

# FIXING THE FAILURES OF SOFTWARE PATENT PROTECTION: DETERRING PATENT TROLLING BY APPLYING INDUSTRY-SPECIFIC PATENTABILITY STANDARDS

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## I. INTRODUCTION

### **troll (trōl) n.**

*A supernatural creature of Scandinavian folklore, variously portrayed as a friendly or mischievous dwarf or as a giant, that lives in caves, in the hills, or under bridges.*<sup>1</sup>

The term “patent troll” has become a familiar one in the developing industry of patent lawsuits and settlements. One reporter from *The Recorder*, Brenda Sandburg, paints an unconvincing picture in her portrayal of a patent troll.<sup>2</sup> Here, Intel is a “crafty colossus,” a corporate giant that has “stomped” on a small inventor’s patent rights and “brazenly stole the all-important magic that helped spin the semi-conductor into gold.”<sup>3</sup> In this fairytale, the small inventor, misnamed a patent troll, is the victim, just “getting a fair share for [himself].”<sup>4</sup> According to Sandburg’s interpretation, the patent system is in place for that very purpose—“to protect the small from manipulative mammoths like Intel.”<sup>5</sup>

Peter Detkin, the former assistant general counsel for Intel, views the story differently. Detkin first coined the term “patent troll” in 2001, and defined it as “somebody who tries to make a lot of money off a patent that they are not practicing and have no intention of practicing and in most

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<sup>1</sup> THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (4th ed. 2000) (emphasis added).

<sup>2</sup> Brenda Sandburg is a senior writer for THE RECORDER, the leading legal newspaper for northern California.

<sup>3</sup> Brenda Sandburg, *You May Not Have a Choice. Trolling for Dollars*, THE RECORDER, July 30, 2001, available at <http://www.phonetel.com/pdfs/LWTrolls.pdf>.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

cases never practiced.”<sup>6</sup> In the real world, Detkin’s view prevails—the patent troll is not the victim.<sup>7</sup> On the contrary, Intel and other corporations that actually practice their inventions suffer at the hands of patent trolls.<sup>8</sup> In today’s patent environment, narrow patents are frequently asserted broadly across entire industries in order to obtain nuisance settlements and licensing agreements.<sup>9</sup> The patent reality is more nightmare than fairytale, and patent trolls are able to penetrate where gaps in patent laws exist.

From the failure of U.S. patent laws and developments in litigation, patent holding companies, or patent trolls, have thrived as a result of the modern application of patent laws.<sup>10</sup> This Note argues that patent trolling, defined narrowly, is detrimental to both the legal system and the innovation of technology, especially in the software industry. Part II analyzes the development of patent trolls, provides a proper narrow definition for the term “patent troll,” and proposes a taxonomy for categorizing the different types of patent trolls. Part II also addresses the major causes, benefits, and detriments of patent trolling. Part III analyzes the weaknesses of proposed reforms in addressing and limiting the problems caused by patent trolling. After an evaluation of recent proposals for patent reform and a recent Supreme Court decision, Part IV concludes that effective solutions to limiting patent trolling in the software industry must involve improving patent quality and applying differential software-specific patentability standards.

## II. PATENT TROLLS: CAUSES AND EFFECTS

### A. THE DEVELOPMENT OF PATENT TROLLS

All patent trolls operate essentially by first accusing a company of infringing a patent and then offering a license for a royalty on sales. If the target company does not agree to a license, the troll sues.<sup>11</sup> Since current licensing laws allow a patent owner, a licensor, to grant another party, a licensee, permission to practice the patent while retaining the ownership rights to the patent, patent trolls are able to compel and negotiate licenses from target companies by accusing its targets of infringement.<sup>12</sup> Licensing terms or royalty rates can vary widely depending upon various factors including: the extent to which the license could be structured to be a competitive advantage for a firm, the duration of the license, the nature and amount of protection that a licensor offers, the exclusivity of the territory or

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<sup>6</sup> *Id.*

<sup>7</sup> *See id.*

<sup>8</sup> *See id.*

<sup>9</sup> *Id.*

<sup>10</sup> *See* Jeremiah Chan & Matthew Fawcett, *Footsteps of the Patent Troll*, 10 INTELL. PROP. L. BULL. 1, 3–4 (2005). *See also* Sandburg, *supra* note 3.

<sup>11</sup> *See* David G. Barker, *Troll or No Troll? Policing Patent Usage with an Open Post-Grant Review*, 9 DUKE L. & TECH. REV. ¶ 7 (2005).

<sup>12</sup> *See* ALAN L. DURHAM, PATENT LAW ESSENTIALS: A CONCISE GUIDE 47 (2d ed. 2004).

market, the utility or amount of advantage of the technology, the commercial success of the invention, the maturity or immediate applicability of a technology, and the degree to which the licensor is committed to pursuing infringers or to providing ongoing training or support.<sup>13</sup> Further, the sale of individual patents is complicated by the unpredictable nature of technology and its uncertain financial future.<sup>14</sup> Accordingly, patent trolls have developed a business model to capitalize and exploit this unpredictability of royalty and licensing terms for intellectual property.

#### B. THE SCOPE OF THE TERM “PATENT TROLL”

The “patent troll” label carries a great deal of negative connotation.<sup>15</sup> Patent trolls have been described before Congress as the “patent system bottom feeders who buy improvidently granted patents from distressed companies for the sole purpose of suing legitimate business.”<sup>16</sup> Thus, a company labeled a “patent troll” faces disapproval and disparagement within the business community for hampering innovation in the pursuit of undeserved monetary rewards.<sup>17</sup> Given the negative implications of this label, there is a substantial amount of debate on the scope of the term “patent troll,” and what entities it should or should not cover.<sup>18</sup>

One school of thought broadly defines a patent troll as any entity that acquires a patent from another and enforces the patent.<sup>19</sup> This definition, however, includes many large companies who legitimately manufacture their inventions, but also take advantage of licensing laws to increase revenue.<sup>20</sup> Under this interpretation, even large companies that practice some of their inventions without ever initiating lawsuits are labeled patent trolls.<sup>21</sup> In some sense, these companies do exhibit troll-like behavior because they cross-license their patents or own and enforce patents for

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<sup>13</sup> TECHNOLOGY LICENSING: CORPORATE STRATEGIES FOR MAXIMIZING VALUE 17–18 (Russell L. Parr & Patrick H. Sullivan eds., 1996). *See also* ABA SECTION OF ANTITRUST LAW, INTELLECTUAL PROPERTY MISUSE: LICENSING AND LITIGATION 48 (2000) (claiming that royalty payments are generally set by a patent owner at a level that will maximize the return on the intellectual property embodied therein; also noting that the Supreme Court has said that it is a patent owner’s prerogative to set whatever royalty rate the owner wishes and that the general rule is that royalty charges are within the patentee’s discretion).

<sup>14</sup> *See* TECHNOLOGY LICENSING: CORPORATE STRATEGIES FOR MAXIMIZING VALUE, *supra* note 13, at 17–18, 29.

<sup>15</sup> *See* Jason Kirby, *Patent Troll or Producer? The Evolution of Intellectual Property*, FIN. POST, Jan. 14, 2006.

<sup>16</sup> Symposium, *Ideas into Action: Implementing Reform of the Patent System*, 19 BERKELEY TECH. L. J. 1053, 1101 (2004) (quoting congressional hearings testimony).

<sup>17</sup> *See* Kirby, *supra* note 15.

<sup>18</sup> *See* Kirby, *supra* note 15.

<sup>19</sup> *See, e.g.*, Martin Lueck, Stacie Oberts & Kimberly Miller, “Patent Troll:” A Self-Serving Label that Should be Abandoned, ARTICLES (Robins, Kaplan, Miller & Ciresi L.L.P.), Sept. 28, 2005, [http://www.rkmc.com/Patent\\_Troll\\_A\\_Self-Serving\\_Label\\_that\\_Should\\_be\\_Abandoned.htm](http://www.rkmc.com/Patent_Troll_A_Self-Serving_Label_that_Should_be_Abandoned.htm).

<sup>20</sup> *See id.*

<sup>21</sup> *See id.*

products they do not manufacture as part of their overall patent strategy.<sup>22</sup> Firms like Digital Equipment, IBM, Texas Instruments, Intel, and Wang Laboratories have established patent licensing units, which have frequently been successful in securing licensing agreements and claiming past royalties.<sup>23</sup> In recent years, Texas Instruments has generated close to one billion dollars annually from patent licenses and settlements.<sup>24</sup> In some of these years, Texas Instruments' income from patent licensing exceeded income from product sales.<sup>25</sup> Similarly, "IBM's licensing revenue peaked at more than \$1.6 billion in 2000. . . . [and] Lucent Technologies' patent portfolio yielded \$500 million in 2000."<sup>26</sup> Unlike patent trolls, however, many of these companies practice or intend to practice the claims of their patented inventions or allow others to practice the inventions and do not limit or impair public access to the patented inventions.<sup>27</sup> Further, many scholars agree that such companies should be exempt from the patent troll label because these firms, by exercising the ability "to acquire an interest in patent rights and later enforce or sell the rights," facilitate public access to the patented inventions by promoting the financing of new ideas and new companies.<sup>28</sup>

Additionally, a broad definition of patent trolls also erroneously includes universities and other research institutions that have no intention of making or distributing products, but nevertheless file for patents that protect and give value to their research.<sup>29</sup> Because universities license and enforce patents that they do not practice, they are improperly labeled patent trolls.<sup>30</sup> Yet many universities, because they license their technology, do not necessarily limit or impair public access to the inventions.<sup>31</sup> Thus, universities and other research institutions should not be considered patent

<sup>22</sup> *Id.* (noting that Kodak collected ninety-two million dollars from Sun, despite not being in the software business, for infringing Kodak's Java patents which Kodak had inherited from Wang Laboratories).

<sup>23</sup> ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS 14–15 (2004).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* at 15.

<sup>26</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, A PATENT SYSTEM FOR THE 21ST CENTURY 31 (Stephen A. Merrill et al. eds., 2004).

<sup>27</sup> For example, self-made inventors "might reasonably prefer to license their patents, rather than undertake efforts to secure the financing necessary to bring their works to market themselves." eBay, Inc. v. MercExchange, L.L.C., 126 S.Ct. 1837, 1840 (2006).

<sup>28</sup> See, e.g., Lueck, *supra* note 19 (arguing that corporations including AT&T, Kodak, IBM, and Xerox who cross-license their patents or own and enforce patents for products they do not manufacture as part of their overall patent strategy should not be labeled patent trolls). For an example of a company formed by the exercise of the ability to acquire and sell patent rights, see *id.* (describing Edison Electric Light Company, formed to support Edison's ventures and inventions).

<sup>29</sup> *Perspective on Patents: Harmonization and Other Matters: Hearings Before the Subcommittee on Intellectual Property of the Committee on the Judiciary*, 109th Cong. 21 (2005) (statement of David Beier, Senior Vice President For Global Government Affairs) (acknowledging that "universities are not about the business of making and distributing products").

<sup>30</sup> See, e.g., Lueck, *supra* note 19 (noting that "universities license patents they do not practice and enforce those patents").

<sup>31</sup> See, Lueck, *supra* note 19 (noting that in the case of the Eolas and the University of California filed against Microsoft, the University of California entered into an exclusive license arrangement with Eolas as a start-up company to practice the invention).

trolls simply because they license their technology.<sup>32</sup> Thus, a proper definition of a patent troll should be drawn narrowly enough to exclude universities or other entities that possess a good faith intention to practice or to allow others to practice the claims of the patented inventions, and who do not pursue suits and settlements that limit or impair public access to the inventions.

One possible limitation for narrowing the definition of a patent troll has been presented by the Intellectual Property Owners Association (“IPO”). The IPO has made an effort to define a troll as “a company or business function whose *primary business activity* is to acquire patents for the purpose of offensively asserting them against other companies.”<sup>33</sup> Thus, any company that derives its revenue primarily from its products or services will likely fall outside of the IPO’s definition. While the IPO’s definition provides a useful limitation, many companies that do in fact file numerous patent lawsuits to generate settlements, in a way that severely limits or impairs public access to the patented inventions, may fall outside of the IPO’s definition of a patent troll if their “primary business activity,” defined for tax purposes, falls elsewhere.<sup>34</sup> For this reason, a proper definition of a patent troll cannot be based on the “primary business activity” limitation.

There are also those who believe that the term should be abandoned altogether because it unfairly implies that the individuals or companies labeled “trolls” are defying the patent system.<sup>35</sup> According to these individuals, so-called patent trolls legitimately and legally operate within the legal system and within the mechanisms put in place to remedy any abuses of the system.<sup>36</sup> Moreover, they argue, “whether a patent is actually practiced or manufactured is irrelevant to the right to assert a patent,” and enforcing patents that are not put into commercial use is not only acceptable, but a fair use of patent rights.<sup>37</sup> Accordingly, “whether or not the owner practices the patent” should not be the basis for the definition of a “patent troll.”<sup>38</sup>

Although it is certainly true that a patent holder who operates within the legal system is not required to practice its patented inventions, a patent

<sup>32</sup> See, Lueck, *supra* note 19. See also Caroline Horton Rockafellow, *Examining ‘Patent Troll’ Debate: Should They Be an Endangered Species?*, WRAL LOCAL TECH WIRE, Sept. 27, 2006, <http://www.localtechwire.com/article.cfm?u=15113> (stating that research institutions, universities, and all companies that focus solely on research and development are generally not considered to be included in the definition of a patent troll).

<sup>33</sup> Joe Beyers, *Rise of the Patent Trolls*, CNET NEWS.COM, Oct. 13, 2005, [http://news.com.com/Rise+of+the+patent+trolls/2010-1071\\_3-5892996.html](http://news.com.com/Rise+of+the+patent+trolls/2010-1071_3-5892996.html) (emphasis added).

<sup>34</sup> For example, although Wal-Mart is a big seller of home furnishings, this is not its primary business activity for federal income tax reporting purposes. In the same way, a company who generates a large portion of its revenue through licensing or settlements may have a primary business activity that is not to acquire patents. See *Disclosures and Sources of Information*, BIZSTATS.COM, <http://www.bizstats.com/disclosures.htm> (last visited Oct. 23, 2006).

<sup>35</sup> See, e.g., Lueck, *supra* note 19.

<sup>36</sup> See Lueck, *supra* note 19.

<sup>37</sup> See Lueck, *supra* note 19.

<sup>38</sup> See Lueck, *supra* note 19.

holder who does not possess a good faith intention to practice or to allow others to practice the claims of the patented invention, and who enforces his patents against others for the purpose of generating suits and settlements in a way that limits or impairs mere public access to the patented inventions counters the goals of the patent system and stifles creativity by diverting resources away from investing in further innovation.<sup>39</sup> In order to remedy these issues, the definition of the patent troll should include those who do not possess a good faith intention to practice or to allow others to practice the claims of the patented invention while operating within the confines of the current legal system, and who assert such patents to generate suits and settlements in a way that will limit and/or impair public access to the patented inventions.<sup>40</sup>

### C. A PROPER DEFINITION OF A "PATENT TROLL"

"Patent trolls" should be defined as entities that hold patent(s) in order to enforce or assert them broadly across an industry, do not possess a good faith intention to practice the claims of the patented invention(s) or to allow others to practice the claims of the patented invention(s), *and* assert such patent(s) to generate suits and settlements in a way that limits and impairs public access to the invention(s).

The patent troll, in this sense, undeniably impacts the development of technology and carries significant legal consequences. This proper definition of a patent troll is broad enough to include a wide range of companies, from those that purchase and assert others' patents to agents that help others assert patents. This definition is also narrow enough to exclude those companies that actually practice the inventions protected by their patents and universities or other inventors who do not hold patents for the purpose of enforcing them by filing lawsuits.

#### **pat·ent troll (păt'nt trōl) n.**

*An entity that holds patent(s) in order to enforce or assert them broadly across an industry, does not possess a good faith intention to practice the claims of the patented invention(s) or to allow others to practice the claims of the patented invention(s), and asserts such patent(s)*

<sup>39</sup> See Chan & Fawcett, *supra* note 10, at 4. Some sources mention the idea of a "non-manufacturing entity" to define and limit the scope of the term patent troll. See Lueck, *supra* note 19. For a discussion on the goals of the patent system, see H. JACKSON KNIGHT, PATENT STRATEGY: FOR RESEARCHERS AND MANAGERS 41 (2d ed. 2001) (stating that "patent systems are set up by governments to encourage innovation. In general, patent systems have a central theme; in return for disclosing technical innovations and developments, a government grants the patentee the right to exclude others from practicing these innovations and developments for a certain amount of time. Governments hope other inventors will learn from these technical developments, these patents, and use this learning as the basis for more innovation, therefore improving the economic health of the country and the standard of living.").

<sup>40</sup> See A Proper Definition of a "Patent Troll," *infra* Part II.C.

*to generate suits and settlements in a way that limits and impairs public access to the invention(s).*

#### D. TYPES OF PATENT TROLLS: A NEW TAXONOMY

Since the explosion of patent litigation in the 1990s,<sup>41</sup> several types of patent trolls have arisen that enforce or assert patents against others, but neither practice nor intend to practice the invention protected by those patents.<sup>42</sup> Mainly, five types of companies dominate the patent troll scene, with the remaining trolls being merely variants on these types. I propose the following taxonomy to categorize the different types of patent trolls. All are entities that hold patents in order to enforce or assert them broadly across an industry; they are entities that do not practice, intend to practice, or allow others to practice the claims of the patented inventions; and they assert such patents to generate suits and settlements in a way that limits and impairs public access to the inventions.<sup>43</sup> Each entity differs in structure and means of generating revenue.

##### 1. *The Trolling Buyer*

The first type of patent troll is the Trolling Buyer: a company that purchases other companies' controversial, old, or unexploited patents for the purpose of asserting them against an industry.<sup>44</sup> Although the patents are older or stagnant, they often still play a role in modern technology. For this type of troll, the goal is not to create technology, but merely to evaluate patents.<sup>45</sup> Revenue follows from the acquisition and subsequent licensing of patents due to aggressive patent enforcement.<sup>46</sup>

##### a. *Acacia Technologies Group*

Acacia Technologies Group can be classified as an example of the Trolling Buyer. According to the company, Acacia "is in the business of acquiring, developing, licensing, and enforcing patents."<sup>47</sup> Acacia Technologies Group acquires patents from its clients, becoming the owner or exclusive licensee of a particular patent.<sup>48</sup> The company targets patents that can establish good evidence of infringement with significant past

<sup>41</sup> See Julia Huston, *Litigating Patent Rights in a Down Economy*, 32 M.L.W. 359 (2003) (stating that the filing of lawsuits in the late 1990s was at an all-time high).

<sup>42</sup> See Chan & Fawcett, *supra* note 10, at 1–2.

<sup>43</sup> See Chan & Fawcett, *supra* note 10, at 1–2, 11.

<sup>44</sup> See Chan & Fawcett, *supra* note 10, at 1–2.

<sup>45</sup> See Chan & Fawcett, *supra* note 10, at 3 ("A patent troll's only goal is to extract quick cash, not to create technology development.").

<sup>46</sup> See Chan & Fawcett, *supra* note 10, at 3.

<sup>47</sup> Profile, Acacia Technologies Group, [http://www.acaciatechnologies.com/aboutus\\_main.htm](http://www.acaciatechnologies.com/aboutus_main.htm) (last visited Nov. 3, 2006).

<sup>48</sup> Client Agreement, Acacia Technologies Group, <http://www.acaciatechnologies.com/clientagreement.htm> (last visited Nov. 3, 2006).

damages and generates revenue solely from licensing and patent enforcement.<sup>49</sup> On its website, Acacia Technologies Group explains its business model:

“We help patent holders to protect their patented inventions from unauthorized use and to generate revenue from licensing and, if necessary, enforcing their patents. Our clients are primarily individual inventors and small companies with limited resources to deal with unauthorized users . . . .”<sup>50</sup>

Acacia Technologies Group specializes in acquiring and enforcing patent portfolios in a wide variety of media, internet, and technological industries.<sup>51</sup> Acacia Technologies Group controls fifty-two patent portfolios in a wide range of technology including audio/video enhancement and synchronization, digital media transmission, credit card fraud protection, image resolution enhancement, interactive television, user activated internet advertising, multidimensional barcodes, and network data storage.<sup>52</sup> The company has negotiated more than four hundred licenses and “a number of multi-million dollar licenses/settlements.”<sup>53</sup> Acacia Technologies Group has won settlements and produced negotiations with some of the industry’s largest corporations including Exxon, Gannet, Hewlett Packard, Hitachi, IBM, Mitsubishi, Nokia, Samsung, Sanyo, Sharp, Sony, The Walt Disney Company, Thomson, Toshiba, Tribune, and Xerox.<sup>54</sup>

*b. Intellectual Ventures*

Another Trolling Buyer is Intellectual Ventures, which is a variation on the typical Trolling Buyer.<sup>55</sup> Intellectual Ventures is a company that was founded in 2000, with the stated purpose of investing in invention.<sup>56</sup> Although the company also develops inventions, it has purchased over one thousand patents, and its goal is to develop a large patent portfolio, not to

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<sup>49</sup> *Id.*

<sup>50</sup> Profile, *supra* note 47.

<sup>51</sup> See Success Stories, Acacia Technologies Group, <http://www.aciatechnologies.com/successstories.htm> (last visited Nov. 3, 2006).

<sup>52</sup> Patent Portfolios, Acacia Technologies Group, <http://www.aciatechnologies.com/patentportfolio.htm> (last visited Nov. 3, 2006).

<sup>53</sup> See Success Stories, *supra* note 51.

<sup>54</sup> Rob Stewart, Acacia Technologies Group: Fact Sheet, Acacia Technologies Group, <http://www.aciatechnologies.com/docs/AcaciaFactSheet.pdf> (last visited Nov. 3, 2006). For additional licensees, see Representative Licensees, Acacia Technologies Group, <http://www.aciatechnologies.com/docs/Licensees.pdf> (last visited Nov. 3, 2006) (listing Acacia Technologies Group’s representative licensees).

<sup>55</sup> Brad Stone, *Factory of the Future?*, NEWSWEEK, Nov. 22, 2004, available at <http://www.msnbc.msn.com/id/6478691/site/newsweek/>.

<sup>56</sup> Background, Intellectual Ventures, <http://www.intellectualventures.com/background.aspx> (last visited Oct. 29, 2006).



actually produce or manufacture products.<sup>57</sup> The company bases its business model on generating revenue from acquisitions of patents and partnering relationships.<sup>58</sup>

Founded by Nathan Myhrvold of Microsoft, Peter Detkin of Intel, Edward Jung, and Gregory Gorder, the company gained legitimacy from its founders' reputations as prominent figures in the patent domain.<sup>59</sup> Myhrvold and his partners have raised over \$350 million from some of the largest companies in technology including Microsoft, Intel, Sony, Nokia, Apple, Google, and eBay.<sup>60</sup> Investing its capital in intellectual property, Intellectual Ventures is purchasing patents in the areas of software, e-commerce, communications, semiconductors, consumer electronics, and computer architecture.<sup>61</sup> With a comprehensive patent portfolio, Intellectual Ventures provides its clients with protection from lawsuits, and also asserts its patents against its clients' rivals.<sup>62</sup>

## 2. *The Trolling Resurrecter*

The second type of patent troll is the Trolling Resurrecter: a company "that originally sold products, but [has] either completely or largely closed [its] operations to focus only on patent licensing."<sup>63</sup> Companies that choose to cease their own operations may be motivated by the increasing potential of income from patent enforcement and decreased earnings from the manufacture of certain products. The bulk of revenue is generated not from the company's products, but from aggressive enforcement of its patented technologies.<sup>64</sup>

### a. *Ampex Corporation*

Ampex Corporation is an example of how patent trolling can resurrect a company's lifespan. Ampex invented technology for audio and video recording in the 1940s and 1950s, developing an audio recorder used for a tape delay radio broadcast, a multi-track audio recorder, a magnetic theater

<sup>57</sup> See Stone, *supra* note 55.

<sup>58</sup> See Stone, *supra* note 55 (defining the business strategy as, "Patent owners get money upfront for the dusty ideas sitting on their shelves, the investors get the rights to use the ideas without being sued and Myhrvold gets to rent those same ideas to other companies that need them to continue creating products.").

<sup>59</sup> See Stone, *supra* note 55. See also Managing Directors, Intellectual Ventures, <http://www.intellectualventures.com/team.aspx> (last visited Nov. 3, 2006).

<sup>60</sup> See Stone, *supra* note 55.

<sup>61</sup> See Stone, *supra* note 55.

<sup>62</sup> See Stone, *supra* note 55. Speculators argue that Intellectual Ventures can do many things with its patent portfolio. "It could demand licensing fees from its investors' rivals, companies like Yahoo and Amazon. It could also corner the market in a new technology, like a speedier silicon processor, and charge microchip makers a tithe to use it. Or Myhrvold could change directions altogether and start building actual companies around the best ideas." *Id.*

<sup>63</sup> See Chan & Fawcett, *supra* note 10, at 2.

<sup>64</sup> See Joe Brennan et al., *Patent Trolls in the U.S., Japan, Taiwan and Europe*, 13 NEWSLETTER (CASRIP), 2006, available at <http://www.law.washington.edu/Casrip/Newsletter/Vol13/newsv13i2BrennanEtAl.html>.

sound system, and the first practical videotape recorder used for the first videotape delayed broadcast.<sup>65</sup> When Ampex's stock fell in 2004, some blamed the slump on new developments in technology that displaced Ampex's audio and video technology.<sup>66</sup> When the company's stock later rose in 2005, many credited its turnaround with Ampex's assertion of its older patents to newer products such as DVD players and digital cameras.<sup>67</sup> Ampex's settlements with Sanyo, Canon, and Sony totaled over seventy-five million dollars, and made the company a successful Trolling Resurrector.<sup>68</sup>

### 3. *The Trolling Developer*

The third type of patent troll is the Trolling Developer: an inventor or company that develops inventions and patents and asserts these patents against other companies, instead of producing and selling a product.<sup>69</sup> Revenue is generated from asserting the Trolling Developer's patents against other companies, generally against those that produce and market a product that infringes on the Trolling Developer's patents.<sup>70</sup>

#### a. *Jerome Lemelson*

Jerome Lemelson is one example of a Trolling Developer. He was an inventor who obtained more than five hundred patents and claimed to hold "machine vision" patents covering bar coding technologies.<sup>71</sup> Although all of Lemelson's "machine vision" patents were later invalidated in litigation,<sup>72</sup> from 1988 to 2001, his foundation was estimated to have collected over \$1.2 billion in revenue through filing lawsuits and obtaining settlements from companies that it accused of infringing its patents.<sup>73</sup>

<sup>65</sup> Corporate Background, Ampex Corporation, <http://www.ampex.com/03corp/03corp.html> (last visited Mar. 21, 2006).

<sup>66</sup> Mathew Ingram, *Guarding Ideas or Just Patent Blackmail?*, GLOBE & MAIL UPDATE, Feb. 6, 2005, <http://www.theglobeandmail.com/servlet/story/RTGAM.20050602.wxtwtroll02/BNStory>.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.* See also *Historical Prices for Ampex Corp.*, YAHOO FINANCE, <http://finance.yahoo.com/q/hp?s=AMPX> (reporting that on October 1, 2004, Ampex stock (AMPX) was worth \$1.90/share, rose to \$50.75 in February 2005, and is currently trading at \$14.00/share).

<sup>69</sup> Although many scholars exclude companies that develop patents in their definition of a patent troll, this Note includes companies that develop patents in the definition of a patent troll.

<sup>70</sup> See Jonathan Greenwood, *The Troll that Lies in Wait*, LAW CAREERS.NET, <http://www.lawcareers.net/Information/BurningQuestion/Detail.aspx?r=50> (last visited Nov. 3, 2006).

<sup>71</sup> Jeffrey D. Sullivan & David Loretto, *Symbol Technologies v. Lemelson, Prosecution Laches, and the Still Unmet Challenges of Junking "Junk Patents,"* 33 AIPLA Q.J. 285, 297 (2005).

<sup>72</sup> *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found., LP*, 429 F.3d 1051, 1052 (Fed. Cir. 2005) amended by 429 F.3d 1051 (Fed. Cir. 2005).

<sup>73</sup> Sandburg, *supra* note 3.

*b. New Technologies Products (NTP)*

In the early 1990s, David Stout of New Technologies Products (“NTP”), another Trolling Developer, filed for a series of patents on wireless email technology.<sup>74</sup> A decade later a federal jury found that the popular BlackBerry email system manufactured by Research in Motion, Ltd. (“RIM”) infringed five of NTP’s patents.<sup>75</sup> RIM appealed, but the jury verdict was upheld and an injunction was predicted to follow.<sup>76</sup> Shortly after the Supreme Court denied the petition for writ of certiorari, however, RIM settled with NTP in early March of 2006 for \$612.5 million.<sup>77</sup> Instead of settling with NTP early in the process, RIM has been criticized for taking a “we don’t negotiate with trolls” stance.<sup>78</sup> Although settlement negotiations were present in every step of litigation, RIM proceeded to litigate and passed up a \$450 million settlement offer attempted in 2005.<sup>79</sup> Ironically, just before RIM finally settled with NTP, the three NTP patents at issue in the case were rejected by the USPTO in reexamination proceedings.<sup>80</sup> While NTP can appeal the USPTO’s decision, the rejections certainly cast doubt on the validity of NTP’s patents. Regardless, even without completely sound patents, NTP still extracted a non-refundable settlement of \$612.5 million.<sup>81</sup>

*4. The Trolling Agent*

The fourth type of patent troll is the Trolling Agent: a company that helps assert patents on behalf of their patent owning clients. Such agents provide a valuable service of negotiating fees from settlements and licenses. Trolling Agents attract clients by claiming to reveal hidden money within a corporation by tapping into its hidden patent assets.<sup>82</sup> According to a survey by the technology transfer firm British Technology Group International, sixty-seven percent of U.S. companies in the late 1990s failed to exploit their technology assets, resulting in an estimated \$115 billion wasted on un-utilized research and development.<sup>83</sup> Further conservative estimates suggested that American businesses in 1998 were ignoring one

<sup>74</sup> Tim Wu, *Weapons of Business Destruction: How a Tiny Little “Patent Troll” Got BlackBerry in a Headlock*, SLATE, Feb. 6, 2006, <http://www.slate.com/id/2135559/> (describing NTP as a company that has “no . . . assets, no products, and no employees”).

<sup>75</sup> Steven Levy, *BlackBerry Deal: Patently Absurd*, NEWSWEEK, available at <http://msnbc.msn.com/id/11677343/site/newsweek/>.

<sup>76</sup> *Id.*

<sup>77</sup> NTP, Inc. v. Research In Motion, Ltd., 397 F. Supp. 2d 785 (E.D. Va. 2005), *cert. denied*, 126 S. Ct. 1174 (2006). Ian Austen, *BlackBerry Service to Continue*, N.Y. TIMES, Mar. 4, 2006, at C1.

<sup>78</sup> Wu, *supra* note 74.

<sup>79</sup> See Austen, *supra* note 77.

<sup>80</sup> See Austen, *supra* note 77.

<sup>81</sup> See Austen, *supra* note 77 (noting that in the agreement, “Research in Motion agreed that NTP would not have to refund the settlement money under any circumstances” whereas “R.I.M. had insisted last year that NTP not be entitled to any money if it lost the appeal and was unable to save its patents”).

<sup>82</sup> KEVIN G. RIVETTE & DAVID KLINE, REMBRANDTS IN THE ATTIC: UNLOCKING THE HIDDEN VALUE OF PATENTS 122–25 (2000).

<sup>83</sup> *Id.* at 122.

trillion dollars in intellectual property asset wealth.<sup>84</sup> Thus, Trolling Agents tap into these opportunities to obtain licenses for its client's patented technologies.<sup>85</sup> Revenue can not only be generated from producing intellectual property independently, but also from asserting client's patents against others.<sup>86</sup> The Trolling Agent operates on behalf of the Trolling Buyer, the Trolling Resurrector, or the Trolling Developer.

a. *IPValue Management, Inc.*

IPValue Management is an example of a Trolling Agent. Its slogan, "Return on Invention" illustrates the service that IPValue provides for its clients.<sup>87</sup> One of its clients, British Telecommunications Exact, has entrusted IPValue to commercialize its patent portfolio of over ten thousand patents in the areas of telecommunications, wireless, and networking technology.<sup>88</sup>

b. *ThinkFire Services USA, Ltd.*

ThinkFire Services USA, Ltd. is another example of a Trolling Agent. ThinkFire does not own IP assets or patents itself, but instead assists companies in finding an "optimum exploitation route for innovation."<sup>89</sup> ThinkFire "identify[ies], develop[s], and execut[es] licensing plans," and works with its clients "to maximize financial return on inventions."<sup>90</sup> Thus ThinkFire does not own any patents but instead asserts patents on behalf of its clients.<sup>91</sup>

c. *Mahr-Leonard Management Company*

Mahr-Leonard Management Company was founded in 1988 and has negotiated more than seven hundred million dollars in licensing fees on behalf of its clients, primarily from companies in Japan, Taiwan, and Korea.<sup>92</sup> The average license fee obtained by this Trolling Agent was ten

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<sup>84</sup> *Id.* at 123.

<sup>85</sup> *See id.* at 123–25.

<sup>86</sup> *See id.* at 123–29.

<sup>87</sup> *See generally* Overview, IPValue, <http://www.ipvalue.com/company/index.html> (last visited Mar. 21, 2006).

<sup>88</sup> *Id.* *See also* Eric W. Pfeiffer, *Mine Games*, FORBES.COM, June 24, 2002, <http://www.forbes.com/asap/2002/0624/060.html>.

<sup>89</sup> *See* ThinkFire, <http://www.thinkfire.com/> (last visited Mar. 21, 2006). *See also* Exploitation Services, ThinkFire, [http://www.thinkfire.com/03b\\_profit.htm](http://www.thinkfire.com/03b_profit.htm) (last visited Mar. 21, 2006).

<sup>90</sup> Thinkfire, *supra* note 89. *See also* Pfeiffer, *supra* note 88.

<sup>91</sup> *See* ThinkFire, *supra* note 89.

<sup>92</sup> Brenda Sandburg, *Pair of Patent Pioneers Change Their Business as Corporations Fight Back*, THE RECORDER, July 30, 2001, available at <http://www.law.com/servlet/ContentServer?pagename=OpenMarket/Xcelerate/Preview&c=LawArticle&cid=1015973982380>.

million dollars, of which it received a twenty to twenty-five percent commission.<sup>93</sup>

### 5. *The Trolling Lawyer*

Behind the revenue generated by each type of patent troll hides the fifth type of patent troll: the Trolling Lawyer: an attorney or a law firm that asserts its client's patents against other companies.<sup>94</sup> The Trolling Lawyer is, in that sense, a specialized type of a Trolling Agent. Just like a Trolling Agent, revenue is generated by asserting the client's patents against others and then taking a percentage of income from licensing agreements or settlements.<sup>95</sup> For example, Lemelson's attorney was reported to have collected hundreds of millions in attorney's fees.<sup>96</sup>

The Trolling Buyer, Trolling Resurrector, Trolling Developer, Trolling Agent, and Trolling Lawyer represent the five main types of patent trolls. All are entities that hold patents in order to enforce or assert them broadly across an industry, and they all do not possess a good faith intention to practice or allow others to practice the claims of the patented inventions.<sup>97</sup> Although each entity differs in structure and means of generating revenue, all assert such patents to generate lawsuits and settlements in a way that limits and impairs public access to the patented inventions.<sup>98</sup>

## E. MAJOR CAUSES OF PATENT TROLLING

There are many reasons why these types of firms and companies are able to operate as patent trolls. Given the way that current U.S. intellectual property laws operate, there is a great deal of opportunity for patent trolls to generate high revenues.

### 1. *Overworked in the USPTO*

The USPTO is busy, under-funded, and under-staffed.<sup>99</sup> Between "1983 to 2003, the number of patent applications received by the USPTO more than tripled . . . [while] the number of examiners . . . has decreased by 20% of the last four years."<sup>100</sup> In 2004, nearly 118,000 patent applications previously reviewed by the USPTO were resubmitted as new applications

<sup>93</sup> *Id.*

<sup>94</sup> See Chan & Fawcett, *supra* note 10, at 2 (providing Robins, Kaplan, Miller & Ciresi L.L.P. in Minneapolis and Dallas' McKool Smith, P.C. as examples).

<sup>95</sup> See *id.* (stating that the law firms risk their own capital to exploit clients' patents on a contingency basis).

<sup>96</sup> See Sandburg, *supra* note 3.

<sup>97</sup> See A Proper Definition of a "Patent Troll," *supra* Part II.C.

<sup>98</sup> See A Proper Definition of a "Patent Troll," *supra* Part II.C.

<sup>99</sup> See JAFFE & LERNER, *supra* note 23, at 131 (showing that the number of patent applications per patent examiner is continually on the rise and has grown steadily). Further, the level of resources available to the USPTO is "not only low relative to those enjoyed historically by the patent office, but also to that in other countries." *Id.* For instance, in 2001, the European Patent Office had nearly the same number of examiners but received 54 percent fewer patent applications, making available roughly twice the manpower to examine each application. See *id.*

<sup>100</sup> Chan & Fawcett, *supra* note 10, at 3 n.20.

with only minor changes, thus “wast[ing] the limited time examiners have to review an application and prevent[ing] examiners from focusing on the most important issues in an application.”<sup>101</sup> Further, of the 355,000 new applications filed in 2004, over forty percent of them had more than twenty claims each.<sup>102</sup>

Consequently, the USPTO approves eighty-five percent to ninety-seven percent of all patent applications filed;<sup>103</sup> and on appeal, examiner decisions are commonly reversed and overturned. As a result, thousands of ambiguous patents are issued every year, and the scope or coverage of any one patent remains unclear.<sup>104</sup> The predictability of whether a patent’s claims will be invalidated in any litigation proceeding is dangerously uncertain for many companies.<sup>105</sup> Given this uncertainty, many firms challenged by patent trolls are forced to divert company resources towards litigation.<sup>106</sup> In many cases, areas such as research and development suffer, and thus, the patent troll’s actions, due to ambiguous patents, deter investment in further innovation.<sup>107</sup>

## 2. Overbroad Patents

In addition, because the USPTO is under-funded and under-staffed, a number of patents that are overbroad or that do not sufficiently meet patentability standards are often granted to entities, including patent trolls.<sup>108</sup> Patent trolls enforce such overbroad and otherwise invalid patents against target companies. As a result, trolls may assert an overbroad patent and take value for something that the troll did not actually invent because the issued patent is well beyond the invention.<sup>109</sup> In addition, patent trolls may assert an overbroad patent and hold up innovation by preventing their target companies from practicing and providing public access to the

<sup>101</sup> Proposed Rule Changes to Focus the Patent Process in the 21st Century, Office of the Deputy Commissioner for Patent Examination Policy, <http://www.uspto.gov/web/offices/pac/dapp/opla/presentation/focuspp.html> (last visited November 3, 2006).

<sup>102</sup> *Id.*

<sup>103</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 53.

<sup>104</sup> Chan & Fawcett, *supra* note 10, at 4.

<sup>105</sup> See Chan & Fawcett, *supra* note 10, at 4.

<sup>106</sup> See Chan & Fawcett, *supra* note 10, at 4.

<sup>107</sup> See Chan & Fawcett, *supra* note 10, at 4. See Christopher M. Holman, *Biotechnology’s Prescription for Patent Reform*, 5 J. MARSHALL REV. INTELL. PROP. L. 317, 319 (2006) (“Patent reform legislation was driven in large part by a widely held belief that deficiencies in the U.S. patent system are imposing substantial negative effects on U.S. research and development as well as the economy at large.”).

<sup>108</sup> See JAFFE & LERNER, *supra* note 23, at 151–152 (stating that patents that appear to be illegitimate are partly due to poor reviews by hurried and under-trained patent examiners). NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 47 (attributing the alleged decline in USPTO performance to the “quantity and quality of relevant resources, examiner qualifications, experience and incentives, the time devoted to searching and evaluating each application, and the information available to examiners”).

<sup>109</sup> See Derek C. Stettner, *Meet the Patent Enforcers*, 77 WIS. LAW. (Apr. 2004), available at [http://www.wisbar.org/AM/Template.cfm?Section=Wisconsin\\_Lawyer&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=47653](http://www.wisbar.org/AM/Template.cfm?Section=Wisconsin_Lawyer&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=47653) (“Jerome Lemelson had started an enforcement campaign against hundreds of companies, asserting that his patents covered basic and ubiquitous technology such as bar coding. Most of the companies settled with Lemelson. Regardless of the merits of any particular case, taking a license or entering a settlement was often cheaper than litigating the matter.”).

invention or by making it very expensive for its target companies to do so.<sup>110</sup>

### 3. *Risky Litigation*

The outcome of a patent verdict in any given patent case is highly unpredictable.<sup>111</sup> Several reasons are cited for this unpredictability, including the breadth and generality of the patent statute,<sup>112</sup> the volatility of jury determinations resulting in inconsistent conclusions of fact,<sup>113</sup> and the lack of harmony between the USPTO, district courts, and federal circuit courts in the application of patentability standards.<sup>114</sup> Further, not only is litigation risky, it is also considerably expensive.<sup>115</sup> Because companies often have no other business alternatives and because they cannot afford the risks and costs of litigation, patent trolling often results in forced settlements and licenses.<sup>116</sup> As the law stands and operates, the risks of litigation significantly outweigh the costs of settlements and licenses.<sup>117</sup>

### 4. *Skewed Incentives*

Patent trolling also skews the incentives of the patent system. Article I, Section 8 of the Constitution grants Congress the authority to provide “for limited Times to Authors and Inventors the exclusive Right[s] to their respective Writings and Discoveries” in order “to promote the Progress of

<sup>110</sup> See Detriments of Patent Trolling, *infra* Part II.G.3–4. See also The Trolling Developer: New Technologies Products (NTP), *supra* Part II.D.3.b. For another example, consider Smucker’s U.S. Patent No. 6,004,596 covering a “sealed crustless sandwich,” essentially broad protection for a peanut butter and jelly sandwich. When Albie’s Foods, Inc., a small grocery and caterer in Gaylord, Michigan sold crustless peanut butter and jelly sandwiches, Smucker sued, claiming that Albie had infringed its patent. See David Lawsky, *Smucker Protects Peanut Butter-Jelly Sandwich Patent*, REUTERS NEWS SERVICE, Jan. 25, 2001.

<sup>111</sup> See CHAN & FAWCETT, *supra* note 10, at 4.

<sup>112</sup> See generally Paul M. Janicke, *On the Causes of Unpredictability of Federal Circuit Decisions in Patent Cases*, 3 NW. J. TECH. & INTELL. PROP. 93, 93–94 (2005).

<sup>113</sup> See Joel C. Johnson, *Lay Jurors in Patent Litigation: Reviving the Active, Inquisitorial Model for Juror Participation*, 5 MINN. INTELL. PROP. REV. 339, 339 (2004).

<sup>114</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 61–62 (stating that the USPTO’s application of the patentability standards in the patent examination process differs significantly from a courts’ interpretations of the same standards in litigation. A 1995 study of federal circuit court patent decisions found that about 50% of patent cases are reversed on appeal. Further, only 59.9% of invalidity verdicts based on non-obviousness were upheld on appeal. The great number of verdicts overturned in the non-obviousness sphere of patent law suggests a great deal of ambiguity and subjectivity in how verdicts are determined.).

<sup>115</sup> See Barker, *supra* note 11, at ¶ 42.

<sup>116</sup> See Symposium, *Ideas into Action: Implementing Reform of the Patent System*, *supra* note 16 (statement of David M. Simon, Chief Patent Counsel, Intel Corporation) (noting that as a target company, “there is a huge amount of uncertainty in patent litigation . . . if you lose the case, you are faced with the issue of permanent injunction being against you. And even if you want to go up on appeal, if it is a big product, you can’t. You can’t afford to have your plants sit there idly, particularly in our industry where our plants frequently cost 2 to \$3 billion for each new plant, to sit there idly while you are waiting for the court of appeals and you are enjoined.”). See also Holman, *supra* note 107 at 337 (“It is the threat of permanent injunction that provides the patentee with leverage to demand an inordinately high royalty relative to the actual value the technology brings to the product.”).

<sup>117</sup> Further, patents are difficult to challenge in the patent office, so companies have no alternative but to challenge a patent in court, typically after the patentee has brought a charge of patent infringement against a target company. See JAFFE & LERNER, *supra* note 23, at 152.

Science and the useful Arts.”<sup>118</sup> Thus, the strong monopoly right is granted for a limited time in order to promote and encourage innovation in exchange for the inventor’s full disclosure of the technology behind his invention.<sup>119</sup>

Yet, when patent trolls obtain patent rights without adding to the pool of information, these incentives are not served. Because of the way that patents are granted in the United States and most foreign countries, an inventor is not required to actually build or to implement his or her invention to create a patent. Rather, an inventor may create a design but never build a prototype before filing the patent application and may never implement the process embodying the invention.<sup>120</sup> Commonly known as “paper patents,” Derek Stettner notes that for the most part paper patents serve the patent system’s incentives well because they contain viable designs, contribute to the art, and offer protection only for what the inventor has contributed to the field.<sup>121</sup> In some cases, however, inventors may never have intended to implement their inventions at all. Stettner refers to these as situations in which inventors may “invent patents rather than patent inventions.”<sup>122</sup> As he explains, “even though the patent system is based on the premise that a patentee can obtain exclusive rights in exchange for making an invention public and free to all once the patent expires, there are instances when the inventor may not have contributed all that much to the accumulated knowledge of humankind.”<sup>123</sup>

##### 5. *No Business Alternatives*

Finally, and most importantly, patent trolls succeed because the companies that they target have few alternative business resolutions available to them.<sup>124</sup> In a traditional intellectual property dispute, a targeted company can use its own patent portfolio to assert counter-claims of infringement or as leverage in arriving at cross-licensing agreements.<sup>125</sup> The target’s own patent portfolio, however, has little value when dealing with a patent troll.<sup>126</sup> Because trolls do not make or sell products, a target company has neither a basis for filing a countersuit for infringement, nor any leverage to cross-license or to reach any other kind of agreement.<sup>127</sup> The target company also lacks the legal remedy to claim lost profit damages.<sup>128</sup> Further, long-term business relationships and other commercial considerations are not usually important to patent trolls because they

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<sup>118</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>119</sup> See JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 26 (2003).

<sup>120</sup> Stettner, *supra* note 109 at 20.

<sup>121</sup> Stettner, *supra* note 109 at 20.

<sup>122</sup> Stettner, *supra* note 109 at 20.

<sup>123</sup> Stettner, *supra* note 109 at 20.

<sup>124</sup> See Stettner, *supra* note 109 at 21.

<sup>125</sup> See Stettner, *supra* note 109 at 21.

<sup>126</sup> See Stettner, *supra* note 109 at 21.

<sup>127</sup> See Stettner, *supra* note 109 at 21.

<sup>128</sup> See Stettner, *supra* note 109 at 21.



generally are not participants in the marketplace.<sup>129</sup> Considering that a bad patent verdict could cripple or destroy a company, many companies targeted by patent trolls make the practical decision to license.<sup>130</sup>

#### F. LIMITED BENEFITS OF PATENT TROLLING

Patent trolling is undeniably lucrative for the patent troll. As mentioned, Lemelson Medical, Education & Research Foundation generated \$1.2 billion in company revenues by obtaining settlements and licenses through the filing or threat of filing of lawsuits.<sup>131</sup> In 2001, it was also estimated that lawyers for patent trolls routinely charged contingency fees as high as forty-five percent, while suits settled for as much as fifty million dollars.<sup>132</sup> Thus, the primary benefit from trolling is absorbed by the patent troll who is the receiver of the fees and settlements produced.

Arguably, patent trolls also provide inventors capital by purchasing an inventor's patents.<sup>133</sup> Patents are similar to any other type of property in that they serve as an asset for any company or inventor.<sup>134</sup> The company's or inventor's sale of these patents to patent trolls involves the sale of a company's or an individual's assets, and thus patent trolls provide inventors with additional capital.<sup>135</sup> Trolling Buyers may serve to benefit the inventor by providing him with capital, with which he may choose to create new inventions.<sup>136</sup> If a Trolling Buyer acquires under-utilized patents from the inventor, then it is possibly a win-win situation.<sup>137</sup> In that case, the inventor may acquire additional capital and perhaps recover his costs of innovation while the patent troll acquires a property right.<sup>138</sup> Therefore, a patent troll's actions benefit itself and may also benefit the inventor selling the patent right.

Patent trolls may also level the licensing playing field for small inventors.<sup>139</sup> The patent system is often criticized as "skewed in favor of large companies that have huge patent portfolios and the money to pay lawyers to enforce their patents."<sup>140</sup> A small inventor with limited resources may not be able to compete against companies with large patent portfolios.<sup>141</sup> Trolling Agents may offer individual inventors and small firms a mechanism to enforce their patents.<sup>142</sup> Trolling Agents may also

<sup>129</sup> See Stettner, *supra* note 109 at 21.

<sup>130</sup> See Stettner, *supra* note 109 at 21.

<sup>131</sup> Sandburg, *supra* note 3.

<sup>132</sup> Sandburg, *supra* note 3.

<sup>133</sup> Elizabeth D. Ferrill, *Patent Investment Trusts: Let's Build a Pit to Catch the Patent Trolls*, 6 N.C.J.L. & TECH. 367, 378 (2005).

<sup>134</sup> See *id.*

<sup>135</sup> See *id.*

<sup>136</sup> See *id.* In this sense, the Trolling Buyer serves to promote innovation by allowing the inventor to do what he does best and invent, while the Trolling Buyer seeks to enforce the patent.

<sup>137</sup> See *id.*

<sup>138</sup> See *id.*

<sup>139</sup> *Id.*

<sup>140</sup> Stettner, *supra* note 109, at 21.

<sup>141</sup> See Stettner, *supra* note 109, at 21.

<sup>142</sup> See Stettner, *supra* note 109, at 21.

provide the credible threat of litigation that their clients would not otherwise have.<sup>143</sup> Smaller companies may be able to focus on the research and development of their technology, and redirect resources that would otherwise be allocated to litigation towards further research and development. Trolling Agents, in this situation, may serve to advance innovation by leveling the playing field for their clients within the patent sphere.

While the patent troll may be a small inventor that gains from settlements, ultimately the problems caused by patent trolling outweigh such benefits. Although the patent troll negotiates settlements and licensing fees for itself, its activity limits and impairs public access to inventions by clogging the legal system, deterring resources from innovation, imposing additional costs within a target company's operations, and obligating end users to a hidden tax on technology products.

### G. DETRIMENTS OF PATENT TROLLING

#### 1. *Clogs the Legal System*

Because of a patent troll's approach to generating revenue, a troll's charges of infringement and litigation can often be baseless and thus clog the legal system.<sup>144</sup> A patent troll's most common approach is to simply initiate a letter campaign and send out as many cease-and-desist letters as time and paper will allow, or to file lawsuits against end users and resellers of a patented product or service.<sup>145</sup> Recipients of cease-and-desist letters are faced with few choices, and settling or licensing often is the only affordable solution.<sup>146</sup> Those that do not immediately settle or license will most likely be faced with more aggressive actions from the patent troll, and eventually the patent troll will file a lawsuit.<sup>147</sup> Given the unpredictability of patent litigation, settlement is often the only viable solution for a target company when sued.<sup>148</sup> Further, these lawsuits, resulting from bulk filings or mass-mailings, often consist of broadly asserted and possibly baseless charges that raise transaction costs and inundate an already overwhelmed legal system.<sup>149</sup>

A patent troll, as an entity who does not possess a good faith intention to practice the claims of the patented inventions or to allow others to do so, limits and impairs public access to the inventions by suing companies who do possess such good faith intentions.<sup>150</sup> A target company faced with

<sup>143</sup> See Stettner, *supra* note 109, at 21.

<sup>144</sup> See Ferrill, *supra* note 133, at 376.

<sup>145</sup> Stettner, *supra* note 109, at 21–61.

<sup>146</sup> See Stettner, *supra* note 109, at 61.

<sup>147</sup> See Stettner, *supra* note 109, at 61.

<sup>148</sup> Stettner, *supra* note 109, at 21–61.

<sup>149</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 95.

<sup>150</sup> See A Proper Definition of a "Patent Troll," *supra* Part II.C (defining a patent troll as an entity that holds patent(s) in order to enforce or assert them broadly across an industry, does not possess a good faith intention to practice the claims of the patented invention(s) or to allow others to practice the claims

infringement charges may spend years defending suits raised by patent trolls, diverting resources towards litigation and away from the development and sales of its products.<sup>151</sup> In addition, patent trolls who bring infringement charges against target companies usually do not have a competing product to offer end users or the public.<sup>152</sup> Thus, such suits and settlements, which may or may not be based on invalid, weak, or otherwise vulnerable patents, often result in limiting and impairing public access to the inventions.

For example, in the case of *NTP, Inc. v. Research in Motion, Ltd.*, NTP proceeded with infringement allegations even though NTP's assertions were based on patents being reexamined in the USPTO.<sup>153</sup> Even after the USPTO rejected NTP's patents, NTP proceeded with its claims to obtain a settlement.<sup>154</sup> Thus, this Trolling Developer, through aggressive actions and charges of infringement, successfully engaged Research In Motion in years of litigation and received a settlement of \$612.5 million, without having any sound patents on which to base its allegations.<sup>155</sup> Similarly, although Lemelson's foundation collected \$1.2 billion in revenue from settlements and licensing fees related to his machine vision patents,<sup>156</sup> his patents were later invalidated. Thus, through baseless charges of infringement and litigation, a patent troll limits and impairs public access to inventions by clogging the legal system and procuring egregious settlements by asserting threats of proceeding with litigation.

## 2. Deterring Resources from Innovation

As discussed, a Trolling Resurrector is an entity that holds or owns certain patents that have not been previously enforced, but decides to begin asserting such patents due to the success or potential success of a target company's emerging products.<sup>157</sup> The Trolling Resurrector typically asserts its patents to improve its own financial situation, and may even close its own innovative operations to focus primarily on patent licensing.<sup>158</sup> In response, the target company must divert its resources to litigation and defense, affecting further research and development.<sup>159</sup> Thus, money and time are spent on lawyers and defending infringement claims rather than

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of the patented invention(s), and instead asserts such patent(s) to generate suits and settlements in a way that limits and impairs public access to the invention(s)).

<sup>151</sup> See William M. Bulkeley, *Court Play: Aggressive Patent Litigants Pose Growing Threat to Big Business*, WALL ST. J., Sept. 14, 2005, at A1 (quoting Douglas Founies, who said he always dreamed of building a company that would do big business selling its products and that he never envisioned that his whole life would be in a courtroom).

<sup>152</sup> See A Proper Definition of a "Patent Troll," *supra* Part II.C (defining a patent troll).

<sup>153</sup> See Levy, *supra* note 75.

<sup>154</sup> See Austen, *supra* note 77.

<sup>155</sup> See Austen, *supra* note 77.

<sup>156</sup> See Sandburg, *supra* note 3. See also *Symbol Techs., Inc.*, 429 F.3d at 1052.

<sup>157</sup> See The Trolling Resurrector, *supra* Part II.D.2 (discussing examples of a Trolling Resurrector).

<sup>158</sup> See Barker, *supra* note 11, at ¶¶ 8–9 ("Deterrence to investment in innovation occurs when trolls purchase patents which have not previously been enforced and suddenly begin enforcing them.").

<sup>159</sup> See Barker, *supra* note 11, at ¶¶ 8–9.

innovation.<sup>160</sup> Moreover, since patent trolls hold patents without a good faith intention to practice or allow others to practice the claims of the patented inventions, public access to inventions is impaired.<sup>161</sup> By deterring innovation, patent trolls defeat the primary goals of the patent system.<sup>162</sup>

### 3. *Drives Up Costs*

For many companies, dealing with patent trolls is simply a business expense that drives up costs by diverting time and resources away from business development.<sup>163</sup> For example, eBay's litigation and intellectual property professional, deputy general Jay Monaham, has said that eBay has come to think of patent trolls as "an unfortunate cost of doing business."<sup>164</sup> Monaham explains:

It's driven eBay's costs up, and it diverts time and resources from building the world's greatest ecommerce platform. There are dollars spent on lawyers. There's also an impact on diverting in-house legal staff, engineers, people at all levels to produce documents and sit for depositions. Our approach to this point has been to vigorously defend ourselves against these claims and not to pay ransom money if you will.<sup>165</sup>

Since litigation not only diverts a company's resources away from research and development but also away from all other areas, it necessarily hampers production, marketing, and further development of products.<sup>166</sup>

Patent trolls, as entities that do not possess a good faith intention to practice or to allow others to practice the claims of the patented invention(s), further limit and impair public access to such inventions by driving up the business costs and expenses of their target companies. By doing so, patent trolls necessarily counteract the goals set forth by the patent system.<sup>167</sup>

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<sup>160</sup> See Barker, *supra* note 11, at ¶¶ 8–9.

<sup>161</sup> See A Proper Definition of a "Patent Troll," *supra* Part II.C.

<sup>162</sup> See Frank M. Washko, *Should Ethics Play a Special Role in Patent Law?*, 19 GEO. J. LEGAL ETHICS 1027–28 (2006) (stating that the patent system in the United States was instituted to "promote the progress of science." Patent holding companies that use "patent rights solely as a weapon of litigation . . . discourage real development companies from working in the technology, thus deterring innovation.").

<sup>163</sup> See Ferill, *supra* note 133, at 377 ("For eBay, dealing with the patent troll incident . . . is 'an unfortunate cost of doing business' and has driven up costs, while diverting time and resources from business development.").

<sup>164</sup> Maggie Shiels, *Technology Industry Hits Out at 'Patent Trolls'*, BBC NEWS, June 2, 2004, available at <http://news.bbc.co.uk/1/hi/business/3722509.stm>. eBay was sued by MercExchange, a failed online travel service that holds patents related to eBay's "Buy Now" feature. An appeals court awarded a \$29.5 million award for MercExchange, but the case has been granted certiorari. See *eBay Inc. v. MercExchange, L.L.C.*, 401 F.3d 1323 (Fed. Cir. 2005), *vacated and remanded* by 126 S. Ct. 1837 (2006).

<sup>165</sup> *Id.*

<sup>166</sup> See *id.*

<sup>167</sup> See KNIGHT *supra* note 39 (citing goals of the patent system).

#### 4. *A Hidden Tax on Software Technology Products*

The problems of patent trolling disparately affect the software industry because it is relatively new and much of the prior art it uses is not expressed in patents and published works, but rather exists only in practice.<sup>168</sup> Because the prior art exists only in practice, it is difficult if not impossible for the USPTO, given its current resources, to test its software patent applications adequately against all of the prior art in the software industry.<sup>169</sup> As a result, software patents on technology already known in the prior art are often issued to patent applicants, resulting in ammunition for patent trolls to assert infringement claims.<sup>170</sup> Patent trolls are further fueled by the weak operation of the “enablement” requirement for software patents, which does not require software patent applications to be fully implemented before being issued.<sup>171</sup> Consequently, patent trolls can obtain patents on software ideas that have yet to be implemented or even described.<sup>172</sup> Therefore, overbroad patents can be damaging because patent trolls can also easily obtain software patents on a wide range of software inventions often without actually implementing the technology.<sup>173</sup>

In sum, patent trolls holding patents on technology already known in the prior art hold viable weapons that can be used against their target companies to assert charges of infringement, deter resources from innovation, and impose additional costs within a target company’s operations. Such effects are especially prevalent in the software industry, and as a result, end users of software products are subjected to a hidden tax on software technology of companies that have been targeted by patent trolls. Further, end users’ access to such patented inventions may be limited and impaired by the actions of patent trolls.

#### H. NOT ALL PATENT HOLDING IS PROBLEMATIC

While patent trolling is problematic, it has not been suggested that all forms of patent holding are detrimental. In some instances, companies have formed alliances in order to share the costs and burdens of defending patent lawsuits.<sup>174</sup> These companies should not be considered patent trolls because they are not generating suits and settlements in a way that limits and impairs public access to inventions.<sup>175</sup> This is true even though such companies may or may not intend to practice the claims of the patented

<sup>168</sup> JAFFE & LERNER, *supra* note 23, at 200.

<sup>169</sup> See JAFFE & LERNER, *supra* note 23, at 200–02.

<sup>170</sup> See JAFFE & LERNER, *supra* note 23, at 201.

<sup>171</sup> See JAFFE & LERNER, *supra* note 23, at 201. See also Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155 (2002) (describing how the “Federal Circuit has essentially excused software inventions from compliance with the enablement and best mode requirements” and how software patent applicants do not need to disclose source or object code, flowcharts, or detailed descriptions of the patented program”).

<sup>172</sup> See JAFFE & LERNER, *supra* note 23, at 201.

<sup>173</sup> See Major Causes of Patent Trolling: Overbroad Patents, *supra* Part II.E.2.

<sup>174</sup> Stettner, *supra* note 109, at 61.

<sup>175</sup> See A Proper Definition of a “Patent Troll,” *supra* Part II.C.

inventions, as they employ patent holding as a viable solution to band against the problems posed by patent trolls.<sup>176</sup>

For example, in 2005, the Open Source Development Labs (OSDL) announced the “patent commons project.”<sup>177</sup> The project, which is supported by universities, non-profits, individuals, and companies including ComputerAssociates, Novell, SDL, IBM, RedHat, and Sun Microsystems, was designed to “provide a central location where software patents and patent pledges will be housed for the benefit of the open source development community and industry.”<sup>178</sup> The goal of the project is to pool intellectual property in order to provide the resources necessary for defense against infringement challenges.<sup>179</sup> The forum also serves as an alternative to the formal licensing of patents.<sup>180</sup> In discussing the OSDL, Eben Moglen, chair of the Software Freedom Law Center stated:

OSDL is the ideal steward for such an important legal initiative as the patent commons project . . . . No matter what your stand on software patents, and I oppose them, I call on developers to contribute to the OSDL patent commons project because there is strength in numbers and when individual contributions are collected together it creates a protective haven where developers can innovate without fear.<sup>181</sup>

Such patent holding should be distinguished from patent trolls because they are not held for the purpose of generating suits and settlements, and do not limit and impair public access to the patented inventions.

### III. WEAKNESSES OF PROPOSALS TO ADDRESS AND LIMIT PATENT TROLLING IN THE PATENT REFORM ACTS OF 2005 AND 2006

Several solutions to address and limit patent trolling have been proposed, but many of these proposals, including those in the recent bills known as the Patent Reform Act of 2005 and the Patent Reform Act of 2006, have weaknesses that may affect their effectiveness.<sup>182</sup>

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<sup>176</sup> See Jennifer Cloer, *OSDL Announces Patent Commons Project*, OSDL, Aug. 9, 2005, available at [http://www.osdl.org/newsroom/press\\_releases/2005/2005\\_08\\_09\\_beaverton.html](http://www.osdl.org/newsroom/press_releases/2005/2005_08_09_beaverton.html).

<sup>177</sup> *Id.*

<sup>178</sup> *Id.*

<sup>179</sup> See *id.*

<sup>180</sup> *Id.*

<sup>181</sup> *Id.*

<sup>182</sup> See generally *Perspective on Patents: Harmonization and Other Matters: Hearings Before the Subcommittee on Intellectual Property of the Committee on the Judiciary*, *supra* note 29, at 1–2 (opening statement of Hon. Orrin G. Hatch, a U.S. Senator from the State of Utah, highlighting the issues discussed during the hearing, including issues with proposals regarding increasing harmonization in patent law and practice in the United States with prevailing international norms).

A. PATENT TROLLS ARE NOT DETERRED BY  
LIMITATIONS ON WILLFULNESS

The Patent Reform Act of 2005, introduced in June of 2005, proposed a number of changes to Title 35 of the United States Code, including additional limitations on findings of willfulness in patent cases.<sup>183</sup> Currently, the court has the ability to increase damages up to three times the actual amount assessed, thus awarding treble damages if the patent owner can prove willful infringement on the part of the infringer.<sup>184</sup> In regard to willfulness, The Patent Reform of 2005 proposed the following standard:

A court may find that an infringer has willfully infringed a patent only if the patent owner presents clear and convincing evidence that—

(A) after receiving written notice from the patentee—

(i) alleging acts of infringement in a manner sufficient to give the infringer an objectively *reasonable apprehension of suit* on such patent, and

(ii) identifying with particularity each claim of the patent, each product or process that the patent owner alleges infringes the patent, and the relationship of such product or process to such claim, the infringer, after a reasonable opportunity to investigate, thereafter performed one or more of the alleged acts of infringement;

(B) the infringer intentionally copied the patented invention with knowledge that it was patented; or

(C) after having been found by a court to have infringed that patent, the infringer engaged in conduct that was not colorably different from the conduct previously found to have infringed the patent, and which resulted in a separate finding of infringement of the same patent.<sup>185</sup>

Thus, in order to prove willfulness under The Patent Reform Act of 2005, the patent owner would, after proving infringement, have been required to show that he provided the accused infringer with written notice alleging the acts of infringement, and that after receiving such notice and having reasonable time for investigation, the accused infringer continued to infringe the patent.<sup>186</sup>

Given that The Patent Reform Act of 2005 would have required the infringement notice to create a “reasonable apprehension of suit,” it is possible that it would have made it more difficult for patent trolls to claim treble damages, unless they could show sufficient notice of infringement. It is also possible, however, that such notice would have only furthered the

<sup>183</sup> Patent Reform Act of 2005, H.R. 2795, 109th Cong. §§ 6, 7 (2005).

<sup>184</sup> 35 U.S.C. § 284 (2000) (“the court may increase the damages up to three times the amount found or assessed”). Courts have held that “enhancement of damages must be premised on willful infringement or bad faith.” *See e.g.*, *Sensonic, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1574 (Fed. Cir. 1996).

<sup>185</sup> H.R. 2795 § 6 (emphasis added). *See also* Patent Reform Act of 2006, S. 3818, 109th Cong. § 2 (2006) (presenting a similar provision with a “reasonable apprehension of suit” standard).

<sup>186</sup> H.R. 2795 § 6.

harms caused by patent trolls and increased the amount of lawsuits filed.<sup>187</sup> The explanation is simple: currently, notice to an alleged infringer can be sent by letter or by filing a lawsuit, as there is no “reasonable apprehension of suit” requirement.<sup>188</sup> Although it is clear that notice sent by filing a lawsuit would create a reasonable apprehension of suit, and thus would fulfill the proposed requirement, it is unclear if a cease and desist letter would have the same effect.<sup>189</sup> Thus, the patent troll, not wanting to risk failing the notice requirement, would have little incentive to provide notice without actually filing a lawsuit.<sup>190</sup> For this reason, if implemented, such a change would only escalate the conflict between the patent troll and its target company, potentially increasing occurrences of litigation. Moreover, such a change would probably worsen the problem by overwhelming the system with additional filings.

B. STANDARDS FOR REWARDING INJUNCTIVE RELIEF DO NOT COMPLETELY ADDRESS HARMS CAUSED BY PATENT TROLLS

Courts have previously been criticized for granting injunctive relief too liberally after a finding of patent infringement.<sup>191</sup> Recently, however, the federal courts, when considering whether to award permanent injunctive relief to a prevailing party apply a four-factor test, which requires that (1) the plaintiff has suffered irreparable injury; (2) remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) considering the balance of hardships between plaintiff and defendant, remedy in equity is warranted; and, (4) the public interest would not be disserved by the granting of a permanent injunction.<sup>192</sup> Further, the decision to grant or deny permanent injunctive relief is “an act of equitable discretion by the district court, reviewable on appeal for abuse of discretion.”<sup>193</sup>

In *eBay v. MercExchange*, the Supreme Court recently clarified that a general categorical rule that a permanent injunction will issue once infringement and validity have been adjudged will not apply to patent cases.<sup>194</sup> Similarly, a categorical rule denying a permanent injunction simply because a plaintiff demonstrates a willingness to license its patents but no intent to commercialize its patented inventions would also be an

<sup>187</sup> See James G. McEwen, *Is the Cure Worse Than the Disease? An Overview of the Patent Reform Act of 2005*, 5 J. MARSHALL REV. INTELL. PROP. L. 55, 68 (2005).

<sup>188</sup> See *id.*

<sup>189</sup> See *id.*

<sup>190</sup> See *id.*

<sup>191</sup> Constance S. Huttner, *Proving Damages: Issues to Consider in Pursuing and Defending the Damages Case*, 841 PRAC. L. INST. PAT. LITIG. 871, 889 (2005).

<sup>192</sup> See *eBay, Inc. v. MercExchange* 126 S. Ct. 1837, 1839 (2006)

(citing *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 311–13 (1982) and *Amoco Prod. Co. v. Gambell*, 480 U.S. 531, 542 (1987)).

<sup>193</sup> See *id.* (citing *Romero-Barcelo*, 456 U.S. at 320). The four-factor test applies similarly to disputes arising under the Patent Act. See *id.*

<sup>194</sup> See *id.* at 1841 (further indicating that the Court of Appeals’ rule that “injunctions should be denied only in the ‘unusual’ case, under ‘exceptional circumstances’ and ‘in rare instances . . . to protect the public interest’ ” was incorrect).



incorrect application of patent law.<sup>195</sup> By rejecting these categorical rules and emphasizing the four-factor test, the Supreme Court set forth clear guidelines for granting permanent injunctions. How the lower courts will apply the test in light of the Supreme Court's recent decision, however, remains to be seen.<sup>196</sup>

The Patent Reform Act of 2005 also proposed limitations on standards for granting remedies of injunctive relief.<sup>197</sup> Similar to the third factor of the test applied by the Supreme Court, the statutory proposals encouraged courts to consider the fairness of the remedy in light of the relative hardship of the parties.<sup>198</sup> The Patent Reform Act of 2005 also followed the first factor of the test applied by the Supreme Court, allowing the court to stay an injunction if the stay would not result in irreparable harm to the owner of the patent, thus requiring affirmative proof of irreparable harm.<sup>199</sup> Section 7 of the Patent Reform Act of 2005 proposes to amend Section 283 of Title 35 to include the following:

In determining equity, the court shall consider the fairness of the remedy in light of all the facts and the relevant interests of the parties associated with the invention. Unless the injunction is entered pursuant to a nonappealable judgment of infringement, a court shall stay the injunction pending an appeal upon an affirmative showing that the stay would not result in irreparable harm to the owner of the patent and that the balance of hardships from the stay does not favor the owner of the patent.<sup>200</sup>

If this provision was enacted, courts would probably grant more stays given the fact that patent trolls do not practice their inventions, and would probably not suffer irreparable harm. For this reason, this provision may serve as an instrument to prevent patent trolls from interfering with a target's research and development,<sup>201</sup> marketing, and sales while the target pursues an appeal. Thus, by requiring an affirmative showing that the stay would not result in "irreparable harm to the owner of the patent,"<sup>202</sup> it is possible that the troll's target will have a powerful tool in stopping the troll.

Further, the fourth factor states that public interest would not be disserved by the granting of a permanent injunction<sup>203</sup> and shows promise in weakening the power of the patent troll who limits and impairs public access to inventions by asserting lawsuits against its target companies. Without the threat of injunction, a patent troll's bargaining position will be

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<sup>195</sup> See *id.* at 1840 (citing *MercExchange, L.L.C. v. eBay, Inc.*, 275 F.Supp.2d (E.D. Va. 2003)).

<sup>196</sup> *eBay v. MercExchange* was remanded to the district court on July 6, 2006. *MercExchange v. eBay*, No. 03-1600, 1616, 2006 WL 2036554 (Fed. Cir. July 6, 2006).

<sup>197</sup> See H.R. 2795 § 7.

<sup>198</sup> *Id.*

<sup>199</sup> *Id.*

<sup>200</sup> *Id.*

<sup>201</sup> See McEwen, *supra* note 187, at 65–66.

<sup>202</sup> H.R. 2795 § 7.

<sup>203</sup> See *eBay, Inc. v. MercExchange*, 126 S.Ct. 1837, 1839 (2006).

significantly weakened if it does not possess a good faith intention to practice or license its inventions. Thus, there is a greater likelihood of public access to an invention if the fourth factor is applied. Such a test, if efficiently applied, shows promise in addressing some of the harms brought by patent trolls.

Without the fourth factor, it may be likely, however, that the provisions proposed by the patent reforms make it more difficult for a non-trolling legitimate patent holder to obtain injunctive relief and further complicate an already complicated body of patent case law. Litigation under the proposed equitable standard of The Patent Reform Acts would be even more unpredictable than it is in its current state. Additionally, determining whether “irreparable harm” has been done to the patent owner and evaluating the “balance of hardships” will inevitably delay, and potentially eliminate, injunctions. The outcome of cases will be even less predictable and the costs of litigation even more expensive. Thus, ambiguous standards of injunctive relief will likely be ineffective in deterring patent trolls without an application of the fourth factor.<sup>204</sup>

C. POST-GRANT OPPOSITION PROCEEDINGS DO NOT ELIMINATE THE  
POTENTIAL OF SETTLEMENTS AND SUITS THAT LIMIT AND IMPAIR  
PUBLIC ACCESS TO THE INVENTION

Under current law, aside from litigation, three methods exist for opposing issued patents: (1) ex parte reexaminations, (2) commissioner ordered reexaminations, and (3) inter partes reexaminations.<sup>205</sup> These mechanisms, however, have been ineffective or inadequate and not widely used in current patent disputes, leaving expensive litigation as the only means for recourse.<sup>206</sup>

In October of 2003, the Federal Trade Commission (“FTC”) recommended instituting “limited procedures that allow third parties to participate in patent reexaminations.”<sup>207</sup> According to the FTC, “because existing means for challenging questionable patents are inadequate . . . an administrative procedure for post-grant opposition [would allow] for meaningful challenges to patent validity short of federal court litigation.”<sup>208</sup> Under the FTC’s proposal, an administrative patent judge would preside over the post-grant opposition; a challenger of the patent could challenge novelty, nonobviousness, written description, enablement, and utility; cross-examination would be allowed; and there would be time limits, use of

<sup>204</sup> See *id.*

<sup>205</sup> 35 U.S.C. §§ 302, 304, 311 (2000).

<sup>206</sup> McEwen, *supra* note 187, at 70. See also JAFFE & LERNER, *supra* note 23, at 186–91 (discussing the failure of the current re-examination procedure).

<sup>207</sup> Federal Trade Commission, *Executive Summary of TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY*, 7 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>.

<sup>208</sup> *Id.* at 8.

sanctions, and other limitations to protect against undue delay and against harassment.<sup>209</sup>

Following the FTC's proposal, the Patent Reform Act of 2005 proposes a similar post-grant opposition system in Chapter 32 of the bill.<sup>210</sup> According to Section 321 of the Patent Reform Act of 2005, "A person may request that the grant or reissue of a patent be reconsidered by the Office by filing an opposition seeking to invalidate one or more claims in the patent."<sup>211</sup> The opposition must be made within nine months after the patent is issued or within six months after suit has been actually threatened, unless the patentee agrees otherwise.<sup>212</sup> Likewise, the Patent Reform Act of 2006 proposes a similar procedure with an even broader window. With regard to the Patent Reform Act of 2006, the opposition must be made within twelve months after the patent is issued or if the petitioner "establishes a substantial reason to believe that the continued existence of the challenged claim causes or is likely to cause the petitioner significant economic harm."<sup>213</sup> The post grant opposition procedure allows for the use of depositions and discovery to evaluate the validity of an issued patent, but an opposer who fails to make his case will generally be barred from asserting any invalidated claim of the patent in subsequent proceedings.<sup>214</sup>

Proponents of the post-grant opposition recognize that some alternative to the extreme costs of litigation is long overdue.<sup>215</sup> Patent litigation is increasingly expensive, and there are few alternatives to challenging a patent's validity.<sup>216</sup> Thus, a post-grant opposition allows a corporation that is practicing an invention to monitor patents being issued, possibly challenge a troll's patent in a post-grant opposition,<sup>217</sup> and thus stop an expensive trial before it starts. Further, since the proposed reforms set the burden of proof during a post-grant opposition to proving invalidity by a preponderance of the evidence rather than the current clear and convincing standard required in litigation, corporations have additional incentives to monitor the issuance of new patents and to challenge a patent troll's patents in a post-grant opposition, where the troll's patents are more easily invalidated.

<sup>209</sup> *Id.* at 8, 8 n.26 ("At a minimum, patent challengers should be able to raise issues of novelty, non-obviousness, written description, enablement, and utility.").

<sup>210</sup> See H.R. 2795 § 321.

<sup>211</sup> *Id.*

<sup>212</sup> H.R. 2795 § 323. See also Holman, *supra* note 107, at 320 (naming the first nine months after the patent has issued the "first window" and the six months after suit has actually been threatened the "second window").

<sup>213</sup> S. 3818, § 312.

<sup>214</sup> See *id.* at § 317, § 321.

<sup>215</sup> Stephen Albainy-Jenei, *Demystifying HR2795: The Patent Reform Act of 2005 (pt. 10)*, PATENT BARISTAS, Feb. 10, 2006, <http://www.patentbaristas.com/archives/000343.php>.

<sup>216</sup> *Id.* See also Holman, *supra* note 107, at 319 ("Many of the proposed reforms aimed at improving patent quality would do so by allowing interested third parties more opportunity to participate in the patent examination process and actively challenge questionable patents in the PTO, thereby preempting patent litigation.").

<sup>217</sup> Dale L. Carlson & Robert A. Miglioni, *Patent Reform at the Crossroads: Experience in the Far East with Oppositions Suggests an Alternative Approach for the United States*, 7 N.C.J.L. & TECH. 261, 304-05 (2006).

Nevertheless, a post-grant opposition still presents difficulties that will not curtail all of the problems presented by patent trolls. While it is true that post-grant oppositions allow a corporation that is practicing an invention to monitor patents being issued, the time limit of nine months under the Patent Reform Act of 2005 restricts this ability and limits monitoring to the patents issued recently.<sup>218</sup> The limited opportunity for a post-grant opposition thus does not shield any individual or corporation from the Trolling Resurrector—corporations like Ampex Corporation, which use decade-old patents to solicit licenses on newly developed technology. The broader window detailed by the Patent Reform Act of 2006 presents a somewhat more effective solution. However, although the proposed bill provides a cheaper forum for invalidity claims, reduces the costs of litigation, and limits the duration of such a proceeding, the proposed reforms do not eliminate the potential for egregious settlements, awards, or licenses.<sup>219</sup>

#### D. LIMITS OF LEGISLATION WILL PREVENT THE PASSAGE OF PATENT REFORM

In addition to the substantive weaknesses of the proposals, the patent reform proposals are not likely to be passed by Congress as currently written due to strong opposition from various groups.<sup>220</sup> While the proposals of the reforms are supported by the Business Software Alliance made up of in-house counsel from powerhouses including Apple Computer, Intel, Microsoft, Hewlett-Packard and other technology companies, the proposal faces major obstacles.<sup>221</sup>

Opponents of the reforms argue that because of the suggested limitations on injunctive relief, the proposed reforms make it practically impossible for some inventors to obtain a permanent injunction, thus forcing parties into compulsory licensing agreements with the court determining the settlement fee.<sup>222</sup> Although compulsory licensing is supported by many firms in the Information Technology sector, the bill is strongly opposed by life science and pharmaceutical companies.<sup>223</sup> Because of the strong opposition on the bill's limitations on injunctive relief and

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<sup>218</sup> See *id.* at 305–06.

<sup>219</sup> The ABA has recently suggested that charging excessive royalties could be challenged as patent misuse, however, the view is supported only by one case in the Seventh Circuit. See ABA SECTION OF ANTITRUST LAW, *supra* note 13, at 48.

<sup>220</sup> See Marietta Cauchi, *Life-Science Interests Want Stronger Protection, While the IT Field Seeks Faster Action: A Clash of Industries*, SALT LAKE TRIB., Mar. 8, 2006, available at [http://www.sltrib.com/business/ci\\_3579411](http://www.sltrib.com/business/ci_3579411).

<sup>221</sup> *Id.*

<sup>222</sup> Ken Godlewski, Tom Corrado & Eric Saphor, *Proposed Patent Act of 2005 Raises Standard for Permanent Injunctions*, INNOVATION UPDATE (Kilpatrick Stockton L.L.P., Washington, D.C.), Aug. 2005, <http://newsletter.kilpatrickstockton.com/Biotech/Vol1/story.aspx?ID=369>.

<sup>223</sup> Cauchi, *supra* note 220. J. Matthew Buchanan, *Hearing Scheduled on Substitute Text for Patent Act of 2005*, PROMOTE THE PROGRESS, [http://promotetheprogress.com/archives/2005/09/hearing\\_schedul.html](http://promotetheprogress.com/archives/2005/09/hearing_schedul.html) (Sept. 12, 2005).

other provisions, critics argue that the bill will not pass into legislation as it is currently written.<sup>224</sup>

Ultimately, the proposed reforms certainly face difficulties in a rigid patent system that has not undergone major reform since 1952.<sup>225</sup> While recent patent reform has been gradual and minor, any legislative solutions to the problems caused by patent trolls will require drastic changes to current law, changes which are urgently necessary but unlikely to be accomplished in the near future.

#### IV. EFFECTIVE SOLUTIONS CAN LIMIT PATENT TROLLING AND STRENGTHEN THE PATENT SYSTEM

##### A. IMPROVEMENTS IN THE USPTO WILL IMPROVE PATENT QUALITY

Ambiguous or overbroad patents issued to or acquired by patent trolls inspire infringement allegations asserted against target companies whose products allegedly infringe such ambiguous, and perhaps overly broad, patent claims. Because of poor patent quality, it is difficult to determine whether any given patent claim will be deemed valid in litigation. In order to avoid risky and costly lawsuits, target companies almost always settle with patent trolls.<sup>226</sup>

The problems of patent trolls stem from poor quality of patents, and the quality of patents is directly correlated with the capabilities and performance of the USPTO.<sup>227</sup> Because the USPTO is overworked and under-funded, the patents issued are not the highest quality.<sup>228</sup> Patent examiners face high turnover rates, with only forty-five percent having more than five years of experience.<sup>229</sup> A recent study conducted by the National Academy of Public Administration finds that the USPTO “lacks an adequate number of seasoned patent examiners to operate efficiently.”<sup>230</sup> Patent examiners in the USPTO are under-trained and overworked, thus compromising the quality of patents.

To attract more patent examiners, the USPTO has implemented a plan to offer examiners alternative work arrangements, such as the ability to

<sup>224</sup> Godlewski, Corrado & Saphor, *supra* note 222.

<sup>225</sup> LEE A. HOLLAAR, LEGAL PROTECTION OF DIGITAL INFORMATION § 4.1.D (2002), available at <http://digital-law-online.info/lpd1.0/treatise52.html> (noting only minor changes since 1952). See also Holman, *supra* note 107, at 318 (noting that H.R. 2795, if enacted, “would have constituted the most substantial and comprehensive package of patent law reforms since the Patent Act of 1952”). See also Shiels, *supra* note 164 (also citing the 1952 reforms as the last major changes to patent law).

<sup>226</sup> Symposium, *Ideas into Action: Implementing Reform of the Patent System*, *supra* note 16, at 1112.

<sup>227</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 81–82. See also Holman, *supra* note 107, at 319 (“Patents that do not satisfy all of the requirements of patentability, such as novelty, non-obviousness, and enablement, somehow slip through the filter of patent examination anyway. Oftentimes, patent litigation is the only practical avenue available to challenge the validity of an issued patent.”).

<sup>228</sup> See Carlson & Migliorini, *supra* note 217, at 264.

<sup>229</sup> Florence Olsen, 298 *Pages of Problems at USPTO*, FCW.COM, Sept. 19, 2005, available at <http://www.fcw.com/article90830-09-19-05>.

<sup>230</sup> *Id.*

work from home most days of the week.<sup>231</sup> The “telework program” was first launched in 2001 and again announced in 2005 and allows patent examiners to work from home most days of the week, only going to the office to attend meetings, conduct training, or take care of other business that cannot be accomplished from home. Because many examiners will be going to the office infrequently, examiners will be able to share offices and resources.<sup>232</sup> In implementing this program, the USPTO hopes to attract and retain qualified patent examiners by offering the flexibility of working at home.<sup>233</sup>

Additional improvements not yet implemented include providing the USPTO additional funds and resources to enable hiring additional examiners, implementing a robust electronic processing capability, providing early warning of new technologies being proposed for patenting, and conducting reliable, consistent, reputable quality reviews that address examiner performance.<sup>234</sup> In January of 2006, the USPTO proposed a rule to focus the initial examination of patent applications on the claims designated by the applicant as “representative” claims.<sup>235</sup> Further, if the application contains more than ten independent claims, or if the applicant wishes to have initial examination of more than ten representative claims, then the application would be required to provide an examination support document.<sup>236</sup> According to the USPTO, the changes would allow examiners to conduct “better, more thorough and reliable” examinations by reducing the number of claims received during the initial examination.<sup>237</sup>

Currently, the USPTO is barely able to review all of the applications presented before it, let alone implement additional programs such as an open post-grant opposition proceeding.<sup>238</sup> By providing the USPTO with additional resources and by improving examination procedures, not only will patent quality improve, but the USPTO will also be more capable of implementing additional measures that will address the problems presented by patent trolls, such as applying industry-specific patentability standards and enforcing more stringent patentability standards on software patent applications.<sup>239</sup>

<sup>231</sup> Florence Olsen, *USPTO to Let Examiners Work at Home*, FCW.COM, Dec. 21, 2005, available at <http://www.fcw.com/article91788-12-21-05>.

<sup>232</sup> *See id.*

<sup>233</sup> *See id.*

<sup>234</sup> NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *supra* note 26, at 82.

<sup>235</sup> Changes to Practice for the Examination of Claims in Patent Applications, 71 Fed. Reg. 61 (Jan. 3, 2006) (to be codified at 37 C.F.R. pt. 1).

<sup>236</sup> *See id.* (explaining that the examination support document would need to cover all of the independent claims and the dependent claims designated for initial examination).

<sup>237</sup> *Id.*

<sup>238</sup> *See* Carlson & Migliorini, *supra* note 217, at 307.

<sup>239</sup> *See* ANTHONY L. MIELE, PATENT STRATEGY: THE MANAGER’S GUIDE TO PROFITING FROM PATENT PORTFOLIOS 147 (2000) (discussing generally that the initial costs of setting up new systems in the USPTO “are likely to be substantial and may require requests to Congress for supplemental funding”).

B. APPLYING DIFFERING PATENTABILITY STANDARDS FOR DIFFERING TECHNOLOGIES WILL DETER PATENT TROLLING

The problems associated with patent trolling seem to have disproportionately affected the software industry by diverting resources from innovation and weighing down the legal system. Because of the characteristics of the product development and patent protection unique to the software industry, a viable solution to curtailing the problems of patent trolls in the software industry is to establish differing scales of patentability for software technologies.<sup>240</sup>

While critics argue that “differential treatment is hard to implement,”<sup>241</sup> the practical argument against differential treatment should be reconsidered. This note argues not for separate patent systems for the differing industries, but instead for practically sensible differences where the technology calls for it. Because of the differences in the technology and the nature of the products produced, variances in patentability standards are necessary.

1. *Length of the Patent Term Should Be Shortened for Software Patents*

The biotech industry, life science and pharmaceutical companies typically depend on one singular patent’s right to sustain the entire patent term, allowing companies to take advantage of the monopoly for a limited period.<sup>242</sup> Because of the length of time and amount of investment it takes to develop any particular drug, a strong patent is essential for any pharmaceutical company to be able to sell its product at a higher price to compensate such companies for the research and development of new drugs.<sup>243</sup> In order to incentivize innovation in the biotech industry, the price of the product during the duration of the patent term must then be significantly higher than the actual manufacturing costs of the product to ensure worthwhile profits.<sup>244</sup> Without such a monopoly, there would be no such incentive for life science and pharmaceutical companies to do costly research and development.

In contrast, software companies have “dramatically shorter timelines” as the inventions and discoveries made in the software industry have a

<sup>240</sup> See generally Holman, *supra* note 107, at 325 (stating “not surprisingly, the BSA position on a number of patent reform issues is diametrically opposed to that of [Biotechnology Industry Organization]” but also noting that “there are a number of reform proposals both agree on, an encouraging sign for those hoping that at least some of the patent reform measures are eventually enacted.”).

<sup>241</sup> See JAFFE & LERNER, *supra* note 23, at 204 (arguing that differential treatment is hard to implement because as soon as patentees in a particular category get treatment that is different from everyone else, there will be an inevitable tendency for people to position themselves to get the most favorable treatment).

<sup>242</sup> See Cauchi, *supra* note 220.

<sup>243</sup> See Cauchi, *supra* note 220.

<sup>244</sup> See *Would Prescription Drug Importation Reduce U.S. Drug Spending*, ECONOMIC AND BUDGET ISSUE BRIEF (Cong. Budget Off.) Apr. 29, 2004, available at <http://www.cbo.gov/showdoc.cfm?index=5406&sequence=0>.

much shorter lifespan due to the rapid changes in software technology.<sup>245</sup> Because of the shorter lifespan, software companies that actually manufacture products and practice their inventions are not able to take advantage of the entire term of a patent.<sup>246</sup> Instead of providing a monopoly that incentivizes innovation, the patent monopoly granted for twenty years provides incentives in the software industry for Trolling Resurrecters to assert outdated patents against new technologies.<sup>247</sup> Thus, rather than serving the goals of the patent system, the twenty-year monopoly right is abused by the Trolling Resurrector who siphons resources away from research and development.

For life science companies, the patent right granted should be of a relatively longer term than is granted for software companies. The award of a patent right for twenty years is functionally meaningless in the software industry, as technology outdated far before the patent has expired. In addition, the award of a monopoly for twenty years can be abused by a Trolling Resurrector.

## 2. *The Nature of a Company's Patent Portfolio Differs Across Industries*

Because life science and pharmaceutical companies typically depend on only one patent, the biotech industry is not as susceptible as the software industry to broad-patent attacks of infringement by a patent troll who holds patents with species claims. For example, a pharmaceutical drug will typically only have one or two patents covering it, because drugs are usually unique chemical compounds.<sup>248</sup> Further, because major products are often protected by a single patent, firms can better monitor prior art as well as newer patents being granted and can often prevent litigation before it starts.

In the software industry, any single product is often protected by a collection of patents.<sup>249</sup> Although it is difficult to define "software patent,"<sup>250</sup> a majority of products in the software industry are protected by a collection of patents,<sup>251</sup> which may include both internally generated patents and patents licensed from other firms. Because a single product is usually protected by an array of patents, most software products are more susceptible to a patent troll's infringement accusations than products of other industries that may be protected by fewer patents. If a patent troll holds a broad patent that may possibly be infringed by a small portion of its

<sup>245</sup> See Cauchi, *supra* note 220.

<sup>246</sup> See Cauchi, *supra* note 220.

<sup>247</sup> See Lee A. Hollaar, A New Look at Patent Reform (2005) (unpublished manuscript, available at <http://digital-law-online.info/papers/lah/mini-patent.pdf>).

<sup>248</sup> See Emily M. Van Vliet, *Patent Reform: Addressing Patent Trolling in the IT Industry while Balancing Innovation and Intellectual Property Rights* 10 J. ENGINEERING & PUB. POL'Y 1, 4–6 (2006), available at <http://www.wise-intern.org>.

<sup>249</sup> See *id.*

<sup>250</sup> For a discussion on what a software patent is, see Ditesh Kumar, *Software Patents: Background, Discussion, and Illustration of Harm*, FREE AND OPEN SOURCE SOFTWARE SOC'Y MALAY., Apr. 23, 2006, available at [http://foss.org.my/projects/papers/Software\\_Patents.pdf](http://foss.org.my/projects/papers/Software_Patents.pdf).

<sup>251</sup> See Cauchi, *supra* note 220.



target firm's successful product, the patent troll then has viable claims for expensive licenses and egregious settlements. Similarly, if a patent troll holds an outdated species patent, it may possibly be infringed across the industry by hundreds of target firms' successful products. Simply because of the sheer number of patents being granted and the number of patents held by a company to protect a single software product, it becomes difficult, if not impossible, for a company to cost-effectively monitor prior art, pending patents, and recently issued patents while still keeping up with constant research and development for the product's next phase.<sup>252</sup>

Thus, products in different industries require separate patentability standards and differing patent protections because the protections offered by patents differ drastically. Because many life science products depend on fewer patents, these companies require a patent right that is well-founded and difficult to challenge. In exchange, life science companies are willing to fight for patents that may be expensive and difficult to attain. Conversely, because an array of patents is required to protect any one product, software products require a patent right that is streamlined, and relatively easy to obtain and challenge, without extreme awards or costly licenses falling on either end. In the software industry, because any one patent does very little on its own, single patents should not carry the hazards of costly infringement threats, whereas a single patent is extremely valuable for life science and pharmaceutical companies.<sup>253</sup>

### 3. *Statutory Limitations on Awards Should Be Applied in Software Infringement Cases*

In addition to the current requirements of a determination that a plaintiff has suffered irreparable injury, that the remedies available at law are inadequate to compensate for that injury, that a remedy in equity is warranted considering a balance of hardships between the plaintiff and defendant, and that public interest would not be disserved by the granting of a permanent injunction,<sup>254</sup> statutory limitations on injunctive relief can be enacted for patent infringement cases.

Especially in the software industry, it is rare that any one patent protects much of any single product on its own.<sup>255</sup> Upon infringement of any single patent, the award should be proportionally determined. Thus, the award should be evaluated not only on actual infringement, but also on the amount of infringement of any single patent. For example, if a patent troll holds three patents that are allegedly infringed, but these three patents only cover half of one feature of the accused product, then the patent troll's award should be reduced significantly and a permanent injunction should not be granted. First, a permanent injunction would limit and most likely

<sup>252</sup> See Van Vliet, *supra* note 248, at 12.

<sup>253</sup> See generally Van Vliet, *supra* note 248, at 4–6.

<sup>254</sup> See *eBay v. MercExchange*, 126 S.Ct. 1837, 1839 (2006).

<sup>255</sup> See Holman, *supra* note 107, at 337 (“Software programs and semiconductor chips comprise thousands of individual components, each of which can be subject to an individual patent.”).

prevent public access to the invention, which counters the goals of the patent system. Secondly, a disproportionately high reward would similarly limit and impair public access to the invention due to the negative effects it would have on the manufacturing entity. Although this complicates the determinations by requiring courts to calculate in what proportions the patents are infringed, it is very unlikely that such a determination will ever need to be made in court. Rather, the statutory limitation of infringement awards would serve as a strong disincentive for patent trolls to file excessive numbers of or baseless lawsuits.

#### 4. *Stronger Patentability Requirements Should Be Instituted for Software Patents*

Because of problems in the USPTO and the poor patent quality of patents issued, software patents are often criticized for being obvious at the time of the patent application and thus undeserving of the patent.<sup>256</sup> In litigation, it is difficult, if not impossible, to predict whether the claims in a particular software patent are valid. The problem stems partly from the fact that the software industry is relatively new and much of the prior art is not in the form of patents.<sup>257</sup> The wide ranging breadth and depth of the prior art makes it difficult for the USPTO to monitor and research the prior art adequately, and thus the USPTO consistently issues software patents that fail to hold up during litigation.

This problem is especially prevalent in the software industry. In the biotech industry, the prior art is better documented, and courts often award the patent to the first applicant to reduce to practice absent abandonment, suppression, or concealment.<sup>258</sup> Thus, in biotech, the patents are usually issued to parties who have already reduced the invention to practice, and those parties are often the very entities that practice the inventions protected by the patents. This is drastically different from software, in which nearly identical inventions are often issued patents to several different parties. Thus, in software, patent trolls are issued patents with species claims or broad claims that are already known in the prior art. If the claims are infringed by an industry's products, patent trolls then have the ammunition they need to assert their patents for inventions that are against the entire industry through letter campaigns containing threats of litigation.<sup>259</sup>

Thus, with software patents, more stringent patentability requirements are required to prevent patents already in prior art from being granted. The more stringent standards could begin with increased obviousness

<sup>256</sup> Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEX. L. REV. 961, 1026 (2005).

<sup>257</sup> *Id.* See also JAFFE & LERNER, *supra* note 23, at 118–19 (citing the critical change in patented software began in 1998 in *State St. Bank and Trust v. Signature Fin. Group*).

<sup>258</sup> See, e.g., *Fiers v. Revel*, 984 F.2d 1164 (Fed. Cir. 1993) (requiring, in effect, simultaneous conception and reduction to practice for DNA cases).

<sup>259</sup> See Stettner, *supra* note 109.

standards.<sup>260</sup> A stricter obviousness standard could prevent software patent applications with claims that are already known or practiced in the prior art from being issued to patent trolls. In order to execute a stricter obviousness standard, however, the USPTO would need to thoroughly evaluate each software patent application against all relevant available prior art.<sup>261</sup> To better facilitate this evaluation, the burden to produce information material to patentability should be shifted to the patent applicant.

5. *An Objective Standard Should Be Applied to the Duty to Disclose Information Material to Patentability*

To better facilitate the evaluation of each software patent application against relevant prior art, the USPTO should increase the requirements underlying the duty of candor and good faith in disclosing to the patent office any and all information material to patentability.<sup>262</sup> Under the current requirement, the duty to disclose all information known to be material to patentability is satisfied if all information *known* to be material is submitted to the USPTO.<sup>263</sup> The current standard is a subjective one, and the USPTO will only refuse to award a patent if the duty of disclosure is violated through bad faith or intentional misconduct.<sup>264</sup> Applicants are thus *encouraged* but not forced to conduct complete and thorough prior art searches before submitting patent applications.<sup>265</sup>

To improve patent quality, applicants should be required to conduct thorough investigations of the entire spectrum of prior art in the software industry and be held liable for failing to meet the standards.<sup>266</sup> Punishments could be as extreme as denying a patent for failing to produce relevant prior art, regardless of whether the patent subjectively had knowledge of the prior art. The standard for evaluating “knowledge of the prior art” should be objective. By creating such an objective standard and enforcing it, patent applicants have a strong incentive to conduct more thorough searches of the prior art in the software industry, thus lessening the burden of the USPTO and decreasing the possibility of patents being issued for claims already known in the prior art.<sup>267</sup> With more thorough searches of the prior art for

<sup>260</sup> For a discussion of current obviousness standards, see HERBERT F. SCHWARTZ, *PATENT LAW AND PRACTICE* 78 (4th ed. 2003).

<sup>261</sup> See John A. Jeffery, *Preserving the Presumption of Patent Validity: An Alternative to Outsourcing the U.S. Patent Examiner's Prior Art Search*, 52 CATH. U.L.REV. 761, 768–70 (2003).

<sup>262</sup> 37 C.F.R. § 1.56 (2006) (defining the current duty to disclose information material to patentability).

<sup>263</sup> *Id.*

<sup>264</sup> *Id.* Currently, inequitable conduct is an applicant's breach of duty to prosecute patent applications with candor, good faith, and honesty and appears in almost every patent infringement lawsuit. Proof by clear and convincing evidence of the elements underlying defense renders all the claims of the asserted patent unenforceable for the life of the patent. SCHWARTZ, *supra* note 260, at 177.

<sup>265</sup> See SCHWARTZ, *supra* note 260, at 177.

<sup>266</sup> For a discussion on a recommended strategy on conducting patent searches before the patent application is drafted, see KNIGHT, *supra* note 39, at 65.

<sup>267</sup> See generally Jeffery, *supra* note 261 at 761–70 (noting that patent examiners must determine the scope and content of the prior art to determine whether the claimed invention is patentable and that burden is on the USPTO; citing that while applicants have a duty to disclose known relevant documents, they do not need to conduct a prior art search; and stating that the integrity of the examination system depends on the thoroughness of the prior art search).

software patents, patent trolls are less likely to be issued patents that they can assert broadly across an industry to generate lawsuits and settlements from other companies that practice the patented inventions.

## V. CONCLUSION

A patent troll is properly defined as an entity that holds patents in order to enforce or assert them broadly across an industry, does not possess a good faith intention to practice the claims of the patented inventions or to allow others to practice the claims of the patented inventions, and instead asserts such patents to generate suits and settlements in a way that limits and impairs public access to the inventions.<sup>268</sup>

Proposals to address and limit patent trolling in the Patent Reform Acts of 2005 and 2006 face a great amount of opposition.<sup>269</sup> Even if the proposals are accepted in Congress, the reforms show difficulty in addressing the problems caused by patent trolling. Applying limitations on willfulness by raising notice requirements may encourage patent trolls afraid of failing the notice requirement to automatically file lawsuits and further drown the legal system with additional filings. Enforcing limitations on injunctive relief through establishing ambiguous “balance of hardships” tests and “irreparable harm” determinations will lead to even less predictable and more expensive litigation procedures. Lastly, creating post-grant opposition proceedings will not eliminate the potential for patent trolls to obtain egregious settlements, awards, or licenses.

Effective solutions for deterring patent trolls require both improvements in the USPTO to improve the quality of patents and the application of industry-specific patentability standards. Because of the differences in the technology and the nature of the products produced, differences in patentability standards are necessary where the technology calls for it. Because of rapidly changing technology in software, the length of the patent right granted should be shortened for software patents to prevent abuse of the monopoly by a patent troll.<sup>270</sup> Statutory limitations on awards should be applied in software infringement cases so that single patents held by patent trolls do not carry the hazards of costly infringement threats. Further, the statutory limitation would serve as a strong disincentive for patent trolls to file nuisance infringement lawsuits. Finally, in the USPTO, stronger patentability requirements should be instituted for software patents, including stricter obviousness standards and an objective standard for the duty to disclose information material to patentability. By making these changes to the USPTO and patentability standards, patent trolls will more likely be deterred from engaging lawsuits and settlements that limit and impair public access to inventions.

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<sup>268</sup> See A Proper Definition of a “Patent Troll,” *supra* Part II.C.

<sup>269</sup> See Brenda Sandburg, *A Modest Proposal*, THE RECORDER, May 9, 2005.

<sup>270</sup> Antitrust laws often affect the strategies used by patent trolls and their target companies. For a detailed discussion, see MIELE, *supra* note 239, at 139–43.

To effectively cure the problems of patent trolling any solution must first address the causes of patent trolling. Reform, while on the horizon, will take time and require adjustments to the USPTO and the court's application of patentability standards. By instituting such changes, patent trolls will be deterred and weakened significantly. Patent trolling is, after all, named after the old tale of trolls that hid under bridges and surprised visitors with the threat, "Give me a gold coin, or I'll eat you."<sup>271</sup> Perhaps the tale will end when the visitors change their ways and discover new paths to cross, ones that are not guarded by trolls.

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<sup>271</sup> See Ellen McCarthy, *Waiting Out a Patent Fight with eBay*, WASH. POST, Jan. 6, 2005, at E1, available at <http://www.washingtonpost.com/wp-dyn/articles/A51969-2005Jan5.html?sub=AR>.