preserve anonymity.⁷⁵ AST then coordinates the bids and proceeds to acquire the patent.⁷⁶

The next phase is licensing AST-acquired patents. AST grants all members participating in an acquisition a “fully paid up, perpetual, irrevocable, worldwide, and non-exclusive” license to the purchased patent.⁷⁷ Non-participating members desiring a license post-acquisition can obtain one by exercising a “Subsequent License Option” (“SLO”) while the patent is still owned by an AST subsidiary.⁷⁸ In order to obtain a SLO, an interested member must pay a license fee equal to the highest bid price paid by a participating member.⁷⁹ All SLO license fees collected are

⁷⁴ Members can choose not to pursue the patent, or pursue the patent independently and outside the AST framework if so wish. *Id.*

⁷⁵ Anonymity is kept even among the AST members. *See id.*

⁷⁶ AST forms a Series, and a Limited Liability Corporation (LLC) under each Series for each acquisition. *Id.*

⁷⁷ *Licensing Model*, ALLIED SECURITY TRUST, <http://www.alliedsecuritytrust.com/Services/LicensingModel.aspx> [<http://web.archive.org/web/20130812025042/http://alliedsecuritytrust.com/Services/LicensingModel.aspx>] (last visited Oct. 10, 2013); *see also* ALLIED SECURITY TRUST, *Patent*. A copy of AST License Agreement, is available at http://www.alliedsecuritytrust.com/Portals/1/Attaches/LLCs_Affiliated_with_AST_form_of_Patent_License_Agreement.pdf [http://web.archive.org/web/20110910154923/http://www.alliedsecuritytrust.com/Portals/1/Attaches/LLCs_Affiliated_with_AST_form_of_Patent_License_Agreement.pdf] (last visited Oct. 10, 2013).

⁷⁸ *Licensing Model*, *supra* note 77. Moreover, new members can opt to take a license from any AST owned portfolios before their disposal. *Id.*

⁷⁹ *Id.*

redistributed to the initial participating members.⁸⁰

The last phase is divestiture (“release”), where AST will first offer to sell an acquired patent portfolio to members who participated in that acquisition.⁸¹ Such offer is first made to the highest bidder of the portfolio followed by lower ones.⁸² An AST member may buy out the portfolio by reimbursing the other participants their respective bidding amount plus expenses incurred by AST in acquiring, owning, and divesting the portfolio.⁸³ If no member is interested in buying the portfolio, it will be made available for sale to non-members via a broker.⁸⁴ Once disposed of, AST no longer owns the patents and as a result, arguably has no incentive to engage in abusive patent assertion efforts. Interested members of AST, however, retain their individual right to use the patented technology pursuant to the terms of their license agreements.⁸⁵ This catch and release practice prevents AST from becoming an offensive aggregator while simultaneously securing necessary rights for its members to use the patented inventions.⁸⁶

⁸⁰ *Id.*

⁸¹ *Divestiture Process, supra* note 65. Because AST claims that it pays fair market value for the patents it purchases, *Acquisition Model, supra* note 70, at the outset, an AST member pays the same amount for that patent whether or not it buys through AST; however, as discussed more fully below, given the inefficiencies in the AST model, it is likely that a member would have to pay more if buying the patent from AST than from the original patent holder or another entity. *See infra* Part II.A.

⁸² *Divestiture Process, supra* note 65.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *See id.*

⁸⁶ *Id.*

E. RPX, Inc.

Unlike AST, Rational Patent Exchange, better known as RPX, Inc. (“RPX”), is a for-profit defensive aggregator. Established in 2008,⁸⁷ by a mixture of practicing entities and venture capital firms,⁸⁸ RPX completed its initial public offering (“IPO”) in 2011.⁸⁹ Its stocks are currently traded on NASDAQ under the symbol RPXC.⁹⁰

RPX’s clientele has expanded substantially since the company’s inception.⁹¹ RPX clients vary in size, industry,⁹²

⁸⁷ David Hetzel, *Embracing the New IP Reality*, INTELL. ASSET MGMT., May–June 2010, at 33, tbl.1.

⁸⁸ *See id.* at 33 (noting RPX is venture capital backed and its members include several practicing entities).

⁸⁹ RPX Corp., 2011 Ann. Rep. (Form 10-K), at 51 (Mar. 26, 2012), available at http://files.shareholder.com/downloads/ABEA-5XYKB4/2860885718x0x564861/190DA18D-FE95-49C9-9ACE-B133EB1A232E/Annual_Rep_10-K_as_filed_3.26.12_.pdf [<https://perma.cc/N5M3-JWH4>] (last visited Oct. 10, 2013).

⁹⁰ *See RPX Corp. Common Stock Quote & Summary Data*, NASDAQ, <http://www.nasdaq.com/symbol/rpxc> [<https://perma.cc/C392-GQ9L>] (last visited Oct. 10, 2013).

⁹¹ RPX Reports that it had added 17 clients in 2009, 49 in 2000, and 41 in 2001. RPX Corp., 2011 Ann. Rep., *supra* note 89, at 6. By December 31, 2011, RPX had 112 clients, which had grown to 140 by December 2012, RPX Corp., 2012 Ann. Rep. (Form 10-K) at 4 (Mar. 8, 2013), available at <http://ir.rpxcorp.com/secfiling.cfm?filingID=1509432-13-8&CIK=1509432> [<https://perma.cc/KE4S-5CNF>] (last visited Oct. 10, 2013). The RPX client network expanded further to 157 by the end of the second quarter of 2013. RPX Corp., *RPX Announces 2013 Second Quarter Fin. Results*, at 6 (July. 30, 2013), available at <http://ir.rpxcorp.com/releasedetail.cfm?ReleaseID=781377> [<https://perma.cc/K38A-L3Q2>] (last visited Oct. 10, 2013).

⁹² A Steadily Expanding Network of Industrial Leaders, RPX, Corp, Inc., <http://www.rpxcorp.com/rpx-client-network> (last visited Oct. 11, 2013) [<http://web.archive.org/web/20131013144958/http://www.rpxcorp.com/rpx-client-network>] (noting the size of RPX clients range from \$50

and geographic region.⁹³ RPX's client network includes technology companies in consumer electronics and PCs, E-commerce, mobile devices, networking, semiconductors, software, and telecommunications.⁹⁴ With such a diverse clientele, RPX manifests interests in a number of different "market sectors."⁹⁵ The primary market sectors in which RPX holds patent portfolios include E-Commerce and Software, Semiconductors, Mobile Communications and Devices, Networking, Consumer electronics and PCs, and Media content and Distribution.⁹⁶ RPX provides three services to its clients: defensive patent acquisitions, market intelligence, and litigation insurance—all available for a differentiated annual subscription fee.⁹⁷

billion enterprises to venture-backed entities in a range of technology areas).

⁹³ RPX Corp., 2012 Ann. Rep., *supra* note 91, at 1, 7.

⁹⁴ *A Steadily Expanding Network of Industrial Leaders*, *supra* note 92. RPX, INC., <http://www.rpxcorp.com/rpx-client-network> (last visited Oct. 11, 2013).

⁹⁵ *A Growing Portfolio of High-value Patents*, RPX CORP, INC., <http://www.rpxcorp.com/rpx-portfolio> [<http://web.archive.org/web/20131002144649/http://www.rpxcorp.com/rpx-portfolio>] (last visited Oct. 11, 2013).

⁹⁶ *Id.*

⁹⁷ *Services*, RPX CORP., <http://www.rpxcorp.com/rpx-services> [<https://perma.cc/KUN6-753C>] (last visited Oct. 10, 2013). Initially, RPX was a purely defensive aggregation consortium that did not deal with litigation insurance. Litigation insurance was implemented in 2012. RPX Corp., 2012 Ann. Rep., *supra* note 91, at 2. Such insurance is part of RPX's new services in patent litigation financing. These services presumably hinge on RPX's extensive expertise in patent intelligence and valuation. It is also clear evidence of diversification in RPX's business model. Nevertheless, despite this indirect financial interest in patent litigation, RPX asserts that defensive aggregation remains the core of its service. *Id.* at 3. Each client pays a subscription fee according to RPX fee schedule designed based on a number of factors, and independent of the value of RPX's patent portfolio. *See*

RPX adopts a “catch-and-hold” model.⁹⁸ Specifically, it aggregates patent rights and retains ownership of those patents to build up its own portfolios.⁹⁹ In practice, the “catch-and-hold” model can be divided into approximately three components: acquisition (“catch”), licensing, and maintenance (“hold”).¹⁰⁰

RPX conducts defensive aggregation by “purchasing patents and patent rights preemptively in the open

RPX Corp., Secs. Regis. Statement (Form S-1) at 65 (Sept. 2, 2011), <http://ir.rpxcorp.com/secfiling.cfm?filingID=1193125-11-240287&CIK=1509432> [<https://perma.cc/QYY3-YSKG>] (last visited Oct. 10, 2013) [hereinafter RPX S1]. According to the Statement,

[RPX] calculate[s] each client’s subscription fee using its fee schedule and its normalized operating income . . . which [is] define[d] as the greater of (i) 5% of the client’s most recently reported fiscal year’s revenue and (ii) the average of the three most recently reported fiscal years’ operating income of the client. Each client’s annual subscription fee is reset yearly based on its revenue and operating income for its most recently completed fiscal years. The fee schedule is effective for the term of each client’s initial agreement and for all renewal terms, subject to [RPX’s] limited ability to make adjustments based on the Consumer Price Index.

Id. “As of December 31, 2010, [RPX’s] fee schedule had a subscription fee ceiling of \$5.2 million and floor of \$38,500.” *Id.* RPX introduced a higher fee schedule in January 2011 with opportunities for member discounts to encourage long term commitment, new client referral, or other client-specific reasons. *Id.* “As of December 31, 2010, the terms of RPX subscription ranged from one to five years, but were more commonly two or three years.” *Id.*

⁹⁸ Hetzel, *supra* note 87, at 33 & tbl.1.

⁹⁹ RPX Corp., 2012 Ann. Rep., *supra* note 91, at 1, 7 (stating RPX acquires patent rights, license the rights to its clients, and maintains the IP assets acquired).

¹⁰⁰ *See id.* (describing the approach adopted by RPX).

market,”¹⁰¹ and “acquiring assets as early as possible out of active litigations.”¹⁰² Unlike AST, RPX makes its own acquisition decisions without substantive client involvement.¹⁰³ RPX approaches only relevant clients to solicit additional funding if the acquisition is a “structured acquisition” where the value of the portfolio at issue does not justify using subscription fees to secure the patent price.¹⁰⁴ Such lack of justification generally arises because of the limited number of clients that might be interested in

¹⁰¹ According to RPX, it is not only interested in obtaining ownership of patents but also in securing licenses to them as well. RPX Corp., 2012 Ann. Rep., *supra* note 91, at 11.

¹⁰² *Defensive Patent Acquisitions*, RPX CORP., INC., <http://www.rpxcorp.com/rpx-defensive-patent-acquisitions> [<https://web.archive.org/web/20131013135509/http://www.rpxcorp.com/rpx-defensive-patent-acquisitions>] (last visited Oct. 11, 2013). Defensive patent acquisitions are conducted primarily using member subscription fees. See *Structured Acquisitions*, RPX CORP., INC., <http://www.rpxcorp.com/index.cfm?pageid=180> [<http://web.archive.org/web/20130820122249/http://www.rpxcorp.com/index.cfm?pageid=180>] (last visited Oct. 11, 2013). RPX also provides “structured acquisition” to secure patent portfolios, which are too costly or with applicability only to a limited segment of its clientele. RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 5. In such cases, interested RPX clients will contribute funds in addition to their subscription fees in order to secure the acquisition. *Id.* RPX acknowledges fierce competition for patent acquisition in the open market. *Id.* at 12. It identifies both NPEs, and practicing entities as competitors. *Id.* Interestingly, RPX perceived AST as one of the competitors in 2011, RPX Corp., Inc., 2011 Ann. Rep., *supra* note 89, at 8, but removed the party from its competitor list in 2012. RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 12.

¹⁰³ RPX typically bases its acquisition decision on its own assessment of a patent’s value with respect to its “claim quality, technical value, seller reputation and . . . likelihood of being litigated against any or all RPX members.” *Defensive Patent Acquisitions*, *supra* note 102.

¹⁰⁴ RPX Corp., Inc., 2012, Ann. Rep., *supra* note 91, at 5, 26.

the subject technology.¹⁰⁵

RPX employs a complex licensing mechanism based on the financial status of individual clients rather than the value of its portfolios.¹⁰⁶ Its licensing structure reflects an express motive to secure long-term subscriptions from clients.¹⁰⁷ These long-term subscriptions assure a reliable rate of return on applicable patents for RPX.¹⁰⁸ In return, RPX clients virtually receive a perpetual license to RPX’s entire patent portfolio.¹⁰⁹

Because of its catch-and-hold policy, RPX necessarily “rel[ies] on a dedicated internal team as well as third-party vendors and advisors to assist with the maintenance and prosecution of the patent assets and applications . . . acquire[d].”¹¹⁰ Such practice inevitably incurs more operational cost as compared to AST’s model, which does not “hold” the portfolios.

II. ANALYSIS

Both AST and RPX seek to alleviate the risk of NPE

¹⁰⁵ *Id.*

¹⁰⁶ RPX Sec. Regis. Statement, *supra* note 97.

¹⁰⁷ Accordingly, RPX “clients receive a term license for the period of their membership to [most of] RPX’s patent assets [] at the time [of initial] subscription [C]lients [also] receive term licenses to [the majority of] patent assets [] [RPX] acquire[s] [during the validity of their membership].” *Id.* at 13. Moreover, “[RPX’s] subscription agreements also include a vesting provision that converts a client’s term licenses into perpetual licenses on a delayed, rolling basis as long as the company remains a client.” *Id.* As such, continuing subscribers will receive “perpetual licenses” to “an increasing number of” RPX portfolios over time. *Id.*

¹⁰⁸ *Id.* RPX Corp., Sec. Regis. Statement, *supra* note 97, at 13.

¹⁰⁹ *Id.*

¹¹⁰ RPX Corp., 2012 Ann. Rep., *supra* note 91, at 9.

patent assertions against practicing entities.¹¹¹ They do so by competing with NPEs for patents in the secondary market and building up a defensive bulwark of those patents to dissuade lawsuits against them.¹¹²

Under AST's "catch, license, and release" model, members avoid NPE assertions by securing licenses to the relevant patents before they fall under the control of PAEs.¹¹³ Under this model, acquisition becomes no more than a conduit for securing a patent license. RPX's "catch and hold" model builds on the same idea. But unlike AST, RPX retains the rights to the patents it purchases with the express goal of securing their future exploitation through a licensing program undertaken without offensive assertion.¹¹⁴ This "hold" phase effectively transforms AST's non-profit model for patent alliances into RPX's for-profit model.

Although both business models provide potential solutions to the NPE patent assertion problem, each contains operating flaws that adversely affect the desirability of the model. Moreover, the ultimate success of either patent alliance model is further strained by their adoption of a voluntary non-assertion practice. They share a common set of risks independent from their operation protocols as a result of this operating principle. These flaws and risks are discussed in detail below.

A. Inefficiencies in AST's Business Model

AST's current business model suffers from a number of inefficiencies. Some of the inefficiencies are attributable to AST's restrictive provisions designed "to preserve its

¹¹¹ See *supra* Part I.C, D, & E.

¹¹² See *id.*

¹¹³ See *supra* Part I.D.

¹¹⁴ See *supra* Part I.E.

mission as a purely defensive organization.”¹¹⁵ Others are caused by its organizational structure and practice protocols.

The first major operational inefficiency lies in AST’s decision-making process, which is repetitive and decentralized. AST cannot make acquisitions on its members’ behalf.¹¹⁶ Rather, each round of AST acquisition proceeds only after member re-evaluation of portfolio relevance subsequent to AST’s analysis.¹¹⁷ Such practice entails repetitive decision making between AST and individual members, resulting in a waste of resources and delayed response.¹¹⁸

¹¹⁵ *Divestiture Process*, *supra* note 65.

¹¹⁶ AST members make evaluations based on AST’s due diligence report. *See supra* notes 71–76 and accompanying text. AST estimates that it presented more than 10,000 patents to its members in 2010. *Acquisition Model*, *supra* note 71. Further, it contends that its preliminary due diligence enables its members to focus on less than 5% of the more than 10,000 patents presented to the members. *Id.* While this arguably reduces the amount of patent market surveillance an AST member has to perform, it does not appear to support an interpretation that a member is thus dispensed from conducting its own market surveillance for potentially problematic patents. In this aspect, AST merely acts as a paid market intelligence surveyor, playing a role similar to patent brokers. This is further supported by the fact that members are free to pursue any portfolios presented to them by AST independently, or to decline to pursue any at all. *Id.*; *see supra* note 74. Examples of patent brokers include Ocean Tomo and Thinkfire. Wang, *supra* note 39, at 170–71 (listing patent brokerage service providers).

¹¹⁷ *Acquisition Model*, *supra* note 71.

¹¹⁸ AST claims that twenty to thirty percent of its members participate in any given acquisition, on average. *Licensing Model*, *supra* note 77. AST justifies the average participation rate by condemning the “one size fit[s] all” approach of other ventures. *Id.* However, the claimed participation rate is open to several other interpretations. Such a low percentage may indicate that AST has not been very effective in accessing its members’ interest. Thus, a significant portion of its member pool always ends up not interested in pursuing the portfolios, which AST considered relevant to them. Another possible

Moreover, if a patent is highly relevant to AST members, who are deep-pocketed practicing entities,¹¹⁹ a PAE will have a relatively great incentive to compete for that patent so it can assert the patent against the AST members. As a result of AST's cumbersome protocol, it is prevented from acting quickly to secure a patent, whereas a PAE without such etiquette can act much more quickly.

Parallel to its decentralized decision-making lies AST's fund raising mechanism. AST does not maintain a regular acquisition fund.¹²⁰ Instead, it raises funds from members during each round of acquisition.¹²¹ Thus, even if it were able to decide quickly to secure a particular patent, AST does not have the financial wherewithal to do so under its current structure. This creates further delay, giving rise to even greater (and costly) inefficiency in AST's operations.¹²²

interpretation would be that AST is only capable of catering to the needs of a relatively small portion (twenty to thirty percent) of its member pool in any given acquisition. Nevertheless, while such interpretations tend to undercut the integrity of AST's own understanding, it does not necessarily give rise to an inference that non-participating members will not in any way benefit from AST's work. Notwithstanding the foregoing, AST does not disclose the frequency of any given member's participation in acquisition activities. *See id.* If the twenty to thirty percent of participants are more or less the same members in every course of acquisition, one may argue that the current business model seriously undermines the interests of at least some of the members.

¹¹⁹ A pre-requisite for consideration for AST membership is that the applicant must be a practicing entity with a minimum annual avenue of \$500 million. *See supra* text accompanying note 62.

¹²⁰ *Acquisition Model, supra* note 71 (stating that during each round of acquisition, interested members place bids in an escrow account held by Wells Fargo).

¹²¹ *Id.*

¹²² However, one should acknowledge that such practice has certain advantages. For example, absence of a common fund simplifies AST's day-to-day operation, and provides cost savings in terms of devoting

Other than allowing non-participating members an opportunity to obtain a license via the SLO scheme,¹²³ AST does not affirmatively exploit any acquired portfolios.¹²⁴ Nor does AST challenge infringement of any patent while it is under AST's control.¹²⁵ Consequently, unless AST can dispose of its acquired portfolios quickly, its inaction towards soliciting patent licenses and failure to challenge ongoing infringement creates additional inefficiencies.¹²⁶ Specifically, AST's inaction can undercut the attractiveness (and value) of a patent because any subsequent purchaser

resources for fund management. This arguably allows AST to focus more closely on market intelligence issues. That said, if doing so allows AST to identify patents of interest from the market more quickly, the lead time is soon undermined by AST's time consuming decision making and funding raising protocols. Cynically, one may accuse AST of using protocols devised for its own convenience at the expenses of its members' wellbeing.

¹²³ *Licensing Model*, *supra* note 77 and accompanying text.

¹²⁴ *Id.* The description of AST's licensing model suggests that AST only allows its members, not outside parties, to take a license. Implicitly, this means AST does not actively engage non-member licensees. Moreover, the activities described under AST's licensing model (which does not mention any enforcement of patent rights, etc.) together with AST's strict goal of non-assertion and fund raising mechanism (only raise money for acquisition when one is contemplated and does not maintain separate or a constant stream of funding in the day-to-day operation of the business), it can be inferred that AST does not (and probably cannot) challenge infringement activities while holding the patents.

¹²⁵ *Id.*

¹²⁶ Given AST has a compulsory divestiture policy ("release"), *Divestiture Process*, *supra* note 65, inaction can act to AST's advantage. Intuitively, a patent with higher licensing potential will command a higher value. As such, it makes sense for AST to refrain from affirmatively soliciting licenses, and to limit the grant of licenses only to participating members so as to preserve the maximum value of the portfolios for their ultimate disposal. *See id.*

may be barred from maintaining an infringement action due to statutes of limitations,¹²⁷ estoppel,¹²⁸ or laches.¹²⁹ As a result, the purchaser of an AST-held patent will no longer be able to license the patent to those entities who infringed it during AST's custodianship. Worse, as time lapses, a patented technology may become obsolescent, or substitution technology may become available, further undermining the value of any patent AST wants to "release."¹³⁰ Undeniably, such inefficiency stems directly from AST's restrictive policies implemented to avoid the patent alliance from becoming an offensive aggregator.¹³¹ This might be a laudable philosophy, but as described more fully in the next section, "catch-and-hold" does not necessarily lead to an entity becoming a PAE.

Further, upon compulsory "release," the ultimate buyer incurs a higher cost as compared to buying the same

¹²⁷ 35 U.S.C. § 286 (2012).

¹²⁸ *See e.g.*, *Aspex Eyewear, Inc. v. Clariti Eyewear, Inc.*, 605 F.3d 1305 (Fed. Cir. 2010).

¹²⁹ *See e.g.*, *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020 (Fed. Cir. 1992).

¹³⁰ AST's failure to maximize the value of a patent while it is relevant and in demand is itself inefficient. Economists define efficiency as the use of resources that maximizes the production of goods and services. *See generally* ARTHUR O'SULLIVAN & STEVEN M. SHEFFRIN, *ECONOMICS: PRINCIPLES IN ACTION* 15 (Prentice Hall 2003). Thus, for example, if a patent can generate \$1 million licensing revenue in the next 4 years (say \$0.4 million in year 1, \$0.3 million in year 2, \$0.2 million in year 3, and \$0.1 million in year 4) from the date AST has acquired it, and AST sells it to a third party 1 year later, during which time it does not extract any licensing value from the patent, the purchaser will probably only extract \$0.6 million revenue in the remaining 3 years. Upon obsolescence, the patent has not attained maximum production or services, i.e., \$1 million. Accordingly, AST's use of the patent is inefficient.

¹³¹ *See supra* Part I.D.

portfolio from a non-AST source.¹³² This is especially true if the ultimate buyer is an AST member. AST claims that it pays fair market value for the patents it purchases.¹³³ At the outset, it appears that an AST member pays the same amount for a given patent whether or not it secures the rights through AST. However, on closer inspection, this appearance of value is fictitious. By the time the patent is at AST's disposal, it is already encumbered with "fully paid up, perpetual, irrevocable, worldwide, and non-exclusive" licenses.¹³⁴ Such encumbrance reduces the value of the patent as compared to the identical patent without such licenses.¹³⁵ Worse, a member who buys out the patent from AST needs to reimburse the other members for their original investment on the less-encumbered patent, i.e., a patent of higher value because it had not yet been subjected to AST's licenses.¹³⁶ Furthermore, the buyout party must also pay any additional costs incurred by AST including the costs of acquisition, ownership, and disposal.¹³⁷ Comparatively, if a member buys the patent from the open market, the only incidental costs would be those associated with its

¹³² Wang, *supra* note 39, at 195 (stating defensive aggregators add an overhead fee to transaction).

¹³³ *Acquisition Model*, *supra* note 71.

¹³⁴ *Licensing Model*, *supra* note 77.

¹³⁵ Hetzel, *supra* note 87, at 34. Like tangible properties, when a patent is encumbered, its value decreases because a new buyer needs to honor the existing obligations on the patent and thus has reduced opportunity to license the patent. For example, those who had already obtained a license prior to the new buyer's purchase would otherwise be his potential licensees. *See generally* Timothy J. Cromley, *20 Steps for Pricing a Patent*, J. ACCT., Nov. 1, 2004, <http://www.journalofaccountancy.com/issues/2004/nov/20stepsforpricingapatent.htm> [<https://perma.cc/G58G-JNPD>].

¹³⁶ *Divestiture Process*, *supra* note 65.

¹³⁷ *Id.*

acquisition. Thus, buying patents from AST is more expensive, even for its members.

In addition, AST asserts that participating members get a “fully paid up” license when a patent is acquired.¹³⁸ One can thus think of the bids contributed by participating members as upfront license payments. If this is true, when a buyout member reimburses the other participants for their bids, it is paying for the others’ perpetual license fees and would not incur this cost if the patent were bought outside AST.¹³⁹

In a further decentralization, AST incorporates a subsidiary each time an acquisition takes place to serve as a temporary holding mechanism for a particular patent portfolio.¹⁴⁰ AST explains that this practice supports accurate accounting of finances and activities for each of the purchased portfolios.¹⁴¹ While this may be true, such

¹³⁸ *Licensing Model*, *supra* note 77.

¹³⁹ Alternatively, we may view such reimbursement as an interest premium paid by the ultimate buyout member to the others for their initial contribution in raising the capital for the acquisition. By paying the premium, the ultimate buyout member mitigates the upfront capital needed to purchase the patent portfolio. Nevertheless, unless the buyout member is substantially certain that it will buy out the patent post AST acquisition, *and* it cannot afford the initial capital investment, this interpretation of the events makes little sense. Furthermore, from an efficiency perspective, for a buyout member to go through the AST route, the premium paid plus any incidental costs must be less than or equal to the total cost it would have incurred from pursuing the portfolio outside the AST framework.

¹⁴⁰ *See Acquisition Model*, *supra* note 70 (stating AST forms both a Series pursuant to the Delaware Statutory Trust statute, and a Limited Liability Corporation (LLC) under each Series for each acquisition).

¹⁴¹ *Id.* Some have suggested that AST does not merely incorporate subsidiaries to hold its acquired portfolios, but also uses these separate entities to effectuate acquisitions so that dealers will not inflate the price of the patents upon knowing that big companies are behind the AST scene. Wang, *supra* note 39, at 176.

practice results in high marginal cost because one cannot “recycle” and “reuse” the subsidiary formed during a previous acquisition.¹⁴²

Lastly, AST’s current business model inhibits its ability to expand its member pool, particularly into one with diverse backgrounds. At first glance, the delay caused by decentralized decision-making would be exacerbated with a large member pool.¹⁴³ Perhaps even more persuasive is that if AST diversifies its membership further, the percentage of members finding a patent relevant to their practice will decrease.¹⁴⁴ AST will therefore experience increased

¹⁴² “Marginal cost” is generally defined as the cost associated with producing one more unit of the goods or services. *See generally* O’SULLIVAN & SHEFFRIN, *supra* note 130, at 111. An example of a business with low marginal cost is software producers. Once the software is developed and tested, the cost of producing one more unit of the software is low: just print one more CD; or if sales take place via online download, the marginal cost is even lower. For those producers, little additional investment is required for producing one more unit; printing an extra copy of CD is cheap, or in the case of online download, the additional cost is almost zero. This is because the software producers can “recycle” a large portion of their previous work—they need not developing the code and testing for bugs again when making additional copies of the program. On the other hand, AST’s business model entails high marginal cost. First, little can be “recycled” from past acquisitions; each acquisition requires independent valuation because every patent is unique. *See* 35 U.S.C § 102 (2012). Next, the process is made more expensive by incorporating separate patent holding subsidiaries for each acquisition because one cannot “recycle” and “reuse” the subsidiary formed during a previous acquisition. However, this problem is not necessarily unique to AST. PAEs who are also in the business of patent aggregation are subjected to similarly high marginal costs (little recyclable work, etc.). Of course, the PAEs may avoid jacking up the cost further by not employing the same holding mechanism, i.e., incorporating subsidiaries.

¹⁴³ *See supra* notes 116–122 and accompanying text.

¹⁴⁴ If the member pool is made up of companies in the same, specific sector, e.g., all of them are smartphone manufacturers, it is quite likely that a patent relevant to one is also relevant to the others. As such, AST

difficulty in catering to the needs of all members per transaction.¹⁴⁵ In addition, AST will also have to maintain an expanded team of experts in different technology fields in order to accommodate the needs of its diverse membership.¹⁴⁶ Consequently, AST's operation cost will

caters to the needs of the entire pool relatively well. Now imagine instead that the member pool comprises companies spread out over a wide spectrum of industrial sectors. Some of the members manufacture smartphones, some sell genetically modified corn seeds, and others provide asset management services. Consider further that AST finds a patent relevant to the phone manufacturers. Under such member composition, it is unlikely that the patent will also be relevant to the seed sellers or the asset management service providers. Therefore, each time a patent of interest is identified by AST, it will only be relevant to a segment of the member pool. Thus, AST's current business model inherently limits the inclusion of many members, especially those from diverse sectors. Nevertheless, it appears that right from the beginning, AST poised itself as an "elite club" somewhat indifferent to any benefit in fostering a more diverse member pool: it was formed by a small number of big high-tech companies, *see* Sharma, *supra* note 53; requires applicants to have at least \$500 million annual revenue, *AST Members*, *supra* note 59; and imposes an annual fee of \$200,000. *Id.*

¹⁴⁵ *See supra* note 144.

¹⁴⁶ For example, to serve a member pool composed of smartphone manufacturers, AST needs to retain an expert team specializing in related technology fields such as semiconductor, software, wireless communication, etc. Now, consider a member pool made up of smartphone manufacturers, sellers of genetically modified corn seeds, and asset management service providers; AST will need to add to its expert team persons specializing in biotechnology, and business methods in order to cater to the needs of the entire pool. As the member pool becomes more diversified, AST's patent valuation team must also expand to keep up with the growth. Moreover, if a group of biotech companies desires to create a similar patent alliance, they are better off establishing their own cooperative because they will not in any significant way benefit from the existing AST platform: they pay the same annual fee as existing members, but the new biotech members cannot take advantage of AST's existing technical experts specializing in the high-tech fields. *See supra* note 48. Further, since AST does not *hold* any portfolio, the new comers cannot enjoy the benefit of having

escalate.¹⁴⁷ Given these inefficiencies, AST’s model maximizes neither value extraction nor expansion capacity.¹⁴⁸

B. Profit-Driven Features in RPX’s business model

RPX’s for-profit model builds on similar ideals to AST’s non-profit model, but replaces AST’s “release” phase with a “hold” phase. Unsurprisingly, RPX’s more profit-driven model solves some of the inefficiencies presented in AST’s model. However, it has serious defects of its own. In contrast to AST’s decentralized model, RPX adopts a centralized decision-making mechanism for patent acquisitions.¹⁴⁹ It also utilizes member subscription fees for its acquisition fund,¹⁵⁰ allowing it to proceed to buy

licenses over an existing pool of patents. Even if AST still holds some portfolios pending disposal, those portfolios are unlikely to be relevant to biotech companies because the latter comes from a vastly different technical field. Thus, there is little incentive for the biotech companies to join the existing member pool. On the other hand, if the biotech companies were to organize their own alliance, and all things being equal, they at least have the liberty to write their own rules. Indeed, AST’s member pool has revolved around the high-tech fields since its inception. *See* AST Members, *supra* note 59. It has not been able to expand into any discretely new technical areas such as biotechnology and mechanical engineering. *See id.*

¹⁴⁷ *See supra* note 146.

¹⁴⁸ Hetzel, in his article, has suggested that AST attains its optimal operation with thirty to forty members. *Supra* note 87, at 33 & tbl.1. This is a very small number compared to his estimate for RPX, which has an optimal member pool of more than 100. *Id.* Nevertheless, Hetzel did not explain the basis for his figures. Based on discussions of AST’s business model so far, it is at least conceivable that AST’s operation will be seriously hampered by a large member pool.

¹⁴⁹ *See supra* Part I.E.

¹⁵⁰ *Defensive Patent Acquisitions*, *supra* note 102.

portfolios of interest more quickly.¹⁵¹ RPX's model also demonstrates greater flexibility in that RPX purchases not only patents, but also patent applications. In addition to purchasing patents, unlike AST, it also secures licenses to patents.¹⁵² RPX further looks to both the open market, and patents already involved in litigation when searching for patents of interest.¹⁵³ It also provides customized service through regular and "structured acquisitions" in an attempt to cater to the needs of its entire diverse subscriber base.¹⁵⁴

RPX's licensing structure is also reflective of its profit-conscious business model. For example, RPX does not immediately offer members a perpetual license, but imposes a vesting period for the licenses to mature into perpetuity.¹⁵⁵ Furthermore, RPX does not grant members licenses to all of RPX's portfolios at once.¹⁵⁶ Instead, RPX clients receive a term license for the period of their membership to most of RPX's portfolios at the time of initial subscription plus any newly acquired portfolios during the validity of their membership.¹⁵⁷ Such practice provides incentives for subscribers to retain long-term subscriptions to RPX's services.¹⁵⁸ Through its complex licensing structure, RPX exploits its portfolios more proactively and

¹⁵¹ Since RPX is publicly traded on NASDAQ, it theoretically is able to raise funds by issuing additional shares. This provides an additional option for fund raising, thus, boosting its purchasing power as compared to one which can only obtain funds from member contributions.

¹⁵² See *supra* Part I.E.

¹⁵³ *Id.*

¹⁵⁴ See *Structured Acquisitions*, *supra* note 102.

¹⁵⁵ See *supra* note 107.

¹⁵⁶ *Id.*

¹⁵⁷ RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 10.

¹⁵⁸ See *supra* note 107.

fully than AST.

Unlike AST, RPX’s differentiated fee schedule attempts to take in different-sized subscribers.¹⁵⁹ Its fee schedule takes into account a number of factors, including the financial strength of any subscriber, and is independent of the value of RPX’s patent portfolio.¹⁶⁰ By growing its client pool, RPX ultimately stands to make more profits from its patent acquisition activities than AST.¹⁶¹ If the goal is profit maximization, RPX’s “hold” model certainly serves as a superior value-capture mechanism for the patent alliance. Yet, despite the potentially positive economic benefits available as a result of its for-profit nature, the RPX model still has a number of inefficiencies that call into question its utility as a model for future patent alliances.

C. Inefficiencies in RPX’s business Model

Although RPX exploits its patent portfolios to a fuller extent than AST, such exploitation is still far from attaining efficiency.¹⁶² Specifically, RPX is unable to secure revenue from technology users who choose not to subscribe to RPX’s services. Because RPX claims that it does not assert its patents, parties may be encouraged to infringe the

¹⁵⁹ See *supra* note 97. RPX calculates member subscription fees based on the member’s financial performance. *Id.* Such a fee structure is friendlier to mid- and small-sized clients because they can obtain subscriptions at a lower fee. See *id.* It is also milder towards large sized companies because they can remain subscribed at a lower fee if their financial performances dipped for a particular year.

¹⁶⁰ *Id.*

¹⁶¹ It is common sense that devising policies attracting large number of subscribers is financially savvy and beneficial to a for-profit service based organization.

¹⁶² See *supra* Part I.D. See also *supra* note 130 (defining “efficiency” in its economic sense).

patents for free knowing RPX will not sue them.¹⁶³ Even RPX itself acknowledges this pitfall.¹⁶⁴

Next, despite using a differentiated fee schedule mid-sized and small-sized companies remain skeptical about the benefits of an RPX subscription.¹⁶⁵ Failure to attract smaller companies translates to limited capacity to expand and sustain RPX's business. Like AST, RPX similarly faces the problems associated with diversified clientele.¹⁶⁶ For example, social network companies would be indifferent to a robotics patent portfolio, and automation companies ordinarily would be uninterested in social media portfolios, assuming these companies do not conduct businesses outside their core to get into the areas mentioned here. Therefore, even though a subscriber pays and obtains a license that extends to virtually all of RPX's then-existing and growing portfolios, it may in fact be interested only in a small number of the patents.¹⁶⁷ Accordingly, a potential client may consider such a subscription to be highly uneconomical.¹⁶⁸

In addition, to sustain the "hold" phase, RPX needs

¹⁶³ RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 3; *id.* at 9 (expressing concerns that RPX's non-assertion business model may create reduced incentive for parties to subscribe to its service).

¹⁶⁴ *See id.*

¹⁶⁵ *See id.* at 20. RPX acknowledges that its current subscription base is dominated by big companies. *Id.* Small-sized companies hesitate to subscribe to its services due to limited budgets, relatively low risks of being pursued by NPEs, and concerns that RPX will place more focus on the needs of the larger companies who pay more fees. *Id.*

¹⁶⁶ *See supra* Part II.A.

¹⁶⁷ *See supra* note 107.

¹⁶⁸ *See* RPX Corp., 2012 Ann. Rep., *supra* note 91, at 11 ("If clients do not perceive that the patent assets we acquire are relevant to their businesses, we will have difficulty attracting new clients . . .").

capital for renewal and maintenance.¹⁶⁹ One option is to subsume the cost of these “hold” activities under the subscription fee, i.e. whoever subscribes to RPX’s service has to help to pay the maintenance bill. However, this approach inevitably increases subscription costs such that less capital-rich companies will be even more reluctant to subscribe. This practice is also conceptually unattractive because ordinarily a party pays a license fee to obtain a license, not to maintain a patent’s existence. However, it appears that under RPX’s current licensing scheme, subscribers not only pay for licenses over patents they may not need, but also maintain those unwanted patents at their own expense.¹⁷⁰ Accordingly, a patent licensed by RPX would be even more expensive than one from a typical licensor because of RPX’s package deal.

RPX’s profit-oriented mantle can act as a double-edged sword. On the one hand, a profit-seeking goal stimulates RPX to devise a more efficient business model. On the other hand, it also has the potential of driving RPX away from defensive aggregation in the future. Evidently, RPX started out as a purely defensive aggregator,¹⁷¹ became publicly listed in 2011,¹⁷² and diversified its business into litigation insurance in 2012.¹⁷³ Having to maximize revenue and to satisfy shareholders’ expectations place greater stress to abandon RPX’s purely defensive posture. This becomes more likely with its expansion into litigation financing in

¹⁶⁹ A patent needs to be renewed in order to be kept in force. 37 C.F.R. § 1.362.(a) (2015).

¹⁷⁰ See *supra* Part II.A.

¹⁷¹ See *supra* note 97.

¹⁷² RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 18. See *supra* note 97.

¹⁷³ RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 2. See *supra* note 97.

2012.¹⁷⁴ As a result, it would not be a very great leap into patent assertion,¹⁷⁵ and ultimate abandonment of its defensive aggregation model altogether.¹⁷⁶ Compared to AST, RPX lacks robust internal control to contain the business as a defensive aggregator.¹⁷⁷ To the contrary, RPX could become what it was originally created to combat—a PAE.

D. Common risks to both AST and RPX

In addition to the problems and inefficiencies described above, the two patent alliance models also face some common risks arising from their precarious creation as entities for responding to the perceived threat of patent-assertion entities. Since patent alliances evolved as a market response to NPE suits, their fate is closely tied to that of the NPEs.¹⁷⁸ RPX has correctly identified that if non-practicing

¹⁷⁴ For example, if litigation insurance proved to be more profitable and subscription services become too costly and cumbersome, one can imagine a savvy business person developing the former and discarding the latter.

¹⁷⁵ See RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 9 (stating RPX is well aware that its clients, current or potential, are concerned that it will turn into an assertive entity).

¹⁷⁶ RPX emphasizes that its core business remains defensive aggregation. *Id.* at 1. Nevertheless, it does not indicate that this will still be true in the future. See *id.*

¹⁷⁷ AST has strict rules prohibiting it from turning into an assertive aggregator. See *Divestiture Process*, *supra* note 65; See also *supra* notes 65–65 and accompanying text. The compulsory divestiture process, for example, effectively removes AST’s ability to assert its patents since it has no standing to sue for patent infringement once it no longer holds the patent rights. See *infra* note 198.

¹⁷⁸ See *supra* Part I.C; see, e.g., RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 9. RPX has identified a number of risk factors associated with its business. *Id.* at 8–18. Some of the risks identified are common to public companies (e.g., natural disasters, change in tax law, etc.),

entities become less aggressive or offer lower cost alternatives to patent-alliance licenses, fewer companies will be interested in sponsoring defensive-aggregation entities.¹⁷⁹ What's more is that changes in patent law or patent prosecution practice can also inhibit the growth of patent alliances.¹⁸⁰ For instance, there is a number of litigation reforms in the AIA affecting PAEs' ability to join unrelated defendants (alleged infringers) in a single action and heighten the bar for succeeding in an infringement action.¹⁸¹ Consequently, an NPE may be forced to litigate in separate actions infringement of a single patent. The overwhelming litigation expenses incurred in such single litigations will deter less well-funded NPEs from considering mass prosecution strategies as a value capture technique.¹⁸² As the threat of patent assertion is perceived to diminish, companies will lose the incentive to participate in patent alliances to deter NPE suits.

III. PROPOSAL

For the time being PAEs arguably remain a viable threat to practicing entities and patent alliances can improve efficiency by incorporating better practice protocols

whether or not the company is in the business of defensive aggregation. Others are more unique to the defensive aggregation business itself. *Id.*

¹⁷⁹ See RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 9 (noting RPX's business will suffer if there are fewer patent assertions from NPEs, or more limitations on NPEs to sue and recover damages).

¹⁸⁰ *Id.* at 158 (explaining if legislative changes reduce the value of RPX's service, i.e., defensive aggregation, it will cause the business significant detriment).

¹⁸¹ 35 U.S.C. § 299 (2012); *id.* § 273 (expanding AIA has expanded the scope of the prior use defense; extending its applicability from certain business methods to any patentable subject matter. *Id.*

¹⁸² 2013 EXEC. OFF. REP., *See supra* note 42, at 5–6.

including more attractive service plans. However, these measures alone will not salvage patent alliances from eventual demise unless they also recalibrate their non-assertion stance and make other changes to reduce present inefficiencies so as to strengthen their business models.

A. “If we are to better the future, we must disturb the present.”¹⁸³

For the AST model, enhancing centralization undoubtedly reduces delay, and repetition, thus shortening its acquisition cycle.¹⁸⁴ Furthermore, centralization also allows AST members to leave the affairs to AST so as to devote more energy to the operation of their own businesses. This way, AST stands as a more effective method for reducing NPE assertion—the goal of patent alliances.¹⁸⁵ In addition, AST can cut operational costs by dispensing with the practice of forming subsidiaries to temporarily hold acquired portfolios.¹⁸⁶

RPX model patent alliances, on the other hand, can develop plans that attract more subscribers. Instead of a fee schedule based on subscribers’ financial performance, they

¹⁸³ BOOTH, *supra* note 17.

¹⁸⁴ Arguably, with a higher degree of centralization, AST increases its aggregation capacity because it can now act faster, hence it is more likely to secure a desired patent, and perform more acquisitions in the same time period. For example, during a fixed period, say 100 days, a party which takes on average, 10 days to complete one cycle of operation, can finish 10 cycles in 100 days. In contrast, a party, which takes on average 8 days to complete one cycle, can complete 12.5 cycles in the same period of time.

¹⁸⁵ *See supra* Part I.C.

¹⁸⁶ Since AST claims that such practice has specific utility, this theoretically feasible cost saving measure may not be implemented in practice *see supra* notes 140, 141 and accompanying text.

can consider a usage-based schedule.¹⁸⁷ This is because although its current fee schedule takes into account a subscriber's spending power,¹⁸⁸ it insufficiently reflects the reality that smaller companies, or even big ones, may be interested only in specific patents in RPX's gigantic portfolios.¹⁸⁹ For the new fee schedule, RPX can charge subscription fees based on estimates of how many (or what percentage) of patents in its entire portfolio a subscriber is likely to use.¹⁹⁰ Such a fee schedule will be more appealing

¹⁸⁷ See *supra* note 97.

¹⁸⁸ *Id.*

¹⁸⁹ For example, one can easily imagine that a large cosmetics manufacturing firm would have a relatively great interest in numerous biochemical patents. Consequently, it would not hesitate from obtaining an overall license to a large portfolio of biochemical patents. On the other hand, the same entity might also be interested in a patent disclosing the whitening effect of certain additives to a concrete mixture used more commonly in building construction. In this case, the cosmetics manufacturer would be more interested in that specific patent as opposed to a portfolio of building and construction patents containing that patent. Thus, the cosmetics manufacturer would be quite reluctant to pay for an overall license to the latter portfolio where what it really needs is that single patent buried in the thicket.

¹⁹⁰ Admittedly, the usage based fee schedule entails a more complex and difficult task as compared to RPX's current fee schedule, which ties subscription fees to subscribers' financial performance. The new scheme is more intrusive and tedious in that in order to estimate which patents a subscriber will use, RPX needs to have knowledge of which areas the subscriber is doing business in, and what expansion plans the latter may have in the relevant period. Conversely, the financial-performance-based scheme arguably needs only knowledge of the subscriber's bottom line figures. Nevertheless, the usage based fee schedule is logically more sound and appealing. Further, it is not really a new task that RPX needs to embark on: in order to make acquisition decisions, RPX has to know what patents its subscribers would be interested in. And to answer that question, RPX necessarily needs to know what technology areas its subscribers are currently involved in and which other areas they are likely to go into in the future.

to smaller-sized companies, increasing RPX's potential to expand its clientele.

Alternatively, RPX can divide its overall portfolio into smaller clusters, place a price tag on each cluster, and charge subscriptions based on the number of clusters a subscriber wishes to take licenses on.¹⁹¹ For companies that are only interested in licenses on specific patents, a separate arrangement can be made.¹⁹² Subdivision of RPX's portfolio substantially simplifies the fee-determination process without adversely scarifying the usage-based principles. With more customization, RPX not only stands to gain more subscribers, but also protects itself from antitrust concerns including charges of engaging in unlawful package licensing.¹⁹³

B. "If we were all better people, the world will [not] be a better place."¹⁹⁴

From earlier discussions, we see that when AST does not assert or proactively license the patents it has acquired,

¹⁹¹ Instead of marketing one big portfolio, RPX can divide it into clusters. For example, it can have a cluster of portfolios consisting of semiconductor related patents, another cluster consisting of e-commerce related patents, and so on. RPX can then charge a higher subscription fee to one who wants to subscribe to three clusters, and a lower fee to one who wishes to subscribe to only one cluster.

¹⁹² The notion of special arrangement is not at all new to RPX. For instance, RPX provides "structured acquisition" when a patent is thought to be beneficial to only a small number of its subscribers. *See supra* note 102. Thus, when a potential subscriber is only interested in having license over a small number of RPX's patents, RPX should also be able to accommodate such client by offering it a lower fee to join with restrictions as to what further license rights that client may have over RPX's subsequently acquired portfolios.

¹⁹³ *See infra* note 204.

¹⁹⁴ Levine, *supra* note 1.

part of those patents' value is destroyed.¹⁹⁵ At the outset, we can hardly praise such inefficient use of valuable resources as making the world better.¹⁹⁶ Moreover, although AST does not assert any patents against practicing entities, there is no guarantee that the ultimate purchaser of an AST patent will not offensively and aggressively assert it.¹⁹⁷ To the contrary, the sole purpose for buying a patent from AST may well be assertion.¹⁹⁸

¹⁹⁵ See *supra* Part II.A.

¹⁹⁶ See *id.*

¹⁹⁷ Wang, *supra* note 39, at 172. As discussed earlier, AST does not proactively solicit licensees while an acquired patent portfolio is under the custody of one of its subsidiaries. See *supra*, Part II.A. Arguably, this preserves the licensing potential and, hence, the financial value of the patent(s), so that it can be divested more easily. *Id.* By the time the patent is disposed of by AST, members anticipating using the patent have already obtained a “fully paid up, perpetual, irrevocable, worldwide, and non-exclusive” license. *Id.* This means the ultimate purchaser will not be able to collect any licensing revenue from those AST members at all. Unless a subsequent patent purchase saw licensing opportunities with other practicing entities, one can hardly imagine any incentive to obtain ownership of that patent. This is especially the case when the ultimate purchaser is a participating member in the AST acquisition. In order to procure licensees, the new owner is likely to engage in offensive assertion. See *supra* Part II.C (discussing the difficulty in securing licensees when the patent owner promises not to enforce the patent). And since the new owner cannot go against those AST members already covered by the existing license, there is a risk that he will sue small-sized companies on a massive scale, or ferociously go after other large companies who did not get a license from AST. See Wang, *supra* note 39, at 173.

¹⁹⁸ When the ultimate buyer is a practicing entity, its incentive to buy the patent may be that it perceives the patent can be asserted against a competitor, another practicing entity, who is not a licensee. Generally, only the holder of “all substantial rights” in the patent has standing to sue for infringement. See *e.g.*, *Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1341 (Fed. Cir. 2007). Thus, an AST member who holds a non-exclusive license to the patent has no standing to sue a competitor over infringement of the patent unless it obtains ownership to the patent. In

Furthermore, the ultimate purchaser of an AST patent may also be an NPE. While the NPE buyer cannot assert the patent against AST members having a license to the patent, it can (and is likely to) assert the patent against other practicing entities.¹⁹⁹ If some AST members—albeit finding the patent relevant to their business—were unable to participate in the corresponding AST acquisition or exercise their SLO (e.g., due to temporary financial hardship) they would remain the prey of the NPE buyer. Given that NPEs assert patents over inventions “not imagined at the time they were granted,”²⁰⁰ an AST member that only becomes interested in a patent post-AST divestiture would similarly remain exposed to NPE assertions. Therefore, although AST may pose as “better people” the world does not become a better place as a result of their undifferentiated “catch and release” policy. To the contrary, NPE assertions persist.

To further undermine its defensive practices, AST accepts only applicants with a minimum annual avenue of \$500 million.²⁰¹ By externalizing litigation risks onto smaller businesses and categorically excluding the same from joining the alliance, AST may not only be condemned for antitrust violations,²⁰² but may also find its “good people” posture considered hypocritical.

The RPX model faces similar problems. A promise not to assert its patents inspires technology users to infringe

this case, the sole purpose for buying the patent is for assertion. *See generally* Wang, *supra* note 39, at 173.

¹⁹⁹ *See supra* note 197.

²⁰⁰ *See supra* notes 44, 45.

²⁰¹ *See supra* note 119.

²⁰² It is beyond the scope of this article to discuss such antitrust issues. For a general discussion on IP and antitrust, *see generally* JANIS & LEMLEY, *supra* note 68.

them.²⁰³ In fact, a party may be even more tempted to infringe when RPX has a licensing structure that makes subscribers pay for licenses on patents they do not use and for maintenance fees for RPX’s entire portfolio. In contrast to AST’s externalization, RPX’s non-assertion practice ostensibly internalizes external costs and penalizes subscribers. In addition, RPX’s package deal, which compels subscribers to pay for necessary and unnecessary patents, may also prompt antitrust concerns.²⁰⁴

RPX purports to be “better people,” but the world also does not become a better place unless we perceive a world with ubiquitous infringement as better. Likewise, the higher-than-typical license fee procured through RPX subscription fees also undermines its “good people” image.

C. “In the long run we are all dead.”²⁰⁵

Even with improved short-term efficiency, AST and RPX face great challenges to overcome long-term impracticalities. One such long-term impracticality lies in the voluntary non-assertion practice discussed in the previous subsection. AST’s and RPX’s models both drive

²⁰³ See *supra* Part II.C.

²⁰⁴ According to the Department of Justice (“DOJ”), package licensing, that is, “the licensing of multiple items of intellectual property in a single license or in a group of related licenses may be a form of tying arrangement [an antitrust violation] if the licensing of one product is conditioned upon the acceptance of a license of another, separate product.” DOJ ANTITRUST GUIDELINES, *supra* note 33, at 27. Accordingly, one can argue that in order to get a license for patent X from RPX, the person has to take on a subscription which is essentially a license to patent X, Y, Z, etc.; thus, the licensing of one product (covered by patent X), is conditioned upon the acceptance of a license of another, separate product (covered by patent Y, Z, etc.).

²⁰⁵ KEYNES, *supra* note 16.

up licensing costs.²⁰⁶ AST externalizes this cost to non-members while RPX internalizes it to subscribers.²⁰⁷ They reduce the value of any patent they hold whether or not it is ultimately “released.” Both business models raise antitrust concerns.²⁰⁸ Neither makes the world a “better” place.²⁰⁹

A more pervasive problem may be the impracticality in a strategy directed at “preemptively” purchasing relevant patents from the open market. First, one is very much unsure how many patents, or even which ones must be acquired to preempt NPE assertions given the large number of patent applications that constantly enter the market.²¹⁰ It is quite impossible that one can pinpoint all the relevant patents in the market, especially those relevant to subsequent, unimagined inventions.²¹¹ Even if one could be certain with which patents to acquire, one may not be able to obtain them due to competition, an owner’s refusal to sell, or even the purchaser’s own financial difficulty.²¹² Therefore, the preemption strategy per se may be almost untenable.

Ironically, even if a party had a license to the entirety of both of AST’s and RPX’s portfolios, there is no guarantee

²⁰⁶ Perhaps, more correctly, the cost to use any patented invention.

²⁰⁷ See *supra* notes 197, 202, 204 and accompanying text.

²⁰⁸ See *supra* Part III.B.

²⁰⁹ *Id.*

²¹⁰ Even though one can obtain the number of total patent applications in a given year, see e.g., U.S. PAT. & TRADEMARK OFFICE, U.S. PAT. STAT. CHART 1963-2012, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm (last visited Dec. 24, 2013), that alone is unhelpful as to how many patents need to be purchased.

²¹¹ 2013 EXEC. OFF. REP., *supra* note 42 at 1.

²¹² See e.g., RPX Corp., Inc., 2012 Ann. Rep. *supra* note 91, at 11 (acknowledging it may have difficulty competing with NPEs in patent acquisition).

that it will not run afoul of NPE assertions. As long as an NPE secures rights to one essential patent, it is able to assert the patent against AST or RPX members.²¹³ A quick survey of the representative client list of AST and RPX reveals that Avaya, Inc., Google, Inc., Hewlett-Packard Co. (“HP”), IBM Corp., Intel Corp., Oracle, Inc., and Sony Corp. subscribe to both alliances.²¹⁴ Nevertheless, HP, Sony, Google, and IBM remain on the top thirty list of those companies most pursued by NPEs.²¹⁵

Unlike buying multiple insurance policies, participating in multiple patent alliances may not provide much additional protection. We simply cannot infer here that those who subscribe to both AST and RPX receive increased or even sufficient protection against NPE assertions.²¹⁶ Interestingly, Apple, Inc. appears to be skeptical about such alliances; although it is the number one pursued company by NPEs,²¹⁷ it is not a member of either AST or RPX.²¹⁸ Because the preemption strategy is in itself

²¹³ See Wang, *supra* note 39, at 175 (acknowledging that a defensive aggregator cannot guarantee its members sufficient freedom to operate with a definite “playlist” analogous to American Society of Composers, Authors and Publishers (ASCAP) in the copyright regime). See also RPX Corp., Inc., 2012 Ann. Rep., *supra* note 91, at 9 (acknowledging uncertainty about its ability to reduce patent litigation cost for its clients).

²¹⁴ *AST Members*, *supra* note 59 (last visited Nov. 17, 2013); *A Steadily Expanding Network of Industrial Leaders*, *supra* note 92 (last visited Nov. 17, 2013).

²¹⁵ *Most Pursued Companies*, PATENTFREEDOM, <https://www.patentfreedom.com/about-npes/pursued/> [<https://web.archive.org/web/20131212143912/https://www.patentfreedom.com/about-npes/pursued/>] (last visited (Aug. 6, 2013)).

²¹⁶ See *supra* notes 213, 214 and accompanying text.

²¹⁷ *Most Pursued Companies*, *supra* note 215.

²¹⁸ See *supra* notes 213, 214.

unrealistic, a party cannot be exempted from NPE assertions by participating in more patent alliances that adopt this strategy.²¹⁹ However, participation in a modified patent alliance—one that adopts the recommendations in this article—might help reduce NPE assertions by providing an efficiently chosen patent thicket for its members.

In addition, as observed earlier, neither the AST nor RPX model is conducive to a large-member pool.²²⁰ Such limitations are inherent in the nature of technology, which embraces many different fields.²²¹ Accordingly, the ultimate size of any effective patent alliance is necessarily limited. However, there is some consensus that defensive aggregators will have a longer life if widely joined and that limitations on member size are detrimental to the long-term health of a patent alliance.²²²

Whether a patent alliance chooses to stay small or expand by implementing different focus groups, it ultimately approximates patent pools in the long run.²²³ In fact, the best

²¹⁹ *Id.*

²²⁰ *See supra* Part II. A & C.

²²¹ The GAO Report states that software-related patents give rise to 89% of the total increase in patent litigation between 2000 and 2010. 2013 GAO REP., *supra* note 8, at 14. But, software-related patents alone cover a wide range of technological areas. For example, software patents fall under Class 705 under the U.S. Patent Classification System (USPC), which has many subclasses. *See* U.S. PAT. & TRADEMARK OFFICE, CLASS SCHEDULE FOR CLASS 705 DATA PROCESSING: FINANCIAL, BUSINESS PRACTICE, MANAGEMENT, OR COST/ PRICE DETERMINATION, <http://www.uspto.gov/web/patents/classification/uspc705/sched705.pdf> [https://perma.cc/6AXB-S5TF] (last visited Dec. 25, 2013). Such fine subdivision can be overwhelming for a single patent alliance to handle. *See supra* note 146 and accompanying text.

²²² *See, e.g.,* Wang, *supra* note 39, at 199.

²²³ A patent pool may be defined as “the aggregation of intellectual property rights which are the subject of cross-licensing, whether they

way to sustain the continuing vitality of patent alliances as a potential defensive tool for reducing NPE patent assertions is to create a new business model that transforms these alliances into more efficient entities. To achieve this end, the inefficiencies identified previously must be properly addressed as outlined above.

IV. CONCLUSION

Participating in patent alliances as currently established is not an effective market solution to NPE assertions. No matter how many alliances a practicing entity joins, the risk of being sued by NPEs can never be completely removed. The current business models for representative patent alliances suffer from various inefficiencies that need to be corrected to maintain their present viability. Enhancing centralization and devising more attractive subscription plans are critical to improving short-term efficiency, even while patent alliances remain shrouded in the shadow of the illusive preemptive purchasing strategy. Steps must be taken to overcome the limited growth potential for present models.

Finally, contrary to the belief that non-assertion of patent rights makes the world a “better” place, such practice

are transferred directly by patentee to licensee or through some medium, such as a joint venture, set up specifically to administer the patent pool.” JOEL I. KLEIN, ACTING ASSISTANT ATT’Y GEN., ANTITRUST DIV., U.S. DEP’T OF JUSTICE, “CROSS-LICENSING & ANTITRUST LAW,” AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION 3 n.3 (May 2, 1997), *available at* <http://www.justice.gov/atr/public/speeches/1118.pdf> [<https://perma.cc/3TZ4-F5UX>]. Some people believe that defensive aggregators in their current status, share characteristics with patent pools. Wang, *supra* note 39, at 175. Since entities are better off getting licenses to specific “pools,” *see supra* Parts II.A & II.C, they will be interested in forming and joining patent pools, and may well abandon the more cumbersome patent alliance model. *See supra* Part II.A.

as entailed by the present patent alliance models undermines the economic value of patents, drives up licensing costs, and does not substantially reduce alliance members' exposure to NPE assertions. Coupled with other practices adopted by these alliances, such voluntary non-assertion may even raise antitrust concerns. For patent alliances to survive the blind faith in non-assertion, blanket non-assertion practice must be replaced with a rational assertion policy. Patent alliances may not qualify as "better people" by adopting this policy, but the world might become a better place.

