

Standards: a love/hate relationship with patents  
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Patents have garnered a great deal of publicity lately, both good and bad. This paper addresses both the positive and negative aspects of patents in relation to a number of areas. Obviously, given the short length of this paper, it will only be able to scratch the surface. After all, this is a very complicated area. This paper will begin by discussing how patents and their purpose have been undermined through the years. The second half of the paper will discuss how patents are and remain beneficial.

**Patents are Bad for Technology Adoption**

Patents were originally designed to enable and promote creativity and innovation by providing individuals and entities the right to exclude others from using an invention for a specific period of time. There was a quid pro quo where the inventor received a monopoly on their invention in return for making it available to the public. This process has worked relatively well for several centuries, formally dating back to the Venetian Statute of 1474 and existing even earlier in the form of "letters patens" issued by sovereigns in England<sup>1</sup>. There is even evidence that patents in some form existed in some ancient Greek cities dating back to 500 B.C.<sup>2</sup>. However, recently, with the increase in technological innovation and the correspondent large sums of money involved, some cracks have developed in the

patent regime. In fact, some would argue that patents have become detrimental.

Originally designed to encourage the small inventor, it is argued that patents have become more geared toward large corporations. While there may be some truth to this given the costs of obtaining a patent and the time it takes to obtain a patent, this is not entirely true. While large corporations may be better able to afford the prosecution costs of obtaining a patent, the subsequent costs are increasing significantly. Large corporations are frequently litigation targets due to their deep pockets.

Taking everything together as a whole, the costs to obtain a patent, the time it takes a patent to issue (during which time you may not enforce the patent) and the costs to enforce the patent, some maintain that the original goal of patent protection is thwarted. Obviously, many also think otherwise and the value of patents will be addressed later in this paper.

Surprisingly, with all the associated costs, patents have increased significantly in value over the past few years, especially due to several high profile purchases of patents, such as Apple and Microsoft's purchase of more than 6,000 Nortel patents for \$4.5 billion and Google's purchase of Motorola Mobility's more than 17,000 patents and 7,500 applications for \$12.5 billion which included its hardware business<sup>3</sup>. These purchases have heightened both the interest in patents and the prices paid for patents. However, as with all things where money and increased focus are involved, new business models have developed. One new business model is that of the non-practicing entity (NPE), otherwise known as patent trolls<sup>4</sup>. NPEs have been around for a little while but their presence has been felt much more acutely in the last 5 years.

A study by James Bessen and Michael J. Meurer puts the direct costs from NPE disputes at \$29 billion in 2011 and total costs, both direct and indirect, at \$80 billion in 2011<sup>5</sup>. These are significant numbers and result in a great deal of lost productivity and misdirected application of resources for the companies involved in the disputes. Recently, many NPEs have targeted very small companies and retail and service locations in an attempt to intimidate entities that cannot afford litigation<sup>6</sup>. Further, since NPEs do not produce any products, there is frequently no basis to negotiate and settle the matter. It is frequently the choice of either paying up or litigate, especially since NPEs use the threat of injunctions.

In the case of Cisco, as one can imagine and as is typical of most large corporations, litigations are frequent. The vast majority of Cisco's intellectual property related litigation involves NPEs. With other large companies that produce products, our respective patent portfolios and, in many cases, cross-licenses prevent such litigation. The cost to Cisco is significant. For instance, of the approximately 60 active intellectual property litigation cases against Cisco last year, all but one involved NPEs.

Unfortunately, this NPE situation also implicates standards. Currently, standards organizations are revisiting their Intellectual Property Rights (IPR) policies to address several areas of concern brought about by increased litigation in the patent arena.<sup>1,2</sup> At the forefront are Fair, Reasonable and Non-discriminatory (FRAND) licensing terms, reciprocity, availability of injunctive relief and transferability of licensing commitments when the patent has been sold or assigned.

Typically, NPEs acquire their patents by purchasing them from individual inventors and companies. While some NPEs

actually develop their own technology in certain areas, this is more the exception than the rule. Also, NPEs, in many cases, form shell companies to hide who really owns the patents and to fit into a particular litigation strategy<sup>7</sup>. Standards bodies are looking into the transferability issue in several ways; however, one way is to contractually bind subsequent owners of the patent to adhere to the licensing commitments made in the standards body. In this manner, the NPEs cannot disrupt the implementation of standards.

As the discussion indicates, there are several ways in which patents may be detrimental to companies; however, there are many ways in which patents are helpful that outweigh the detrimental effects.

### **Patents are Good for Diffusion**

Over the last several years there have been several conflicts between standards bodies around the use of a technology that was initiated in one body and carried over to another and in some way modified. A recent example involved the IPsec encryption protocol<sup>3</sup> and a proposed re-specification of what amounts to the same technology in another organization.<sup>4</sup> There were no substantial advantages to the new protocol. In this case, either there are no known patents, or a defensive royalty-free license is offered (e.g., “don’t sue us and we won’t sue you”). Happily, the standards organization considering re-specification has chosen (at least for now) not to pursue an alternative.<sup>5</sup> Persuasion based on technical merit provided a path forward to all participants. Such is not always the case.

Re-specification can be said to harm interoperability because it introduces the possibility of errors, and may fragment the market, preventing or impeding the network effect toward broad adoption. In cases where new code paths or ASICs need to be created to address similar - but not identical - standards, an additional risk of new vulnerabilities is introduced. Finally, re-specification increases engineering and support costs to both implementers and their customers.

We now consider a situation where standards organization A (ORGA) has standardized technology X (TECHX). Standards organization B (ORGB) is considering some form of re-specification. In the case where there is no patent that covers the underlying technology, nothing but good sense can stop ORGB from standardizing the technology, and incentives in play may keep ORGB from stopping.

It is a different matter when disclosure has been made, and a license has been given to those implementing the standard specified by ORGA. In our example, we'll consider the case when the patent disclosure from OWNERX indicates a defensive royalty-free license (Cisco's general disclosure policy for the IETF at the time of this writing). Organizations grant these sorts of licenses to for consideration of adoption of specific technologies as standards.

A patent may be broader than an actual specification. When it is, then it is possible that similar but different specifications will also be covered. Therefore, if OWNERX discloses for ORGA, and it participates in ORGB, it would disclose in ORGB. This doesn't mean that the terms must be the same. Rather, the disclosure might state that a license is only granted for

implementations that conform to ORGA's standard. Such a disclosure would prohibit an industry peer of OWNERX from developing competing technology without additional licensing. The right to control or refuse licensing is the very essence of a patent.

Once a disclosure is made, ORGB has the choice to continue standardization, accept modified proposals that take into account the license, or to stop. If ORGB continues without regard to the license, then firms implementing variants of OWNERX's technology will have to deal with the consequences. Therefore, while it is not a "sure bet" that the results will be interoperable with existing work, the incentive is in place.

It should be noted that standardization attempts in multiple organizations could occur in parallel, and often this is in fact the case with nascent technology, either when different approaches are taken, or because different parties wish to take advantage of the characteristics of different standards bodies. The base assumption of this discussion is that OWNERX has a patent covering the technology to be standardized. In such circumstances, OWNERX has strong leverage to choose a single standards organization to pursue standardization.

In the case of the IETF, where interoperability is an end, a single venue for standardization is always preferable. In short, the incentives of a first mover with IPR are aligned with this standards organization.

## **Conclusions**

Patents are a double-edged sword within the industry. On the one hand, NPEs threaten to restrict innovation based on their motivation to extract rent. On the other hand, when properly used, patents can encourage interoperability, providing the first mover with an incentive to disclose their patents to standards organization and license them.

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- <sup>1</sup> Helmut Schippel: Die Anfänge des Erfinderschutzes in Venedig, in: Uta Lindgren (Hrsg.): Europäische Technik im Mittelalter. 800 bis 1400. Tradition und Innovation, 4. Aufl., Berlin 2001, S.539-550 [ISBN 3-7861-1748-9](#) and "[Wolfgang-Pfaller.de: Patentgesetz von Venedig](#)" (in German / Italian).
- <sup>2</sup> Gregory A Stobbs, *Software Patents*, Aspen Publishers, 2000, [ISBN 0-7355-1499-2](#), page 3 and [Charles Anthon](#), *A Classical Dictionary: Containing An Account Of The Principal Proper Names Mentioned in Ancient Authors, And Intended To Elucidate All The Important Points Connected With The Geography, History, Biography, Mythology, And Fine Arts Of The Greeks And Romans Together With An Account Of Coins, Weights, And Measures, With Tabular Values Of The Same*, Harper & Bros, 1841, page 1273..
- <sup>3</sup> Chris V. Nicholson, *Apple and Microsoft Beat Google for Nortel Patents*, New York Times, July 1, 2011 and David Goldman, *Google seals \$13 billion Motorola buy*, CNNMoney, May 22, 2012.
- <sup>4</sup> See generally, Chris Donegan, *Ten rules for choosing a non-practising entity*, Fraserburgh, <http://www.iam-magazine.com/issues/article.ashx?g=d9f5394b-fb35-4e38-971c-0f9c80fb8b88>.
- <sup>5</sup> James Bessen and Michael J. Meurer (99 Cornell L. Rev. (forthcoming 2014) Boston University School of Law - Law & Economics Research Paper No. 12-34 (June 25, 2012, revised July 2013).
- <sup>6</sup> Assistant Professor Colleen Chien, *Patent Trolls by the Numbers*, March 14, 2013, Santa Clara University Law School. (<http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html>)
- <sup>7</sup> The complete list of non-practicing entities featured in the NPE tracker, <http://www.ipcheckups.com/npe-tracker/npe-tracker-list/>.
- <sup>1</sup> Bradner, S., Contreras, J., "Intellectual Property Rights in IETF Technology", draft-bradner-rfc3979bis-05.txt, June 2013.

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<sup>2</sup> The ITU-T Patent Roundtable, <http://www.itu.int/en/ITU-T/Workshops-and-Seminars/patent/Pages/default.aspx>

<sup>3</sup> Kent, S., "IP Encapsulating Security Payload (ESP)", RFC 4303, December 2005.

<sup>4</sup> Liaison from the ISOC to ISO/IEC JTC1/SC6 and its National Body members in relation to ISO-IEC JTC1-SC6\_N15618, <https://datatracker.ietf.org/liaison/1258/>

<sup>5</sup> Liaison Response to ISOC on Tlsec, <https://datatracker.ietf.org/liaison/1265/>