Prepared Testimony of

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Cross-Licensing and Patent Pools

Before the
U.S. Department of Justice Antitrust Division and Federal Trade Commission
Hearings on Competition and Intellectual Property Law and Policy
in the Knowledge-Based Economy

April 17, 2002

Introduction

I am pleased to have the opportunity to submit this testimony regarding cross-licensing and patent pools in connection with the hearings being conducted jointly by the Antitrust Division of the Department of Justice and the Federal Trade Commission on "Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy."

I offer personal observations today in response to the staff's request. The opinions I express do not necessarily represent the views of my clients or other attorneys in my firm. The views are based on my personal experiences both at the Federal Trade Commission and in private practice. As Assistant Director of the Bureau of Competition at the FTC, I was responsible for antitrust enforcement actions in a variety of high-tech industries, including the computer hardware and software, and biotech, pharmaceutical and medical device industries. In private practice, over the last four years, I have counseled clients in these and other high-tech industries regarding licensing and patent pooling issues.

I should also note that I currently chair the American Bar Association Section of Antitrust Law Intellectual Property Committee. The Antitrust Section contributes not only to educating practitioners but also to furthering public policy debate regarding issues at the intersection of antitrust and intellectual property law through programs, publications, and on-line discussion. The Section, has, for example, just published a second edition of the *Federal Antitrust Guidelines for the Licensing of Intellectual Property: Origins and Applications*. We will also be sponsoring programs on some of the same issues being addressed during these hearings at the Antitrust Section's Annual Spring Meeting later this month in Washington and at a two-day program on *Antitrust and Intellectual Property: Competition and Innovation in High-Tech Industries* to be held June 6-7 in San Francisco. This testimony is my own, however, and is not submitted on behalf of the ABA.

I applaud this joint FTC/DOJ initiative to explore critical issues at the intersection of intellectual property and competition law and policy. Historically, many in the antitrust community viewed antitrust and patent law as necessarily in conflict, with the patent laws rewarding the inventor with a temporary monopoly frustrating the antitrust laws' goals to preserve competition, sometimes characterizing patents as "an exception to the general rule against monopolies."[1] Increasingly it is recognized that intellectual property is like other forms of property, patents do not necessarily create market power, and even when an invention is so successful that a patent does represent market power, there is no conflict between antitrust and intellectual property law. The two regimes are properly viewed as complementary, both aimed at encouraging innovation and competition.[2] Intellectual property law, by encouraging innovation, benefits consumers through the development of new and improved goods and services produced at reduced cost. At the same time, antitrust law, by protecting competition, promotes innovation as well as price competition. As Learned Hand put it so eloquently, "[p]ossession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; . . . immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress."[3] Moreover, economics teaches that the effect of technological progress quickly swamps even significant reductions in static efficiency over time.[4] Antitrust must focus on dynamic effects in order to be relevant in the 21st century.

There are of course difficult issues at the intersection of antitrust and intellectual property law. But with due respect for those that have expressed concern that the balance has tipped to give intellectual property "inappropriate weight," I believe it is wrong to speak of a "tradeoff between intellectual property and antitrust."[5] Antitrust enforcers must get beyond believing that they must police patents. It is equally inappropriate, of course, to characterize patentees as having "immunity from the antitrust laws."[6] "Intellectual property rights do not confer a privilege to violate the antitrust laws."[7] As former Assistant Attorney General William Baxter once commented, a "promise by the licensee to murder the patentee's mother-in-law is as much 'within the patent monopoly' as is the sum of $50.00, and it is not the patent law which tells us that the former agreement is not enforceable."[8] Issues at the antitrust/intellectual property interface are best resolved when each field has due respect for the other.

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[1] *Precision Instrument Mfg. Co. v. Automatic Maintenance Machinery Co.*, 324 U.S. 806, 816 (1945).
[2] *See, e.g.*, *Atari Games Corp. v. Nintendo of America, Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990).
[3] *United States v. Aluminum Company of America*, 148 F.2d 416, 427 (2d Cir. 1945).
[4] *See, e.g.*, F.M. Scherer & D. Ross, *Industrial Market Structure and Economic Performance* 31, 613 (3d ed. 1990).
[5] R. Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, Remarks Before the Antitrust, Technology and Intellectual Property Conference (March 2, 2001).
[6] *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F. 3d 1059, 1068 (Fed. Cir. 1998).
[7] *United States v. Microsoft Corp.*, 253 F.3d 34, 63 (D.C. Cir. 2001) (*quoting In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1325 (Fed. Cir. 2000)).
[8] W. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 Yale L.J. 267, 349-52 (1966).

Patent Pools

Turning directly to the topic before us, the Department of Justice and Federal Trade Commission have provided much useful guidance to businesses and their counselors in recent years with respect to antitrust rules for patent pools. We now all look regularly to the 1995 DOJ/FTC *Antitrust Guidelines for the Licensing of Intellectual Property* (the *IP Guidelines*), DOJ Business Review Letters on the MPEG and DVD pools, and FTC enforcement actions, most notably *In the Matter of Summit Technology, Inc*. Further clarification of the *Guidelines* or other pronouncements may be useful to refine policy in particular areas and additional enforcement actions may be warranted in certain factual circumstances to protect the public interest in competition. This testimony summarizes my understanding of current governing legal principles and then returns to those areas that may warrant further clarification or enforcement action.

Most discussions of antitrust rules applicable to cross-licenses and pooling arrangements begin with a definition. Some distinguish cross-licensing, that is the interchange of intellectual property rights directly between two or more persons, and patent pools, described as the aggregation of intellectual property rights, whether transferred directly by patentee to licensee or through some medium, such as a joint venture, set up specifically to administer the pool.[9] The *IP Guidelines* explain simply that "cross-licensing and pooling arrangements are agreements of two or more owners of different items of intellectual property to license one another or third parties." *IP Guidelines* ¶ 5.5.

It is also helpful at the outset to distinguish competing, complementary and blocking patents. Competing patents are generally viewed as substitutes for each other, where there are separate patents covering alternative processes for manufacturing a product, for example. Complementary patents cover technologies that may be used together and are not substitutes for each other. One patent blocks another if it cannot be practiced without infringing on the basic patent.[10]

One of the bedrock principles of the *IP Guidelines* is that intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive. *IP Guidelines* ¶ 2.0. The *Guidelines* explain that such arrangements can lead to more efficient exploitation of intellectual property, benefiting consumers through the reduction of costs and the introduction of new products. By increasing expected returns from intellectual property, licensing also increases the incentive for its creation and thus promotes greater investment in research and development.

Field of use, territorial, and other limitations on intellectual property licenses once condemned,[11] are now recognized to generally serve procompetitive ends by allowing a

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[9] *See*, *e.g*., J. Klein, *Cross-Licensing and Antitrust Law*, Before the American Intellectual Property Law Association (May 2, 1997).

[10] *See generally* R. Andewelt, *Analysis of Patent Pools Under the Antitrust Laws*, 53 Antitrust L.J. 611 (1984).

[11] *See* B. Wilson, *Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions*, *in* Antitrust Primer: Patents, Franchising, Treble Damage Suits 11, 12-14 (1970) *cited in* Sheila F. Anthony, *Antitrust and Intellectual Property Law: From Adversaries to Partners*, 28 AIPLA Quarterly Journal 1 (Winter 2000);

licensor to exploit its property as efficiently and effectively as possible. By protecting a licensor or licensee from free-riding, these various forms of exclusivity may increase the licensor's incentive to license and may give a licensee the incentive to invest in the commercialization and distribution of products embodying the licensed intellectual property and to develop additional applications. *IP Guidelines* ¶ 2.3.

The *Guidelines* recognize as a fundamental matter that antitrust concerns may arise when a licensing arrangement limits competition among entities that "would have been actual or likely potential competitors in a relevant market in the absence of the license." That is, antitrust concerns most often arise where a licensor and licensee are in a "horizontal relationship." *IP Guidelines* ¶ 3.1. Thus, in most cases, restraints in intellectual property licensing arrangements will be evaluated under the rule of reason. The DOJ and FTC inquire whether a restraint is likely to have anticompetitive effects and, if so, whether the restraint is "reasonably necessary" to achieve procompetitive benefits that outweigh those anticompetitive effects. *IP Guidelines* ¶ 3.4.

Supreme Court Precedent

Antitrust analysis of patent pools necessarily starts with Justice Brandeis' seminal opinion in *Standard Oil Co. v. United States*, 283 U.S. 163, 170-77 (1931), which held lawful a patent pool among competing oil companies under the rule of reason as necessary for each party to practice its own inventions since the patents were blocking. The Supreme Court there rejected the government's argument that the pool eliminated competition between patent owners in the independent licensing of their patents and thereby increased the manufacturing costs of gasoline.

The *Standard Oil* Court reasoned that settling conflicting patent claims by pooling can be economically beneficial and is often necessary for technological advancement:

> [a]n interchange of patent rights and a division of royalties according to the value attributed by the parties to their respective patent claims is *frequently necessary if technical advancement is not to be blocked by threatened litigation*.

The Court concluded patent pools are necessary for technological progress where patents are blocking:

> This is often the case where patents covering improvements of a basic process, owned by one manufacturer, are granted to another. A patent may be rendered quite useless, or "blocked," by another unexpired patent which covers a vitally related feature of the manufacturing process. Unless some agreement can be reached, the parties are hampered and exposed to litigation. And, frequently, the cost of litigation to a patentee is greater than the value of a patent for a minor improvement.

B. Wilson, Address Before Michigan State Bar Antitrust Section and Patent, Trademark and Copyright Section (September 21, 1972), *partial text reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,125.

In upholding the oil industry pool, the Court stressed the fact that the cracking patents were available to all potential licensees: "[i]f the available advantages [of the patents] are open on reasonable terms to all manufacturers . . . such interchange may promote rather than restrain competition."

The Court was at the same time sympathetic to the government's contentions that the royalty provisions imposed excessive fees and allowed the pool participants to fix prices. The Court acknowledged the competitive threat posed:

> *If combining patent owners effectively dominate an industry, the power to fix and maintain royalties is tantamount to the power to fix prices* . . . Where domination exists, a pooling of competing process patents, or an exchange of licenses for the purpose of curtailing the manufacture and supply of an unpatented product is beyond the privileges conferred by the patents and constitutes a violation of the Sherman Act. The lawful individual monopolies granted by the patent statutes cannot be unitedly exercised to restrain competition.

The Court held that "[u]nless the industry is dominated, or interstate commerce directly restrained, the Sherman Act does not require cross-licensing patentees to license at reasonable rates others engaged in interstate commerce." In *Standard Oil*, the Court found substantial competition in the end product marketplace from gasoline made by other cracking processes and by older, non-cracking processes. Therefore, the pool participants did not have the kind of dominance necessary for the pool to be unlawful.

One other Supreme Court decision reflects the anticompetitive potential of patent pools. *Hartford-Empire Co. v. United States*, 323 U.S. 386 (1945), involved a large pool of hundreds of patents relating to glass container manufacturing technology. Over 94 percent of all glass containers manufactured in the United States at the time were made on machinery licensed under the pool. The pool was found to restrict competition by granting exclusive and semi-exclusive fields of use to manufacture types of glassware and by mandating production quotas for licensees in those fields. The pool thus had the anticompetitive effect of precluding competition which otherwise would have occurred among patent owners in downstream markets.

While these hearings are primarily focused on patent practices, the Supreme Court decision in *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1, 23 (1979), which addressed copyrights, is also instructive. The Court there approved a blanket license for music copyrights to allow users to broadcast licensed works. The Court rejected the argument that the licensing arrangement constituted illegal price fixing, reasoning that agreement on price was necessary for the creation of a new product. If broadcasters had to negotiate with each individual holder of performance rights in each musical work, transaction costs would have been prohibitive.[12]

[12] The *IP Guidelines* incorporate this concept by recognizing that "substantially reducing transaction costs" qualifies as an "efficiency enhancing integration of economic activity" sufficient to warrant rule of reason treatment of restraints in licensing arrangements. *IP Guidelines* ¶ 3.4.

Put simply, the case law stands for the proposition that pools are efficient mechanisms for dissemination of technologies that require access to a large number of patents held by multiple parties, but may also lessen competition in licensing of technology and in downstream markets. "The lawful individual monopolies granted by the patent statutes cannot be unitedly exercised to restrain competition." *Standard Oil Co. v. United States*, 283 U.S. at 174.

The 1995 IP Guidelines

Building upon the court decisions, the *IP Guidelines* explicitly recognize that patent pools may provide competitive benefits by (1) integrating complementary technologies, (2) reducing transaction costs, (3) clearing blocking positions, and (4) avoiding costly infringement litigation. The key point is that patent pools are procompetitive where they serve to "promot[e] the dissemination of technology." *IP Guidelines* ¶ 5.5.

The *Guidelines* recognize that pools can also be anticompetitive. Thus, the agencies advise that pooling arrangements will be challenged as *per se* unlawful if they are "mechanisms to accomplish naked price fixing or market division." The *Guidelines* explain further that exclusion from a pooling arrangement where pool participants "collectively possess market power" may harm competition where "excluded firms cannot effectively compete in the relevant markets for the good incorporating the licensed technologies." *Id.*[13]

The *Guidelines* also warn that pooling arrangements may deter or discourage participants from engaging in research and development. As the *Guidelines* explain, for example, an arrangement that requires members to grant licenses to each other "for current and future technology" may reduce incentives to engage in R&D. Where members of a pool have to share successful R&D and each of the members can free ride on the accomplishments of other pool members, the arrangement may retard innovation. *Id.*

The DOJ Opinion Letters

Antitrust counseling today with respect to patent pools is driven largely by three DOJ Business Review Letters issued during 1997-1999. Those letters state the Department's present intention not to initiate enforcement action based upon the requestors' representations and assurances but reserving the right to take action if the pools prove to

[13] The leading antitrust treatise similarly advises that a patent licensing scheme that is "unreasonably exclusionary" may be found unlawful because of the "market power of the participants and the success of the scheme in deterring entry without producing significant procompetitive benefits." The treatise notes that the Supreme Court has condemned "arrangements under which the dominant firm or firms in an industry have pooled patents from a number of inventors and then denied rivals access to the technology." H. Hovenkamp, XII *Antitrust Law*, ¶ 2043 at 238 (1999 ed.) (*citing United States v. Besser Mfg. Co.*, 96 F. Supp. 304, *aff'd*, 343 U.S. 444 (1952) (Sherman Act violated where "the patentees have joined hands with the two largest competitors in the industry and by terms of their agreement have virtually made it impossible for others to obtain rights under those patents")).

be anticompetitive in purpose or effect. The three letters relate to the MPEG LA and DVD patent pools.[14]

In those letters, DOJ specifically identified potential competitive concerns and restrictions in the proposed pools to prevent such anticompetitive effects. The letters explained that the pools might restrict competition:

- among intellectual property rights within the pool;
- among downstream products incorporating the pooled patents; or
- in innovation among parties to the pool.

To prevent such concerns the opinion letters set forth a road map of practices that should minimize antitrust risk. Those limitations would require that patent owners:

- limit pools to patents essential to implementing the standard;
- ensure royalties are small relative to the total cost of manufacturing downstream products;
- license on a nondiscriminatory basis to all interested persons;
- allow each patent holder to license its patents outside the pool;
- limit access to competitively sensitive proprietary information; and
- avoid grantback provisions that limit incentives to innovate.

The Limitation to "Essential" Patents

A pool presents the greatest risk of harming competition when it is comprised of patents deemed to be "competing" or "substitutes." By combining substitute patents, a pool can be used as a price-fixing mechanism, ultimately raising the price of products and services that utilize the pooled patents. Thus, *Standard Oil* focuses on combining "blocking patents" and the *IP Guidelines* focus on combining "complementary technologies."

Price fixing was the core allegation in the FTC's 1998 challenge to Summit Technology and VISX's patent pool involving patents for photo refractive keratectomy (PRK) vision correcting eye surgery.[15] The FTC there alleged that Summit and VISX pooled existing and future patents in a partnership to license third parties. Each firm "relinquished the right to unilaterally license" and each was given the right and power to prevent the pool from licensing any of the pooled patents. Moreover, according to the FTC, the two firms agreed each would pay a per procedure fee to the partnership pool, the level of

[14] *See* MPEG LA Business Review Letter (June 26, 1997); DVD 3C Business Review Letter (December 16, 19980; DVD 6C Business Review Letter (June 10, 1999). The MPEG LA pool contains patents used to implement the MPEG-2 standard approved as an international standard by the Motion Picture Experts Group of the International Organization for Standards (ISO) and others for compressing video data, allowing savings in storage and transmission. The DVD pools contain patents used to implement the Digital Versatile Disc-Video and Read-Only-Memory standard specifications adopted privately by the pool members and one other firm. The DOJ DVD letters refer only to members of the pools, but those pools are generally known by the number of companies in each pool (Philips, Pioneer, and Sony = 3C; Hitachi, Matsushita, Mitsubishi, Time Warner, Toshiba, and JVC = 6C).

[15] *Summit Technology, Inc. and VISX, Inc.*, Dkt. No. D-9286, Complaint (March 24, 1998).

which would be set at the "higher of the amounts separately proposed" by either firm. The FTC characterized this arrangement as "price fixing under the guise of a patent cross-licensing arrangement."[16]

In a key allegation, the FTC asserted Summit and VISX "could have and would have competed" with one another in the sale or lease of PRK equipment by using their respective patents, licensing them, or both, even "in the absence of" the pooling agreement. The FTC alleged Summit and VISX also "would have engaged in competition" with each other in connection with the licensing of technology related to PRK. While recognizing the Summit-VISX pool reduced the uncertainty and expense associated with patent litigation, the FTC nonetheless reasoned that Summit and VISX could have entered "simple licenses or cross-licenses that did not dictate prices to users or restrict entry," and, significantly, "patent infringement would not have precluded either firm from coming to market."

The three DOJ Business Review Letters address the concern that the pool be comprised only of blocking or complementary and not substitute patents by requiring that pooled patents be "essential" as opposed to "merely advantageous" to implement the standard. Much of the analysis in the DOJ opinion letters is on the independence of the expert retained to assess essentiality as a guarantor that the patents are complements, not substitutes. The letters also address the specific "essentiality" standard applied, which is "technical essentiality" in one pool, "necessary as a practical matter" for which existing alternatives are "economically unfeasible" in the second, and "no 'realistic' alternative" in the third, interpreted to mean "economically feasible."

Inclusion of two or more non-essential patents may in fact be necessary for a pool to be used as a price fixing scheme. Even the inclusion of one non-essential patent, however, risks foreclosing markets to competing patents outside the pool. A licensee would not be expected to purchase both a pool license, with non-essential patents included, and a non-essential substitute, even if that substitute might be superior.

Practical Issues

There are several practical issues that arise in implementing the current standard.

First, the DOJ Business Review Letters state that a fundamental premise in the analysis is that the patents to be licensed are valid since a licensing scheme premised on invalid intellectual property will not withstand antitrust scrutiny. More generally, the *IP Guidelines* require analysis based upon a conclusion that patents are valid and would be infringed in the absence of the license, and blocking or complementary. Definitive conclusions as to such issues, however, are often made only after years of litigation. In most situations, firms must make licensing or cross-licensing decisions without even the luxury of hiring an independent expert. In practice, business decisions must be made in a world of uncertainty. Business officials require guidance as to whether conduct is lawful

[16] *Prepared Statement of the Federal Trade Commission*, Before the United States Senate Committee on the Judiciary, Subcommittee on Antitrust, Business Rights, and Competition (March 22, 2000).

or not depending upon reasonable judgments made in good faith, and should not face treble damages if a patent thought to be valid turns out to be invalid or a conclusion that a patent is blocking is proven wrong. Further guidance would be useful to the effect that it is appropriate to rely upon good faith, reasonable determinations that it is more likely than not that a patent is valid and infringed.

On the other side of the equation, firms that take licenses to patent pools ought to have a mechanism to bring relevant information regarding the validity and essentiality of patents in the pool to the attention of the pool's expert. Small individual licensees of a large portfolio of patents otherwise have little incentive to mount an expensive legal challenge where even if successful they are likely to knock out only a small percentage of patents in the portfolio, and benefit all licensees. Even where the royalty allocation formula provides some incentive to pool members to exclude non-essential patents, an effective mechanism is necessary for licensees to do likewise, and reduce the royalty as a consequence. Otherwise, there should be a legitimate concern that combining patents of "uncertain scope and validity" strengthens all of the patents in the pool since a challenger only needs to lose on one patent to be enjoined. This concern has been expressed by the FTC in several merger cases challenging the creation of a "killer patent portfolio."[17]

A further issue is raised as to the meaning of "essentiality" where some patents may be technically essential to implement a standard but are not essential as a practical matter for certain potential licensees. This may be the case, for example, where potential licensees already have a license to some of the patents in the pool under an agreement with a member of the pool. Current practice for at least some pools appears to be to insist that all prospective licensees take a single license to the pool's entire patent portfolio, leaving prospective licensees a coercive "take it or leave it" choice that is not a "realistic economic choice." The effect is to condition a license to some patents to a license to others. Ease of administration may be a valid justification for package licenses of blocking or complementary patents where such licenses are voluntary, for the mutual convenience of the parties.[18] But conditioning a license on taking a license to all the patents of multiple patent owners combined in a single portfolio that a particular firm does not need leaves the firm paying twice for the right to use the technology. Mandatory package licensing ought to be unlawful where a firm is compelled to accept licenses under patents that are "not necessarily needed."[19]

[17] *See Ciba-Geigy, Ltd*., 123 F.T.C. 842 (1997) ("[t]he merger will heighten barriers to entry by combining portfolios of patents and patent applications of uncertain breadth and validity, requiring potential entrants to invent around or declare invalid a greater array of patents"; "[t]he merger will create a disincentive in the merged firm to license intellectual property rights or to collaborate with other companies"; "[w]hereas before the merger third parties might have had the option of licensing one party's patents or challenging the validity of the other's, the merger created a "killer" patent portfolio so broad as to create a disincentive to license third parties"); *Hoechst A.G*., Dkt. C-3919 (2000). *See also* W. Tom and J. Newberg, "U.S. Enforcement Approaches to the Antitrust/Intellectual Property Interface," in *Competition Policy and Intellectual Property Rights in the Knowledge-Based Economy* 343, 371 (1998).
[18] *See, e.g*., *Automatic Radio Mfg. Co. v. Hazletine Research, Inc.*, 339 U.S. 827, 833 (1950).
[19] *International Mfg. Co. v. Landon, Inc.*, 336 F.2d 723, 729-30 (9th Cir. 1964), *cert. denied*, 379 U.S. 988 (1965).

Potentially even more troubling, what is essential may change over time, if licensees have the incentive to innovate in ways that may reduce costs. On the other hand, if there is no mechanism for existing licensees or new entrants to establish that a patent is not essential and to pay lower royalties when such firm only needs a portion of the patents in a pool, there will be little incentive to improve upon the standard.

The answer sometimes raised to these sorts of concerns is the suggestion that licenses are always available from the individual patent holders and therefore such a restraint is not problematic. DOJ is correct to mandate that pools of complementary patents be non-exclusive and licensors retain the right to license their patents individually. Otherwise, as in Summit-VISX, pool members might exclude competitors from access to the pooled technologies by requiring mutual consent among the participants before licenses under any of the pooled technologies may be granted. Still, individual patent holders will only license their patents outside the pool when it is in their individual interest to do so. The theoretical prospect that potential licensees can obtain individual licenses from a large number of individual patent holders in a pool at a total "reasonable" price is unrealistic, given the transaction costs that justify the creation of the pool in the first place and the target price set by the pool's own allocation formula. It is likely that the sum of individually negotiated royalties will exceed the price for the entire pool.

Foreclosure of Competition in Related Markets

Patent pooling arrangements may affect competition not only in the technology market, but also in related downstream markets that use the pooled technologies as inputs. For example, in the DVD Business Review Letters, DOJ recognized the pools might affect competition in downstream markets such as markets for the production of DVD players and discs and for the creation of content to be incorporated onto DVD discs.

The DOJ Business Review letters approved the MPEG and DVD pools with limitations aimed at ensuring they would not foreclose competition in downstream markets. First, DOJ noted in each case that the agreed royalty was a "tiny fraction" of downstream product prices or "small relative to the total costs of manufacture." Second, DOJ emphasized that the proposed pool "should enhance rather than limit access to the Licensors' 'essential' patents" because the pool is required to license "on a non-discriminatory basis to all interested parties," and cannot "impose disadvantageous terms on competitors."

Indeed, in the MPEG letter, DOJ approved having a common licensing administrator "grant licenses . . . on a nondiscriminatory basis," and collect royalties, and distribute them pro-rata . . . pursuant to a pro-rata allocation based on each Licensor's proportionate share of the total number of Portfolio patents." DOJ required that the licensor provide the "same terms and conditions to all would-be licensees" and required that MPEG incorporate a "most-favored-nation" clause ensuring against any attempt to discriminate to the disadvantage of rivals.

In seeking the Business Review Letter, the companies in the 6C pool represented to the government that the licensors would make the essential DVD patents available on "fair, reasonable and non-discriminatory terms" for the manufacture of products conforming to the DVD specifications. The companies reiterated this representation in arguing the 6C pool would "provide substantial competitive benefits without curtailing competition":

> "The DVD Licensing Program does not threaten to disadvantage competitors. … [T]he MOU here obligates members of the pool to make all of their present and future essential DVD patents available on fair, reasonable and non-discriminatory terms to third parties. . . . The DVD Portfolio License . . . includes a most-favored nations clause entitling any licensee to the benefit of favorable royalty terms offered to any other licensee."

The companies also argued that the royalty rates proposed by the DVD pool were "reasonable." The companies concluded that "[b]y facilitating licensing of DVD technology, the Licensing Program will also make the benefits of this new technology broadly available to consumers more quickly and encourage the development of competition among DVD products, thereby reducing prices and increasing the performance and functionality that consumers may expect in the marketplace."

In approving the pool, DOJ considered whether the pool was "likely to impede competition . . . between any Licensor and licensees or other third parties." DOJ concluded, in its Business Review Letter, "[b]ased on what you have told us, the proposed licensing program does not appear to have any anticompetitive potential in the markets in which the licensed technology will be used." The Justice Department reached this conclusion because

> "First, the agreed royalty is sufficiently small relative to the total costs of manufacture. . . . Second, the proposed program should enhance rather than limit access to the Licensors' 'essential' patents. Because [the pool] must license on a non-discriminatory basis to all interested parties, it cannot impose disadvantageous terms on competitors, let alone refuse to license them altogether."

DOJ noted also that "each Licensor's commitment to license its 'essential' patents independently of the pool on reasonable, non-discriminatory terms may further ensure that the proposed program facilitates, rather than forecloses, access."

<u>Practical Issues</u>

Several issues are raised by this analysis.

First is the question what is a "reasonable" royalty. In its letter on the 6C pool, DOJ itself recognized that "the meaning of 'reasonable" is open to various interpretations." While intuitively a royalty of less than a few percentage points may seem small, there is no standard in either the DOJ opinion letters or in the case law to guide business officials.

Closely related to the first point is what happens over time. The MPEG and DVD per disc royalties are set in cents per unit while the DVD player royalties are set as a percentage of sales price with a minimum per unit fee. The problem with this approach is that a royalty that appears small when imposed may grow to be significant over time as costs of producing downstream products fall, as they often do in high-tech industries. In order to be considered small, parties should be required to charge a percentage royalty – or at least have a percentage cap – that cannot grow to be more significant over time.

Also related is the question of how to account for multiple royalties imposed by different pools or independent technology owners in evaluating whether a royalty is small. Coincidentally, the three patent pools addressed in the DOJ opinion letters, MPEG, DVD 3C and DVD 6C, all apply to DVD disc manufacturers. In fact, in addition, royalties may be imposed on disc manufacturers by several other sources as well. In evaluating the reasonableness of a royalty, the relevant figure may well be the sum of all royalties imposed, and not just that imposed by a single pool.

In addition, further clarification is essential as to permissible discrimination. The DVD pools appear to have narrowed their representations limiting discrimination without comment in the DOJ Business Review Letters compared to the MPEG pool. The MPEG letter clearly provides that the pool will provide "the same terms and conditions to all licensees." On the other hand, the DVD 3C pool includes only a "most favorable conditions" clause entitling licensees to the benefit of any lower royalty "rate" granted licensees under "otherwise similar and substantially the same conditions." The DVD 6C pool promised "a most-favored nations clause" entitling licensees to the benefits of "favorable royalty terms offered to any other licensee." In practice, the DVD pools are now offering different royalty rates to different licensees, depending upon when prospective licensees sign licenses. Even when offering the same royalties, the DVD pools are offering different terms to different licensees. Given the potential for significant differences in effective price through non-price terms, such discrimination may swallow the prohibition if allowed.

Some discrimination may be appropriate, in licensing firms using pooled technology in different applications. Indeed, the DOJ Business Review Letters, without comment, allow the DVD pools to charge different rates to firms producing DVD players and those producing DVD discs. Thus, for instance, it might be appropriate to allow different royalties rates to be charged firms selling stand-alone DVD players to be used with televisions and to firms selling computers with DVD drives, so long as those downstream products do not compete. All firms producing competing products must, however, be treated similarly to prevent the pools from being used to foreclose downstream competition.

Finally, and perhaps most significant, I understand that there are situations where pool members have a license to pooled technology at zero royalty, or at some royalty less than that charged under the pool licenses to independent licensees. That is, discriminatory royalties are being charged to similarly situated firms that compete in downstream markets, imposing disadvantageous terms on independent competitors that have to take the pool license. The combined impact of a substantial royalty and this discrimination completely undermines the theoretical justification for patent pooling: the dissemination of technology. That is, such a pool is no longer "an efficient and procompetitive method of disseminating [intellectual property] rights to would-be users." It is instead a *de facto* exclusive agreement to limit licensing and stop competition.[20] The adverse effect of this practice is to allow inefficient competitors to dominate downstream markets by combining the power of the patents in the pool to the exclusion of efficient independent competitors. The preferred approach, approved in the MPEG Business Review Letter, is to require each of the pool members to pay royalties to an independent administrator, and obtain their proportionate share of all royalties in a lump sum distribution.

Effect on Innovation

It is also necessary to consider the impact of patent pools on innovation. The DOJ Business Review Letters require that pools not discourage innovation, either through "outright prohibition or economic incentives," by any licensor or licensee developing rival products or technologies.

The government has paid particular attention to grantback clauses, noting that grantbacks may reduce licensees' incentives to innovate and threaten competitive harm. In approving the 3C pool, DOJ considered grantback obligations which it concluded would likely force cross-licenses on "reasonable, non-discriminatory conditions" only on "already extant" essential patents. DOJ noted that the scope of the grantback was "commensurate" with that of the pool, covering only essential patents. The Business Review Letter concluded that the grantback was "so narrow" that it should not create any disincentive among licensees to innovate. Moreover, the grantback could limit holdouts' ability "to extract a supracompetitive toll" from licensees and lower licensees' costs in assembling the patent rights essential to compliance with the standard.

In the DVD 6C letter, DOJ approved grantback provisions that plainly covered essential patents obtained in the future on the grounds that the grantback was "commensurate" with that of the license. Moreover, the pool's royalty allocation formula weighted royalties so newer patents were weighted more heavily than older ones. DOJ reasoned that the pool thus did not prevent firms from capturing value in non-essential technology and licensors would benefit from introducing new essential patents into the pool.

In this context, DOJ has also focused attention on termination rights that allow withdrawal from a particular licensee's portfolio license if the licensee sues for infringement and refuses to grant a license on fair and reasonable terms. DOJ has approved pools with a partial termination right, allowing a licensor to withdraw from a licensee's port-

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[20] *See DOJ/FTC Antitrust Guidelines for the Licensing of Intellectual Property* ¶ 4.1.2, Ex. 11 ("nominally non-exclusive" licenses may be "exclusive in fact" and "give rise to the same concerns as posed by formal exclusivity").

folio license if sued for infringement of an essential patent or a related patent by a licensee that refuses to grant a license on "fair and reasonable terms." At the same time, however, DOJ expressed concern that a partial termination right designed to benefit all portfolio licensees would function much like a compulsory grantback, and thus could have a significant impact on the incentive of licensees to engage in R&D.

Practical Issues

In recent years, a number of standards agreements and patent pools in high-tech industries have contained broad grantback provisions and termination rights. Such provisions certainly cannot be characterized as narrow, limited to essential, extant patents, or commensurate with the license. Promoters of these provisions have argued that they lead to broad cross-licensing and are therefore efficient. On the other hand, these provisions may reduce incentives for innovation rivalry. For instance, I have seen agreements that automatically terminate a party's license if a licensee initiates any infringement action. Notably, such provisions (1) cover entirely unrelated technology, (2) cover future as well as present patents, (3) cover non-essential as well as essential patents, and (4) provide for termination regardless of the other firm's willingness to grant a license on reasonable terms. Potential licensees often have little choice but to accept such terms.

Further guidance on the practical issues identified above through revised Guidelines, additional Business Review Letters and enforcement actions would give a clearer roadmap to intellectual property owners considering forming patent pools and to businesses negotiating licenses with such pools.