Prohibiting Discriminatory Cross-Licensing

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ABSTRACT

Two of the key objectives of standards setting organizations are to produce “unified” technology and to engender fairness among competitors. Although most of these organizations require the participants to agree to reasonable and non-discriminatory license terms, it is surprising that most fail to address cross-licensing. In this paper two discriminatory cross-licensing scenarios are provided, demonstrating the adverse effects this practice can have on competition. Subsequent analysis shows the licensor may be in breach of the licensing contract, liable for violation of antitrust, and potentially with an unenforceable patent due to patent misuse. To improve the equity of these scenarios, a solution is proposed where a licensor would be subject to different cross-licensing rules depending primarily upon the size and complexity of the standards organization. Under small entity status, ex post cross-licenses would be effectively banned. Under large entity status the patent pool would be administered by a third party agency responsible for evaluating and ensuring equity in all cross-licensing transactions. In view of the contemporary importance and prevalence of standards setting organizations, it is clear that stronger cross-licensing rules need to be imposed, ensuring equity among competitors.

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I. INTRODUCTION

Standards Setting Organizations (SSOs) are a common feature of today’s marketplace and are a critical factor in the cost reduction and interoperability of electronics products.¹ One of their primary goals is the standardization of electronics components, which requires the SSO participants to agree on a singular technical solution in a field replete with competing alternatives.² To ensure the “standardized technology” is available to everyone on an equitable basis, typically all SSO members agree to license their technology to others with reasonable and non-discriminatory (RAND) terms, if their technology is chosen as the standard.³

However, RAND terms are typically poorly defined in SSO agreements, leaving the licensor significant latitude in determining what a “reasonable” royalty is and whether their licenses are truly “non-discriminatory”.⁴ Numerous articles have discussed what should constitute a “reasonable” royalty; however, very few have explored what activities by a licensor may be considered “discriminatory”. In this paper I investigate if selective cross-licensing by a licensor who is bound to an SSO RAND agreement could be considered discriminatory.

In the first part of the paper I provide and briefly analyze two examples of cross-licensing scenarios that I have personally observed. Both scenarios result in the cross-licensed competitors having a demonstrable advantage over those that were denied cross-licenses.

In the next part of the paper I show that there are serious antitrust and related issues raised when a member of an SSO who is bound to a RAND agreement cross-licenses essential technology—namely, technology that is necessary to practice the applicable standard. In these

² See id. at 1898.
³ See id. at 1906.
⁴ See id. at 1907.
scenarios it is possible that such a licensor could be found in breach of the SSO contract, liable for violation of antitrust, and potentially with an unenforceable patent due to patent misuse.

In the next part of the paper I offer an alternative approach, addressing how cross-licenses could be dealt with in an SSO. I propose a two tier solution based on the size of the SSO and the number of essential technologies involved. A relatively small SSO would effectively ban cross-licenses and require all preexisting cross-licenses to be disclosed prior to the selection of the standard. In contrast, a relatively large SSO would require the use of a third party licensing agency, which would ensure the equitable valuation of cross-licenses between members. In this regard, I address the potential costs of my proposal, including the effects of the approach on a company’s incentive to innovate and participate in standards setting organizations are discussed.

In view of today’s standards it is clear that stronger rules need to be imposed, swinging the pendulum of fairness and nondiscrimination back into balance. Such is the goal of the proposed approach by strongly encouraging adherence to nondiscriminatory licensing behavior and prohibiting ex post cross-licenses entirely for small SSOs.

II. THE NATURE AND ROLE OF SSOs

SSOs are present in many industries, but are particularly common in the electronics industry, which is one of the largest contributors to the world economy and represents a substantial portion of the United States’ gross domestic product. In 2008, the world’s electronics products output was $1.7 trillion.\(^5\) One of the key requirements throughout the electronics market is the need for interoperability and standardization. As such, I use the electronics industry as an illustrative example of how SSOs function.

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“It would be difficult to underestimate the contemporary importance of standardization.”

Technological, functional, and safety-related standards are ubiquitous in the modern world. From the electrical socket in the wall, to internet protocol standards, one can easily see the benefits of standardization and interoperability. This requirement enables electronics devices to interact with each other, regardless of which company manufactured them. An illustration of this concept is the USB (Universal Serial Bus) communications interconnect, available on nearly every computer, camera and cellular phone in production today. It is easily seen that this interconnect, and the devices that incorporate it, would be significantly hindered if each manufacturer like IBM, Sony, Apple, etcetera had a different standard which was incompatible with the others. Through the process of standardization, a singular interconnect was developed enabling myriad devices to efficiently interoperate with each other, thereby making each device more useful to the consumer.

Of course there are limitations where interoperability is not critical and a proprietary technology may enable a device to outperform, and outsell rivals. However, proprietary technologies are only useful where interoperability is not critical. For instance, some cellular phone companies use proprietary technology to create uniquely small power cords that only work with their devices. In these situations interoperability of the power cord with other’s devices is not critical so proprietary technology can be implemented with little disadvantage to the consumer. However, the other end of the power cord must interoperate with the wall socket so only standardized technology can be utilized without causing significant disadvantage to the consumer.

The issue with standardized features and interoperability is how to get the numerous

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6 Lemley, *supra* note 1, at 1896.
7 See *id.* at 1896-1901.
companies that make and employ the features to agree on a singular “unified” standard. This arduous task is commonly achieved through the use of SSOs. Within an SSO, rival companies meet to establish industry-wide compatibility with given technologies, which allows all industry participants to market harmonious goods.\(^8\) Some organizations were created for this specific purpose like the Institute of Electrical and Electronics Engineers (IEEE), while others are ad hoc associations where several interested companies collaborate, forming their own SSO. Regardless of how they are formed, in the end, the members (many of whom are direct competitors) democratically compete among themselves over who has the best solution.

SSOs play a central role in the new economy, facilitating technological interoperability, commercialization, and downstream competition.\(^9\) Additionally, standardization and SSOs also provide a navigable path through the “patent thicket.”\(^10\) “Given the proliferation of overlapping patents, companies wishing to market goods in certain high-technology markets may need to infringe myriad patents to bring their products to market.”\(^11\) “Unfortunately, the operation of SSOs may be complicated by intellectual property rights that cover candidate standards.”\(^12\)

When rival companies meet to set a standard they typically all have competing solutions that are protected by intellectual property rights (IPR’s).\(^13\) When one solution is chosen from the many, that company now owns the IPR’s for the technology that will be the “standard” proliferated throughout the world. This places that company in a position of power, with a

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\(^9\) See id. at 1889.


\(^11\) Id. at 150.


\(^13\) See Lemley, *supra* note 1, at 1901.
monopoly over everyone that wishes to participate in that market. Given a patentee’s ability either to enjoin production or to impose costly litigation on an alleged infringer, the monopolist intellectual property (IP) holder may be able to extract royalties that are vastly disproportionate to the ex ante value of the licensed technology. This can result in higher prices for consumers and a defunct standard which is abandoned by the SSO members.

To mitigate the negative effects of a monopoly, typically all SSO members must first sign a multi-sourcing agreement which requires them to license their technology, if they are the winner, to the other members under RAND terms. Thus, SSOs now routinely require all members to license their technology employed in the standard at “reasonable and nondiscriminatory” rates. The exact meaning of reasonable and nondiscriminatory is subject to debate. It is usually thought that “reasonable” refers to a fair royalty rate, and “non-discriminatory” refers to equal treatment of licensees. However, there is no accepted legal definition for RAND and as such, the terms and conditions of each agreement differ greatly.

Some authors have proffered that since most companies are not willing to discuss royalty rates ex ante, all a prospective licensor is agreeing to do upon signing the agreement is to enter into ex post negotiations over royalty rates once a standard is established. In theory, a RAND agreement would foreclose patentees from refusing to license its IP, from charging different SSO members different royalties, from enjoining infringement and from requiring royalties greater than a reasonable level.

This means that a “reasonable” royalty should be determined based on an assessment of

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14 See id.
15 See Lemley, supra note 10, at 153.
17 See Lemley, supra note 1, at 1904.
18 See Delvin, supra note 12, at 237.
19 Id. at 220.
the competitive environment before the creation of the standard locks an industry into a technology that is covered by a particular patent. In such an environment, a fair and reasonable royalty reflects primarily the incremental value of a technology relative to the next best alternative. “It also reflects the fact that the total royalties charged to licensees practicing the standards must not be so high as to render the adoption of the standard inefficient, such that the relevant industry would be discouraged from making the investments necessary to implement the standard and license the required technology.”

The “non-discriminatory” aspect of a RAND obligation serves to promote the implementation of the standard and production of standard-compliant products by encouraging fair competition among manufacturers of those products. Thus the “ND” in RAND should preclude essential patent holders from appropriating the monopoly power of a standard to impose terms on licensees that either provide the patent holder with an unfair competitive advantage in a product market or provide such an advantage to only select licensees.

These ex ante RAND agreements appear to mitigate all the issues with ex post holdup and antitrust violations. Unfortunately, the idyllic picture of RAND licensing as an effective constraint is illusory. Numerous articles discuss the inability of the courts to enforce such agreements while some call for the abandonment of the requirement entirely. Most typically, these articles focus on the ex post holdup issue where the licensor extracts exorbitant royalties from the SSO members once its technology has been adopted and it is too late to implement alternative technology. However, there is another issue with RAND agreements which is prevalent, but yet to be addressed with any specificity—cross-licensing among entities subject to

22 See Delvin, supra note 12, at 221.
III. ISSUES WITH CROSS-LICENSING

The concern over cross-licensing IP which is subject to a RAND agreement has been mentioned in a handful of articles, but has not been fully explored. Numerous authors have noted that there is likely a concern, however none have analyzed the extent of a licensees liability if they discrimately cross-license competitors.

Farrell, et al. captured the essence of the issue stating, “A RAND commitment does not generally prevent patent holders from requiring cross-licenses for other essential patents or from offering reduced licensing fees in exchange for cross-licenses of otherwise valuable IPR’s.” 23 Whereas Delvin highlight the fundamental fairness concern stating, “The problem with requiring non-discriminatory licensing arises from heterogeneity of circumstance.” 24 “Must a licensor offer precisely analogous terms to nonmembers and members [of the SSO]?" 25 “How about to a company with which it shares a portfolio cross-licensing agreement versus companies with which it does not?” 26 Levin proposed an abstract solution stating, “SSOs could give some content to the nondiscrimination requirement, for example by specifying whether royalty rates must be identical for all parties, or whether potential licensees in different situations may be treated differently. 27 Finally, Feldman stated, “The three likely circumstances in which licensees might be treated differently are (1) where one licensee also owns IP that could be cross-licensed, and the other does not, (2) where the licensees compete in different fields of use, and (3) where

24 Delvin, supra note 12, at 237.
25 Id.
26 Id.
some licensees are for-profit and other nonprofit.”

The focus of this paper will be on two specific cross-licensing scenarios that are plausible in practice. The first is when a licensor, subject to RAND license terms, discriminately executes ex post cross-licenses some competitors and not others. The second is when a licensor has a ex ante “portfolio” cross-licensing agreement with one or more competitors, which includes technology “essential” to the SSO. This paper will develop examples of both scenarios and analyze the licensor’s potential liability under the doctrines of breach of contract, antitrust, and patent misuse. The focus on these two cross-licensing scenarios is hardly exhaustive, but they are useful to illustrate the kind of issues that merit scrutiny and the need for reform.

A. Ex Post Cross-Licensing Example

For the first scenario, consider a situation in which a licensor bound by the RAND terms of an SSO agreement chooses to cross-license one competitor, but not another. For illustration, the ubiquitous High Definition Multimedia Interface (HDMI) connector will be used as an example. In this scenario Company X will attempt to enter the market as an HDMI connector manufacturer.

Company X must first join the SSO called the HDMI Adopter’s Association. Next, Company X must license the “essential” standardized technology from Company M who, for simplicity in this case, is the sole owner of all the necessary patents required to make the connector. Finally, assume Company M is subject to “typical” RAND licensing terms that were advanced by the HDMI Adopter’s Organization.

For this example, assume the average gross margin of the typical competitor to be twenty percent, which is reasonable for the consumer connector industry. Next, assume the royalty

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required by the RAND agreement is four percent of total sales along with an upfront payment of $200,000. Finally, assume Company X’s sales, general and accounting (SG&A) operating overhead required to engineer, maintain and sell these connectors (mature commodity product) is fifteen percent of gross sales. This leaves Company X with one percent net profit, which is typically inadequate to repay the capital investment and make this a viable venture. Even with annual sales of ten million units at $0.40 each, this would only yield an annual net profit of $40,000. At this rate it would take five years just to pay back the upfront license fee. Thus, a new competitor entering into the HDMI connector business is precluded from entry.

Conversely, consider Company N which executes a cross-license with Company M. As mentioned supra, a RAND commitment does not generally prevent patent holders from requiring cross-licenses for other essential patents or from offering reduced licensing fees in exchange for cross-licenses of otherwise valuable IPRs.\(^29\) Compared to Company X who was left with an intractable one percent net profit margin, Company N has a net profit margin of five percent since they do not have to pay the four percent royalty. With annual sales of ten million units at $0.40 each this would yield an annual net profit of $200,000 per year which provides a payback of the license fee in one year. This is typically an adequate net margin, enabling Company N to participate in the HDMI connector business and make a reasonable return on their capital investment. Thus, the benefit of a cross-license in this scenario made the difference between a competitor being able to compete in the market or being precluded from the market. Moreover, the licensor had the power to discriminately select which company it was going to compete on even footing with and which it was not, by choosing whom to cross-license.

It is acknowledged that this is an extreme scenario where the cross-license is the key factor that enables or precludes a licensee from competing in the market. However, even if the

\(^{29}\) Farrell, *supra* note 23.
average gross margin in this scenario were thirty percent, Company X would only have eleven percent net margin while Company N would have fifteen percent net margin. The added net margin would still provide Company N with a significant competitive advantage over Company X, where Company N would either make 36 percent more profit per sale or could reduce pricing to gain market share and make the same profit as Company X. Either way, Company X is significantly disadvantaged by being denied a cross-license.

It is also acknowledged that the above scenario is only unfair to Company X if the cross-license between Company M and Company N was inequitable. If Company N provided Company M the same value of IPR’s in return, then it is clear that the companies are just making “efficient” business decisions, saving each other the logistics of tracking and exchanging fees every period. However, it is argued that the cross-license was equitable only if all the SSO members would value Company N’s IPR’s the same as Company M did. When the SSO members voted to select Company M’s technology over their own for the benefit of creating a unified standard, they likely all did so with the thought that they would receive identical license terms as required by the RAND licensing requirement. Had they known that Company M would license some competitors for a different rate than they were required to pay, they may have cast their vote differently.

To judge the equity of the trade, several factors would need to be considered “[I]ncluding, but not limited to, market conditions, the industry in which the target company operates and the type and nature of the business.”30 However, typically there are no controls in RAND agreements to ensure that cross-licenses are equitable.31 Companies are left to their own devices to determine what a “fair” trade is. “[V]aluation is not an exact science, nor will

31 See Lemley, supra note 1, at 1910.
valuation issues typically drive the terms and pricing of the transaction.”32

As an example, Company M may highly value Company X’s aerospace connector technology since it provides them access to critical customers or sales channels, agreeing to a no fee cross-license. Conversely, the other members of the SSO may value Company X’s technology considerably lower, giving no value to the access to particular customers or sales channels, requiring a large differential royalty from Company X to make up the difference. If Company M would enter such an agreement with Company X, it is arguably inequitable with regard to the members of the SSO that agreed to make Company M the “standard”. Company X would gain access to the “standard” technology for a much lower effective access cost than the other members of the SSO. Thus, there is a real and significant potential for discriminatory cross-licensing to result in competitively disadvantaged licensees.

Also, of key import is the fact that Company M entered the SSO competition agreeing to license their technology to all members for a reasonable and non-discriminatory rate in exchange for the opportunity to be selected as the “standard.” Now that they have been selected as the standard and everyone must license their technology, they entered into an agreement with markedly different terms than they had with other competitors. In essence, Company M was endowed with significant market power in exchange for being bound to the RAND agreement. Company M then employed that market power to discriminately select which competitors it cross-licensed and which it did not.

With such power it is also possible that Company M is motivated to only cross-license companies that have comparable cost structures to them. By only cross-licensing competitors with similar cost structures, Company M is assured that they will be competing on equal footing, keeping all the lower cost competitors out of the market, or at a disadvantaged margin. This may

32 Sherman, supra note 30.
result in sustained high pricing for the connectors and possibly reduced competition in the market.

B. *Ex Ante Cross-Licensing Example*

The second scenario offered for consideration is when a licensor, bound by the RAND terms of an SSO agreement, has recurrent, pre-SSO, portfolio cross-licensing agreements with one or more competitors. Such agreements are common, especially if there are a small number of market leaders or the industry is replete with patent thickets, like the semiconductor industry.

To illustrate, now assume that Company M, Company N, and Company O routinely participate in developing the next generation HDMI connectors along with several other similarly sized competitors. If these three companies routinely agree to portfolio cross-licenses before the standard is chosen by the SSO, then no matter whose technology is adopted as the standard they all have royalty free access to the market. As shown above, royalty free access to a technology provides competitors a significant market advantage. Further, if they consistently refuse to execute portfolio cross-license agreements with rivals outside of the group, they are essentially a group of competitors that refuse to deal with rivals on an equal basis. For this scenario it is assumed that the rival who was denied the portfolio cross-license has a portfolio that is similar in size and value to the “group” of competitors.

This activity has the potential to restrict competition by discouraging competitors from participating in future standards when they know this group of competitors will have a market advantage and not deal with them on an equal basis. It is also likely that since the three competitors will have an economic advantage, the market pricing will remain higher than it would if more competitors could compete on equal footing.
IV. LEGAL IMPLICATIONS OF DISCRIMINATORY CROSS-LICENSING

In this part, I analyze the potential for breach of contract, antitrust, and patent misuse when an SSO member that is bound to RAND terms decides to discriminately cross-license competitors. The analysis will be focused on the two scenarios discussed above.

The first potential issue that arises is whether Company M breached the SSO RAND agreement by discriminately cross-licensing some competitors while extracting a royalty from others. This analysis depends heavily on the particular verbiage of the contract. \(^{33}\) “Whether and how a particular company is bound to obey a bylaw may depend on the form of the company’s assent: did it sign a document agreeing to give up rights, or is waiver merely inferred from membership in the SSO?” \(^{34}\) The difficulty in performing such an analysis is the significant variation among the different SSOs. \(^{35}\) One study of forty-three rules and bylaws of different SSOs resulted in a finding that “Most companies today face a hodgepodge of rules and obligations of which they are only dimly aware.” \(^{36}\) Although there is little case law on this subject, the literature indicates, “There is no reason to think such a signed agreement would not be enforceable.” \(^{37}\) Thus, one of the key determining factors in assessing breach of contract is whether the member signed a waiver agreeing to give up their rights. The other key factor is the specific verbiage of the contract and whether it clearly precluded cross-licensing. Thus, it appears that a licensor could be liable for breach of contract depending upon the specific terms of the contract.

The next potential issue that arises is whether discriminatory cross-licensing of some competitors, but not others violates antitrust laws. There are two sections of the Sherman

\(^{33}\) Lemley, supra note 1, at 1910.
\(^{34}\) See id.
\(^{35}\) Id. at 1904.
\(^{36}\) Id. at 1907.
\(^{37}\) Id. at 1910.
Antitrust Act.  
Section One of the Sherman Antitrust Act prohibits every contract, combination or conspiracy, in restraint of trade or commerce. Section Two condemns unilateral monopolization and attempts to monopolize. Next, I address whether a licensor who discriminately cross-licenses competitors will be in violation of Section One of the Sherman Act.

In *Monsanto*, the court said under Section One of the Sherman Act, a business "generally has a right to deal, or refuse to deal, with whomever it likes, as long as it does so independently." Thus, it may be argued that the licensor is an independent unilateral entity that should have the right to deal with competitors as it sees fit. However, “[T]he absence of an unqualified duty to cooperate does not mean that every time a firm declines to participate in a particular cooperative venture, that decision may not have evidentiary significance, or that it may not give rise to liability in certain circumstances.”

In *Lorain Journal Co.*, the court held that this right was not unqualified. If a firm has been "attempting to exclude rivals on some basis other than efficiency, "it is fair to characterize its behavior as predatory. It is accordingly appropriate to examine the effect of the challenged pattern of conduct on consumers, on [the licensor’s] rival, and on [the licensor] itself. The court developed a two pronged test for exclusionary behavior. "[E]xclusionary' comprehends at the most behavior that not only (1) tends to impair the opportunities of rivals, but also (2) either

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39 See id.
40 See id.
42 See *Monsanto*, 465 U.S. 752 at 761.
45 *Aspen Skiing Co.*, 472 U.S. at 605; *See United States v. Aluminum Co. of America*, 148 F.2d 416, 432 (1945)
does not further competition on the merits or does so in an unnecessarily restrictive way.”

The two pronged “exclusionary” analysis in *Aspen* is typically applied when one competitor does something to disadvantage a rival. Thus, a court may apply the same analysis to the first scenario discussed in Section IIIA where a licensor discriminately gives one competitor an advantage through a cross-license, but denies the advantage to another.

With regard to the first prong of the *Aspen* analysis, exclusionary behavior must tend to impair the opportunities of rivals. As evinced in Section III, discriminatory cross-licensing may result in the competitors without a cross-license being disadvantaged compared to competitors with a cross-license. The rivals that are denied the benefit of a cross-license likely have lower margins resulting in higher pricing and impaired business opportunities. Thus, it appears the first prong of the *Aspen* analysis can be met.

With regard to the second prong of the *Aspen* exclusion test, the exclusionary behavior must either not further competition on the merits or does so in an unnecessarily restrictive way. With reference to the first scenario discussed in Section IIIA it was demonstrated that a licensor has the power to restrict cross-licenses to competitors that have a similar cost structure. This activity can restrict the vendor’s access to the market. By cross-licensing only select competitors who are on equal footing, the licensor furthers competition, but does so in a restrictive and discriminatory manner. Further, the licensor is typically bound to a RAND agreement where they agreed license all competitors in an unrestrictive way with non-discriminatory terms. Thus, it appears that both prongs of the *Aspen* analysis can be met and the licensor could be found in violation of Section One of the Sherman Antitrust act.

The next, potential issue is whether recurrent ex-ante cross-licensing by competitors violates Section One of the Sherman Act. In the scenario developed in Section IIIB, a group of

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46 *Aspen Skiing Co.*, 472 U.S. at 605.
competitors routinely execute pre-SSO portfolio cross-licenses exclusively between themselves. The treatise by Hovenkamp states “Under Section One of the Sherman Act, the act of refusal to allow open participation in the standard may have anticompetitive effects that antitrust law properly should address.”47 “Similar problems can occur even in nominally open groups, if voting or participation rules are structured in such a way that a subset of the membership has effective control.”48 One way antitrust treats exclusion from private groups is viewed as a horizontal group boycott or concerted refusal to deal with competitors. 49 Horizontal restraints of trade are defined as those “involving businesses at the same level of operation . . . agreement[s] between competitors to refuse to deal with one or more persons.”50 An illustrative case in this area is Northwest v. Pacific where a group of competitors excluded Pacific from participating in their warehousing arrangement.51 The court stated, “To be precise, Northwest’s activity is a concerted refusal to deal with Pacific on substantially equal terms.52 “Such activity might justify per se invalidation if it placed a competing firm at a severe competitive disadvantage.” 53 “In order for the denial of membership in an organization itself to be an antitrust violation, the anticompetitive harm must flow directly from that denial.” 54

48 Hovenkamp, supra note 47, §35 at 21.
51 See Northwest Wholesale Stationers, Inc., 472 U.S. at 297.
52 Id.
53 Id.
54 Hovenkamp, supra note 47, §35 at 23; See Official Airline Guides, Inc. v. FTC, 630 F.2d 920, 926 (2d Cir. 1980); Cf. Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 302 (2d Cir. 1979).
Thus, for a group of competitors to violate the Sherman antitrust act they must act in concert and refuse to deal with a rival on substantially equal terms placing the rival at a severe competitive disadvantage. Also, the harm to the rival must flow directly from that denial. These rules are typically used to evaluate the antitrust implications when a competitor is denied participation in an SSO “group”. However, a court may apply the same rules to a group of competitors that routinely execute pre-SSO portfolio cross-licenses exclusively with each other.

With regard to scenario two, if the group of competitors routinely executes pre-SSO portfolio cross-licensing agreements only within their group and not with outsiders, it appears they are acting in concert. Since none of the three competitors are executing portfolio cross-licenses with other rivals, that tends to show that they are either explicitly or implicitly acting together, refusing to deal with rivals on substantially equal terms.

Further, as discussed above, the lack of a portfolio cross-license agreement can place a competitor at a severe competitive disadvantage by requiring them to pay a royalty. There are no alternative means to compete in the market since the licensor has complete market power and full discretion to whom they grant cross-licenses. Finally, the harm to the rival flows directly from the denial of a portfolio cross-license. Thus, it appears that scenario two discussed in Section IIIB could also result in a violation of the Sherman Antitrust act.

The final potential issue raised is whether either cross-licensing scenario discussed in Section III violates the patent misuse doctrine. As a basic proposition, patent policy allows the grant of exclusive rights only under certain circumstances and only within a limited scope.55 Thus, patent policy is violated when the patentee attempts to expand that scope and circumvent

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the limitations of patent law through the coercive use of a government granted legal right.  

Typically, assertions of patent misuse are made with regard to tying arrangements or where a licensing agreement is used to fix pricing and control the market. In *Princo*, the court said it may be possible to find patent misuse “under a theory of elimination of competition or price fixing.”

As discussed in both scenarios above, when an SSO licensor discriminately cross-licenses some competitors, but not others they may provide those that have cross-licenses improved competitiveness. Further, if the licensor only cross-licenses competitors with a similar cost structure as they have, that act may be viewed as the patent holder using their patent rights to manipulate the competitive environment. It is unclear if patent misuse would be found in this scenario as it is a relatively unexplored area of patent law. However, if the patent holder is indeed manipulating the competitive environment by discriminately cross-licensing competitors, the law should find this to be beyond the scope of rights granted by the patent.

V. PROPOSED SOLUTION TO IMPROVE EQUITY OF CROSS-LICENSES

With the tremendous diversity in SSO agreements and organizational structures, a “one size fits all” solution is likely untenable. SSO organizations can comprise anywhere from three members to three thousand members, as is the case with some of the IEEE SSOs. Additionally, some standards only require a license of one patent from one licensor while some, like the AVC MPEG-4, require one thousand patents from twenty-nine owners spread across forty-four countries. Licenses for large standards like AVC MPEG-4 have become so complex that

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56 See Hovenkamp, supra note 47, §3 at 2b.
57 Princo Corp. v. Int’l Trade Comm’n, 563 F.3d 1301, 1314 (Fed. Cir. 2009)
58 MPEG-4 Part 10 or AVC (Advanced Video Coding) H.264 is a standard for video compression, and is currently one of the most commonly used formats for the recording, compression, and distribution of high definition video. http://www.mpegla.com/main/programs/AVC/Pages/FAQ.aspx (last visited Apr. 17, 2011).
independent third party license administrators like MPEGLA have sprung up to try to provide licensees a method to wade through the patent thicket. Still, even MPEGLA’s license for AVC MPEG-4 has a disclaimer that states the licensee is responsible for any other licenses that they do not have, or are not aware of. With such chaos and confusion in the marketplace, formulation of a single tractable solution is difficult, at best.

What is proposed in this paper is a two tier system similar to the “large entity” and “small entity” status the USPTO employs for patent filing fees. A small entity SSO would be something akin to an ad hoc group of a handful of competitors that would only require licenses to a few patents. Conversely, a large entity would be something like the MPEG-4 SSO where there would be hundreds of patents from tens of companies spread across numerous countries. These are large, complex SSOs, likely encumbered with numerous preexisting cross-licenses between many competitors. To give this system credibility, the Department of Justice would need to issue guidelines defining the metrics SSO entities would employ to determine their status and guide their operation. Upon the formation of an SSO, the members would vote to determine if they would be governed by small entity status or large entity status in line with the guidelines published by the Department of Justice.

A. Small SSO Solution

Under small entity status, the proposal herein is that ex post cross-licenses would be effectively banned. Once the SSO is formed, the “essential” patents required to practice the standard would be required to be disclosed and would not be able to be cross-licensed. If a

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59 MPEGLA is the world’s leading packager of patent pools for standards and other technology platforms used in consumer electronics, as well as chemical, eCommerce, education, energy, environment, healthcare and biotechnology, manufacturing and materials, transportation and wireless technology. http://www.mpegla.com/main/Pages/About.aspx (last visited May 13, 2011).
cross-license was executed after the formation of the SSO that intellectual property would be 
required to be licensed to all SSO members, royalty free.

If there were pre-existing cross-licenses on the technology before the formation of the 
SSO, the licensees and their relevant terms would be required to be disclosed to all members 
before the SSO selected the standard. Since companies do not like to disclose license terms, this 
would discourage licensors from cross-licensing before a standard selection if they think their 
patent may be destined for a standard. This would also allow the voting members of the standard 
to have fair notice regarding which companies may have an advantage by having obtained an ex ante cross-license. If the cross-license would materially affect their vote for the standard, then 
they could take this fact into consideration when casting their vote.

Indirectly, this solution would also encourage companies to ensure their ex ante cross- 
licenses were equitable so they would withstand the scrutiny of the voting members. If a 
company had executed a clearly inequitable ex ante cross-license, then it is likely that the 
members of the SSO would reject their technology. With the significant benefits of becoming a standard, it is also possible that the licensor would be strongly motivated to renegotiate the inequitable license agreement.

For very small SSOs with only a few patents the members could vote whether or not they 
would want to form a pool or maintain independent patents. If a pool was formed then the SSO members would vote on the relative valuation of each patent and the license fee. If no pool was formed then the license fee would be determined by the licensor in line with the “reasonable” terms agreed to in the SSO contract.

If an essential patent was developed after the formation of the SSO the licensor would be contractually bound to license it per the RAND terms. If the SSO technology moves in an
unforeseen direction and a preexisting patent becomes an essential patent, that SSO member would be required to license it per the RAND terms. Essentially, once a company agrees to become a member of an SSO they agree to license all essential patents required for that technology to the other members of the SSO for RAND terms. By no means are these rules intended to require the licensor to agree to inequitable terms. Every member of the SSO is still assured to receive a “reasonable” royalty in exchange for the benefit of becoming a “standard”.

If a company failed to disclose a material preexisting cross-license they would forfeit the right to collect royalties from any member of the SSO. To determine if it was a material failure to disclose, either an outside independent opinion could be rendered to ensure fairness or, the members of the SSO could decide by a vote. To ensure wide participation in SSOs, these rules may need to be tempered to not exceed the risk of forfeiture of rights the industry is willing to accept.

In view of today’s standards it is clear that stronger rules need to be imposed, swinging the pendulum of fairness and nondiscrimination back into balance. Such is the goal of this approach by strongly encouraging adherence to nondiscriminatory licensing behavior and prohibiting ex post cross-licenses.

**B. Large SSO Solution**

Large entity status would require the patent pool to be administered by a third party license administration agency. To ensure the agencies operate similarly and equitably, the Department of Justice would need to issue guidelines for their uniform operation, but in no way would they be operated by the government. All members of the SSO would be required to submit their “essential” patents to a third party licensing agency like MPEGLA. If the patents were not submitted and were later deemed essential to the standard, the company would forfeit
their rights to enforce them against all members of the SSO. Thus, companies would be encouraged to join the SSO for indemnification from these “hidden” patents. Alternatively, these hidden patents would be required to be added to the pool and valued accordingly. All of these terms would be included in the initial agreement signed when joining the SSO.

The third party agency would be in charge of reviewing the patents to ensure they were “essential” to practice the standard and would determine their relative valuation within the pool. Once the pool is formed, the third party would issue a list of the “essential” patents, their relative valuation and the price of the license. The SSO members would approve the proposal by their regular voting process.

Once approved, every company that desired to practice the standard would retain a license from the licensing agency. The agency would be in charge of using the valuation of each patent to determine the fair royalty each company would have to pay. If a company owned a primary patent that was valued at 25 percent, they would be assessed a royalty of only 75 percent. If two SSO members had cross-licensed patents within the pool, the third party agency would require royalties commensurate with the relative valuation of the cross-licensed patents. If a party had cross-licensed an essential patent prior to the formation of the SSO, those licenses would be required to be disclosed to members prior to selection of the standard. This disclosure requirement would discourage ex ante cross-licenses.

If there were essential patents required that were outside of the pool, the agency would compile a list of those and pursue adding them to the pool. The list would be disseminated to all SSO members. Companies that decline to join the pool would still be motivated to register their IP with the agency so they could be listed as “essential” and receive royalties. In effect, the third
party agency would be a one stop clearing house for all IP related to that specific technology, whether or not it was contained in the pool.

C. Solution Analysis for Small SSOs

With regard to requiring “small entity” SSOs to ban cross-licensing, it may be argued that this will cause companies that have executed equitable cross-licenses to engage in useless activities such as tracking sales, calculating royalty payments and sending royalty checks that essentially pass each other in the mail. However, this process is actually fairly simple and most sophisticated companies already have such a process for the myriad other patents that they license. This does not add significant cost to doing business and mitigates any and all confusion regarding the equitability of a cross-license. From a corporate standpoint, it also eliminates potential liability and damage to a reputation that can occur from assertions of antitrust violations or patent misuse.

It may be argued that the preclusion of cross-licensing will sufficiently deter innovators from developing products that are destined to become an SSO standard. Specifically, it may be argued that the reward-by-monopoly or the monopoly-profit-incentive theories of inventor motivation may govern and result in reduced innovation and SSOs in general. However, the contrary may be true.

The only real change proposed is that the licensor, which signed a RAND agreement, be precluded from making less than equitable cross-licenses. The licensor will be required to license all licensees for the same reasonable royalty. Nothing proposed in this paper would actually reduce the amount of royalty income that a licensor would make. Rather all that is

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proposed is that the licensor cannot accept “reduced” royalty rates from licensees by discriminately cross-licensing them. While it is acknowledged that this requirement would reduce the latitude licensors have in making license agreements, it should in no way reduce the tangible reward the innovator receives for their invention.

Looking at this from a broader perspective, it is argued that the requirement of a ban on cross-licenses is a fair trade for being selected as a standard. Prior to signing a RAND agreement an innovator has the choice to join the SSO and agree to the RAND terms or to try to develop their own standard outside of the SSO. However, once the innovator agrees to join the SSO there is a quid pro quo that takes place. The innovator receives the opportunity to get their technology adopted by competitors as the standard, resulting in an instantaneous monopolization of that market and the ability to set a reasonable royalty for guaranteed licensees. In trade, the innovator must give up his free market ability to set potentially higher royalty rates and the ability to cross-license that IP as they desire.

The final issue is whether the additional burden of removing the innovator’s ability to cross-license their IP deters them to the extent that the quid pro quo is no longer to their benefit and they choose to either try to develop their own standard outside of the SSO or they leave the market entirely. For the vast majority of cases it is argued here that the quid pro quo will still be more than sufficient to motivate the innovator to develop technology and remain a member of the SSO. As mentioned above, an SSO is typically only developed when there is a clear market and multiple competitors recognize that only one standard should dominate. The winner of the SSO competition not only receives the revenues from their own sales into that market, they also collect the royalties from competitor’s sales and enjoy greater margin or pricing flexibility on their own sales. Essentially, the winner is guaranteed a piece of each sale that takes place.
On the down side, the innovator cannot use that IP in a cross-license agreement. The result may require them to license another’s technology. However, if the IP they license was the same value as the IP they are precluded from cross-licensing, then the IP was equal in value and a cross-license was equitable. Thus, the only cost increase they will incur is the administrative cost of tracking and paying the license fees. This added administrative cost is negligible when compared to the pure cash royalty stream a “standard” product can bring to the bottom line.

D. Solution Analysis for Large SSOs

It may be argued that for “large entity” SSOs the costs of paying a third party license administrator would preclude inventors from participation since they would now have to share their royalties with the license administrator. However, these SSOs are often so large and diverse that the royalty generation is in the hundreds of millions of dollars each year so the costs of a license administrator are negligible. It is recognized that the initial setup of the administrator and assessment of the relevant patents may be quite expensive. However, with such large and diverse standards the benefits of such an administrator appear to be significant and outweigh the expenses.

With an administrator, a licensor can now confidently go to one organization to license their way through the patent thicket with certainty, whether or not the IP is within a particular pool. Further, a licensor is assured they are getting a fair value for their patent. Likewise, a licensee is assured they are paying a fair value for the license and that the third party is making sure everyone is licensed on a fair and even handed basis.

Further, it is argued that this process will encourage an increase in licenses and the associated royalty stream. Many licensors are likely not licensing such technologies today as the thicket is insurmountable and the difficulty of finding and negotiating with each licensor is
intractable. However, with the ability to go to one place and confidently license the necessary technologies, more companies will be encouraged to mitigate the risk of infringement by taking licenses.

Finally, most of these large pools require each licensee to have access to numerous patents to practice any part of the standard. If a company deems their IP is too valuable to contribute to the standard and they want to extract unreasonable royalties they need to consider the fact that they have very little market control. Likely, the SSO members who control the majority of the IP required to practice the standard will guide the standard away from the overpriced technology. Many times this results in adopting a less than optimal technical solution, however when the exorbitant royalties are considered, the consumer is typically still getting the optimal technology per dollar expended. This scenario is prevalent in the industry where SSO members will actually boycott certain technologies because of a demand for excessive royalties and a refusal to join the standard. This type of self governing, combined with the objectivity of a administrator and the Department of Justice guidelines, should provide a much more fair and predicable structure for large standards organizations.

VI. Conclusion

SSOs employ a diverse set of operating agreements with no accepted standard of how to interpret RAND contract terms. Cross-licensing technology subject to RAND terms is commonplace and this paper has shown that such cross-licenses can unfairly impact a company’s ability to compete. Several cross-licensing scenarios were discussed and subsequently analyzed using the doctrines of breach of contract, antitrust and patent misuse. The results indicate that those who execute such cross-licenses may be liable under one or more of the doctrines. A solution was posed wherein an SSO would be subject to different cross-licensing rules depending
primarily upon its size and complexity. The solutions offered appear to improve the fairness of cross-licensing arrangements without burdening the parties with undue costs.