Survey of Patent Pools Demonstrates Variety of Purposes and Management Structures

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David Serafino[1]
Knowledge Ecology International

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[1] Several persons provide helpful comments on earlier drafts, including Paul Botto, Judit Rius, Manon Ress, Ben Krohmal, and James Love.

Introduction

The collective management of intellectual property rights is a term used to describe methods of managing large portfolios of intellectual property assets, including patents, copyrights, trademarks, know-how and data. Patent pools are one such mechanism.

A "patent pool" is an agreement between two or more patent owners to license one or more of their patents to one another or to third parties.[2] In its 2001 White Paper on Patent Pools, the USPTO said, "A patent pool allows interested parties to gather all the necessary tools to practice a certain technology in one place, e.g, 'one-stop shopping,' rather than obtaining licenses from each patent owner individually."[3]

The following paper provides a summary of features of 35 patent pools organized or proposed from 1856 to the present.

Each of the patent pools was organized in response to a particular set of policy objectives and circumstances. Their purposes were heterogeneous. Some were organized in order to promote the interests of monopolists or cartels. Others were organized to promote competition and benefit the users of patents. There are pools that manage the patents on standards for new information technologies, that enhance R&D for new biomedical or biotechnology agricultural products, or that seek to promote other objectives. Some pools are organized by patent owners, others by manufacturers, and yet others by non-profit institutions, including governments.

There is no single reason for creating a patent pool and no single way to manage a patent pool.

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[2] A patent pool may also be defined as "the aggregation of intellectual property rights which are the subject of cross-licensing, whether they are transferred directly by patentee to licensee or through some medium, such as a joint venture, set up specifically to administer the patent pool." See Joel I. Klein, An Address to the American Intellectual Property Law Association, on the Subject of Cross-Licensing and Antitrust Law (May 2, 1997), (noting that United States v. Line Materials , 333 U.S. 287, 313 n.24 (1948) states that the term "patent pool" is not a term of art.)

[3] Jeanne Clark, Joe Piccolo, Brian Stanton, and Karin Tyson, "Patent Pools: A Solution to the Problem of Access in Biotechnology Patents?" United States Patent and Trademark Office, December 5, 2000.

Early pools associated with monopolies and cartels (1856-1919)

Sewing Machine Combination – 1856

Purpose/Technology

The purpose of the Sewing Machine Combination was to manage patents on sewing machines in order to avoid litigation between patent-holders as well as to sustain artificially high prices for the licensed machines.

Management

Three sewing machine manufacturers, I. M. Singer Co., Wheeler & Wilson Co., and the Grover & Baker Co., were embroiled in litigation until Orlando B. Potter, a lawyer and president of the Grover and Baker Company, proposed that these manufacturers pool their patents, rather than sue one another into bankruptcy. This agreement was the first patent pool. They agreed to form the Sewing Machine Combination, but doing so required the cooperation of Elias Howe, who held vital, uncontested patents from which he received a royalty on every sewing machine manufactured by any company. Howe was offered royalties on his invention, and subsequently joined the Combination.

Royalties

The Sewing Machine Combination levied a royalty rate of $15 per machine produced by the licensees. Of that, Howe received five dollars. Three dollars went to a legal fund, and the remainder was divided equally among the four members, giving Howe an extra share.[4]

Other interesting information

Because of pooled resources and the decrease in litigation expenses, manufacturers began to mass-produce sewing machines as never before. For example, I.M. Singer & Co., which manufactured 2,564 machines in 1856, was able to produce in excess of 13,000 machines annually by 1860. In the 1860s, massive orders for uniforms during the Civil War made Howe and Singer (the government's primary supplier) millionaire inventors.

In addition, manufacturers could design and market sewing machines for home use for the first time because of improvements resulting from the incorporation of all the patented technologies into a single machine.[5]

The fact that the Combination was able to inflate prices is best substantiated by the fact that, on the day of the last patent's expiry, I.M. Singer reduced prices by 50% in order to compete on the open market.[6]

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[4] "To the Victor, the Spoils." Article on http://www.imacs.com, website of the International Sewing Machine Collectors' Society.

[5] Thomson, Ross. Learning by Selling and Invention: the Case of the Sewing Machine. The Journal of Economic History, Vol. 47, No. 2, The Tasks of Economic History (Jun., 1987), pp. 433-445.

[6] "Bachelder's Patent" ISMACS News, Issue 22.

National Harrow Company - 1890

Purpose

The purpose of the National Harrow Company was to defuse litigation between patent-holders and to enable price-fixing between manufacturers.

Management

The National Harrow Company was a holding company formed in 1890-91 among 6 manufacturers controlling 90% of the U.S. market in spring tooth harrow production. This holding company was responsible for administering the patents.[7]

Royalties

Members were obliged to pay a one-dollar royalty for each harrow sold, and the company set uniform price schedules to which the various companies were expected to adhere.[8]

Other important license provisions

Each patent-holder was required to drop their lawsuits and take shares in the newly created company, which set minimum prices and assigned maximum sales quotas.[9]

Other interesting information

One company, Bement, sold below the set prices and was subsequently sued by the other members of the pool. In defense, Bement alleged that the terms of the pool were in violation of the Sherman Antitrust Act, but the Supreme Court held in favor of the pool. This first Supreme Court ruling on a patent pool declared that:

> [T]he general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts. The fact that the conditions in the contracts keep up the monopoly or fix prices does not render them illegal.[10]

In response to this ruling, Willard K. Tom, Deputy Director of the Bureau of Competition at the Federal Trade Commission, made the following remarks in an address entitled *Licensing and Anti-trust: Common Goals and Uncommon Problems:*

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[7] E. Bement and Sons v. National Harrow Company, 186 U.S. 70 (1902).

[8] Ibid.

[9] Homiller, Daniel P. "Patent Misuse in Patent Pool Licensing, from National Harrow to the Nine No-No's to Not Likely." iBrief/ Patents and Technology 2006 Duke L. and Tech. Review 0007, available at www.law.duke.edu

[10] Bement v. National Harrow Co., 186 U.S. 70, 91 (1902).

> Thus the law in 1902 was that the patent laws were an absolute trump against an antitrust case. In the Court's view, the very purpose of the patent law was to create a monopoly, so that even the hardest of the hardcore anti-trust violations, price-fixing, had to fall before the expansive rights of the patent holder.[11]

United Shoe Machinery Company - 1899

Purpose

The purpose of United Shoe Machine Company was to control the American shoe market by means of thousands of interrelated patents.

Management

A merger of Goodyear Machinery Company, Consolidated Hand Lasting Machine Company, and McKay Shoe Company resulted in the creation of the United Shoe Machinery Company in 1899.

Other interesting information

On December 15, 1947, the United States filed suit against United Shoe, alleging that their thousands of interrelated patents levied a monopoly on the shoe-making industry in violation of the Sherman Antitrust Act. The Supreme Court ruled against United Shoe in 1954.[12]

Motion Picture Patents Company (MPPC) - 1908

Technology/purpose

The purpose of the MPPC was to form a cartel, in order to bring suit against independent filmmakers.

Management

Thomas Edison owned most of the patents for the production of motion pictures, and he entered into a trust with all of the major film companies and patent-holders of the time (Biograph, Vitagraph, Essanay, Selig, Lubin, Kalem, American Star, American Pathé), as well as with Eastman Kodak, the biggest supplier of raw film.

Other licensing terms

One clause in the Manufacturers License Agreement of the MPPC read: "The Licensor hereby grants the right to the Licensee…to manufacture, print, and produce positive motion pictures…upon condition that they be used solely in exhibiting or projecting machines containing the inventions…and licensed by the Licensor…"[13] This means that the MPPC, via its control of

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[11] http://www.ftc.gov/speeches/other/aciippub.htm

[12] United Shoe Machinery Corp. v. U.S., 347 U.S. 521 (1954).

[13] Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917).

film, was able to compel its licensors to use its own motion picture machines rather than those of competitors.

Other interesting information

The Supreme Court cancelled all MPPC patents in successive decisions in 1912 and 1915. The 1912 suit cancelled the patents on raw film, and the suit in 1915 cancelled all of the MPPC's patents. In 1917 the Supreme Court found the MPPC to be in violation of the Sherman Antitrust Act, though at that point the MPPC had been all but disbanded.

Association of Sanitary Enameled Ware Manufacturers (Standard Sanitary) - 1909

Purpose

The purpose of the Association of Sanitary Enameled Ware Manufacturers (Standard Sanitary) pool was to form a cartel to fix prices and exclude other manufacturers of sanitary enameled ironware, such as bath tubs, wash bowls, drinking fountains, sinks, and closets from the market.

Management

Standard Sanitary was formed by manufacturers representing 85% of the enameled ironware market, acquiring the key patents necessary for the manufacture of enamelware. Standard Sanitary formed a committee of five members known as the Price and Schedule Committee for the purpose of administering the license and resale agreements. The committee was responsible for "interview[ing] the various manufacturers and obtain[ing] their consent to the agreements which were to become effective 'when the consent of 83 per cent of the production' was had".[14]

Royalties

Royalty rates were set at $5 per day per furnace using Standard Sanitary's patented enameling process. The agreement also provided for the return of 80 percent of these royalties, assuming that the licensees abided by the contract.[15]

Other licensing terms

Under the terms of the agreement, members agreed to fix prices, to control resale by licensees, and to prohibit sales to anyone dealing with non-pool members.[16] The agreement also established penalties for violation of the price schedule and offered preferential prices to certain manufacturers. Licensees were granted amnesty for any prior patent infringement, and all goods manufactured under this license were to bear a trademark.

Other interesting information

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[14] Standard Sanitary Manufacturing Co. v. United States U.S. 226 U.S. 20 (1916)

[15] Ibid.

[16] Herbert Hovenkamp, et al. IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law. Aspen Publishers, 2001. Sec. 34.3a.

In *Standard Sanitary Manufacturing Co. v. United States,* Supreme Court ended the Sanitary pool because it included anticompetitive provisions that "transcended what was necessary to protect the use of the patent." *Standard Sanitary Manufacturing Co.* ended a period where patent pools were free from scrutiny under U.S. antitrust laws.[17]

Standard Oil Cracking Pool - 1911

Purpose

The purpose of the Standard Oil Cracking Pool was to "create a monopoly and to restrain interstate commerce by controlling that part of the supply of gasoline which is produced by the process of cracking."[18]

Management

The Standard Oil pool was "a complicated array of seventy-nine contracts entered into by four patent holders and forty-six licensees."[19] The four patent holders were Standard Oil of Indiana, Standard Oil of New Jersey, the Texas Company, and the Gasoline Products Company.

Royalties

Royalties were divided among the four companies on a fixed percentage.

Other licensing terms

Under the terms of the agreement, all companies were released from liability for past infringement, and all companies acquired the rights to use one another's patents in their own processes. Furthermore, each company was entitled to sub-license all the patents, and to share in a fixed percentage of all the royalties.[20]

Other interesting information

The Standard Oil pool eventually licensed more than 70 refiners.

A Supreme Court ruling in 1931 held that patent pools were not necessarily anticompetitive, and were in some cases necessary to defuse litigation and allow companies to produce technology without interference from one another. The essence of the argument was that patent pools could

[17] Standard Sanitary Manufacturing Co. v. United States 226 U.S. 20 (1916).

[18] Standard Oil Co. of New Jersey v. United States 221 U.S. 1 (1911).

[19] Homiller, Daniel P. "Patent Misuse in Patent Pool Licensing, from National Harrow to the Nine No-No's to Not Likely." iBrief/ Patents and Technology 2006 Duke L. and Tech. Review 0007, available at www.law.duke.edu

[20] Standard Oil Co. of Indiana v. United States 283 U.S. 163 (1931).

impose whatever royalty rates they saw fit, as long as they did not exclude interested manufacturers.

Association of Licensed Automobile Manufacturers (ALAM) - 1903

Purpose/Technology

The ALAM was formed to manage patents covering automobiles. Originally, the ALAM managed a single patent, number 549,160, originally granted to George Selden, which effectively covered any petroleum-burning engine mounted in a car.[21] Later, other patents were added to the pool.

Management

Selden, a patent lawyer, filed for a patent in 1879 for a "Road Engine." Selden made use of a quirk in patent law that allowed him to repeatedly modify his patent application before the patent was issued, such that he was able to quietly pursue his patent for 16 years before it was granted in 1895. Four years later, lacking the capital to litigate, Seldon sold his patent to the Electric Vehicle Company (EVC). The EVC claimed to be interested in purchasing the patent as a hedge against the possibility that petroleum-burning cars would gain in popularity, though it subsequently formed the ALAM with several other automobile manufacturers and sought to enforce the patent. [22]

The ALAM was governed by a 5-member Board of Directors responsible for the granting of licenses.

Royalties

The ALAM gained in influence and eventually was able to negotiate a 1.25% royalty rate on all cars produced. Two-fifths of that went to the EVC, one-fifth to Selden, and two-fifths went into the ALAM treasury to handle further legal expenses, and "for the benefit of the industry."[23]

Other licensing terms

To be granted a license, manufacturers had to prove prior automobile manufacturing experience, which meant that they had to admit to having violated the Selden/EVC patent. This licensing practice effectively barred all new manufacturers from entering the market.

Other interesting information

Upon founding the Ford Motor Company, Henry Ford immediately applied for a Selden license, and was rejected. Frederic Smith, who held most of the Detroit automobile market, was outspoken in his refusal. Ford entered production regardless, and in 1903 the ALAM filed suit.

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[21] Gibson, Christine. "The Man Who Held the Auto Industry Hostage—Or Did He?" article on www.americanheritage.com, accessed 15 March 2007.

[22] Ibid.

[23] Ibid.

In 1909 a district court upheld the validity of the Selden patent, but a court of appeals overturned the decision in 1911.

The prolonged trial and vicious public relations war convinced the industry that patent litigation was a self-defeating path, and in 1915 the manufacturers set up a system of cross-licensing for most patents. Since 1911, there has not been another patent suit among carmakers.[24]

Ford was so embittered by the litigation over the Selden patent that he later provided assistance to Curtiss, when he was sued by the Wright Brothers.

Davenport folding beds - 1916

Purpose

The purpose of the Davenport folding beds patent pool was to form a cartel.

Management

In 1916, the Seng Company entered into an exclusive licensing arrangement with patent holders for various types of folding beds. Under the terms of this agreement, the Seng Corporation gained the right to manufacture and sell products in the patent pool. The Davoplane Bed Company licensed 7 patents, the Pullman Couch Company, 13 patents, and two independent inventors each entered a patent into the pool.

Royalties

33% of the royalties was allotted to the Pullman Couch Company, and the rest of the patents were allotted according to a formula set forth in the pooling agreement. The Seng Company paid a fixed percentage into the pool.

Glass Container Association of America (Hartford-Empire) – 1919

Purpose

The Glass Container Association was formed to assign production quotas and to compile all patents essential to the production of glass containers, i.e. to form a cartel for the purpose of price-fixing and excluding new competitors from the market.

Management

The Association was managed by a 7-member Board of Directors representing the Owens-Illinois Glass Company, the Hazel-Atlas Glass Company, Corning Glass Works, Thatcher Manufacturing, and after 1933, Ball Brothers and Lynch Manufacturing. Hartford-Empire was not represented in the pool, even though it had an approximately equal share as Owens-Illinois, both companies being co-dominant in the market. Hartford-Empire, nonetheless, did work closely with the Association, especially in ensuring accordance with production quotas among the

[24] Ibid.

members. These same Association companies, again with Hartford-Empires's input, maintained a 7-member statistical board that took stock of production quotas by type and region with an eye to price-fixing.

In 1906 Hartford-Fairmont and Empire pooled their patents and eventually became Hartford-Empire in 1922. Hartford-Empire and Owens-Illinois in 1924 entered into an agreement whereby Owens granted Hartford an exclusive license under its own patents (on methods and machines for glass blowing called gob feeding) and in return Hartford granted Owens a nonexclusive, nonassignable, nondivisible license to make and use machines using Hartford patents. Under the terms of the agreement, Owens was not permitted to sell or license gob feeding machinery, but was to receive one half of Hartford's divisible income from licenses over $600,000 per year. Owens also retained veto power in any licenses granted by Hartford on Owens' patents. Hartford and Owens also pooled their legal staffs and expenses and contributed equally to the purchase of related patents. Hartford and Owens later brought the Hazel-Atlas Glass Company, Corning Glass Works, Thatcher Manufacturing, Lynch Manufacturing, and Ball Brothers into their agreement.[25]

Other interesting information

By 1942, when a district court ruled against the Hartford-Empire pool on the grounds that it violated the Sherman Antitrust Act (later upheld by the Supreme Court in 1945), Hartford-Empire controlled more than 600 patents. These 600 patents, pooled with 100 patents from Corning, more than 60 from Owens, over 70 from Hazel, and 12 from Lynch Manufacturing Company, were used in licensed machinery producing 94% of the glass products made in America.

The court did not disband the pool, but rather allowed Hartford-Empire to continue charging royalties under a revised, uniform regime.

National Lead Co. - 1920

Technology/Purpose

Titanium dioxide-based pigments possess properties such as opacity and chemical inertness which, in the manufacture of paints, rubber, glass, paper, and other products, replaced pigments based on lithopone and lead. National Lead Co. and other worldwide producers of titanium-based pigments settled their patent claims by a system of cross-licensing under which companies retained rights to one another's patents, within exclusive regions.

The purpose of this pool was to fix prices by limiting international competition.

Other license terms

In 1920, National Lead and TAS, a Norwegian company, entered into the first cross-licensing agreement, which would become a model for all subsequent agreements. The licenses gave each company the right to manufacture, use, and sell one another's titanium dioxide products (inventions, improvements, information). National Lead was licensed to operate in North

[25] Hartford-Empire Co. v. United States, 46 F. Supp. 541 (N.D. Ohio 1942), modified, 323 U.S. 386 (1945).

America and TAS over the rest of the world, with each company holding reciprocal, nonexclusive rights of sale in South America. In addition, National Lead and TAS agreed to exchange technical information on a semi-annual basis.

On January 1, 1933, National Lead and DuPont entered into a separate, non-exclusive licensing agreement similar, but not identical, to National Lead's international agreements (executed 28 Aug 1933). DuPont never agreed to limit its production and sale of titanium dioxide-based pigments to the North American market, but was accepted into the international arrangement after extensive negotiation. A court found based on its subsequent actions that DuPont had implicitly agreed to refrain from competing on foreign markets. By 1947, DuPont and National Lead controlled 90% of the domestic market, with American Zirconium (a subsidiary of Glidden) and Virginia Chemical Company splitting the remainder. Zirconium entered the field in 1935 under licenses from National Lead and DuPont, and Virginia Chemical was licensed only by DuPont.[26]

Licensed companies also agreed to exchange copies of patent applications, and to refrain from contesting the validity of any patent held by a licensed company. Companies also retained the right to grant licenses under their own patents, and sublicenses under one another's patents, on the condition that all licensee and sublicensee abide by the terms of the original agreement of 1920.

Other interesting information

The Supreme Court ruled in 1947 that the division of the market by territory violated American antitrust laws, and included the contract between National Lead and DuPont in this ruling, which read, in part:

> "assurance against continued illegal restraints upon interstate and foreign commerce through misuse of these patent rights is provided through the compulsory granting to any applicant therefor of licenses at uniform, reasonable royalties under any or all patents defined in the decree. Such patents include not only the patents and patent applications listed in the appendix to the decree, but also, among others, all patents which cover any titanium pigments or any process for the manufacture of such pigments issued to, or acquired by, any of the appellant companies within five years from the date of the decree. It applies also to all such patents of which any of the appellant companies shall become the exclusive licensee within such five years with power to sublicense."[27]

The court also determined that "the agreement to license present and future patents and to share know-how contributed to a patent thicket that created a barrier to new entry and allowed DuPont and National Lead to control the domestic industry for titanium dioxide products."[28]

New Wrinkle - 1937

Technology/Purpose

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[26] United States v. National Lead Co., 332 U.S. 319 (1947)

[27] Ibid.

[28] Gilbert, Richard J. "Antitrust for Patent Pools: A Century of Policy Evolution." Stanford Technology Law Review, 2004.

In November 1937, two companies, Kay & Ess and the Chadeloid Chemical Company, jointly incorporated a company called New Wrinkle, Inc., which granted licenses to their competing patents in the field of wrinkle finish enamels, varnishes, and paints.

The purpose of this patent pool was to fix prices, as well as to defuse litigation between the two competing companies.

Management

New Wrinkle acted as the licensing agent in this arrangement, with Kay & Ess and Chadeloid manufacturing their wrinkle finish products under license from the newly formed company.

New Wrinkle did not manufacture any of the products covered by its patents, but rather was solely responsible for granting rights.

Royalties

The licenses stipulated that a 5-cent per gallon royalty applied to all wrinkle finish sold or used by licensees, though the terms of the agreement allowed for the reduction of royalties to all licensees if any subsequent license granted lower royalty rates.

Other licensing terms

One license term fixed the minimum prices at which manufacturers were permitted to sell their products. Prospective licensees were advised of the licensing terms, and assured that all other manufacturers received the same advice "in order to establish minimum prices throughout the industry."[29] This term, article seven, read as follows:

> The Licensor hereby reserves and shall have the right at any time to establish a Schedule of Minimum Prices, Discounts, and Selling Terms only in accordance with which Licensee, Licensor, and all other Licensees shall thereafter sell or otherwise dispose of products covered by patents included herein, and thereafter to modify, amend and suspend any such Schedule and/or establish a New Schedule. . . . The Licensor announces as a matter of policy that it will fix said price based upon the cost of raw materials and labor as reported by the United States Department of Commerce and the United States Department of Labor, plus the royalty charged hereunder, it being the intent and purpose of the Licensor to open to the entire trade the use of these patents so licensed at the lowest price consistent with a reasonable profit to the manufacturer, Licensee, the trade, and to this Licensor.[30]

The terms of the agreement also allowed New Wrinkle to alter the deal upon thirty days' notice in writing, but only if the prices, terms and discounts dictated by New Wrinkle were applied equally to the licensor and all other licensees. A termination provision allowed licensees to terminate the contract on three months' written notice, and allowed New Wrinkle to terminate the contract if licensees failed to rectify any violations within thirty days' written notice from New Wrinkle.

Other interesting information

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[29] United States v. New Wrinkle, Inc., 342 U.S. 371 (1952)

[30] Ibid.

In September 1948, when the U.S. filed its complaint, more than 200 manufacturers had agreed to nearly identical ten-year, extendable license agreements. In 1952 the Supreme Court ruled that "[a]n arrangement was made between patent holders to pool their patents and fix prices on the products for themselves and their licensees. The purpose and result plainly violate the Sherman Antitrust Act."[31]

Line Material Co. - 1938

Technology/Purpose

In 1939, Line Material Corporation and Southern States Equipment Corporation applied for patents on dropout fuse cutouts, used to protect circuits from overload. The Patent Office awarded a dominant claim to Southern and a subservient one to Line, resulting in a scenario where a cross-licensing agreement was necessary for manufacturers to obtain the full benefits of the technology. Line Material and Southern took advantage of this situation to create a pool which fixed prices.

Royalties

Line Material and Southern entered into a royalty-free cross-licensing agreement where sublicense royalties and expenses were to divided between Line and Southern, and a price schedule was set for sublicensees.[32]

Other licensing terms

Under the terms of the agreement of May 1938, Southern made Line Material the exclusive licensor of the dominant Southern patent, and Line Material was allowed to fix prices for devices using both patents.[33] These licenses were royalty-free,[34] and gave Southern the right to make and sell devices using both patents, as well as the exclusive right to grant licenses or sublicenses to others. Southern granted Line the right to make and sell patented products, but not to sublicense its dominant patent.[35]

Other interesting information

On March 8, 1948 the Supreme Court ruled that the use of cross-licensing to fix prices violated the Sherman Act, and condemned the arrangement between the two patentees.[36]

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[31] Ibid.

[32] United States v. Line Material Co., 333 U.S. 287 (1948).

[33] Gilbert, Richard J. "Antitrust for Patent Pools: A Century of Policy Evolution." Stanford Technology Law Review, 2004.

[34] Ragusa, Paul A. and K. Burns McNamee. "Patent Licenses That Restrain Price: New Wrinkles and Old Doctrine." Patent Strategy Management Vol. 5, No. 12 April 2005

[35] United States v. Line Material Co., 333 U.S. 287 (1948).

[36] Ragusa, Paul A. and K. Burns McNamee. "Patent Licenses That Restrain Price: New Wrinkles and Old Doctrine." Patent Strategy Management Vol. 5, No. 12 April 2005

Singer '401' – 1956

Technology/Purpose

The machine-carried multi-cam zigzag machine, known within the Singer company as the '401', is a sewing machine capable of stitching in zigzags. The purpose of this pool, established between Singer and its Italian and Swiss competitors, was to bar Japanese competition from the U.S. market. At the time, Singer was the sole American manufacturer of zigzag sewing machines.

Management

This pool took the form of an inter-related series of cross-licensing agreements, with Singer (American), Vigorelli (Italian), and Gegauf (Swiss) entering into separate but similar agreements.

Royalties

The cross licensing agreements between Singer-Vigorelli, Singer-Gegauf, and Vigorelli-Gegauf were all royalty-free.

Other licensing terms

On November 17, 1955, Singer entered into a cross-licensing agreement with Vigorelli, an Italian company, which introduced a multi-cam machine in the United States the previous year. On the strength of an earlier multi-cam Canadian patent purchased by Singer, the American company was able to negotiate a non-exclusive, worldwide, royalty-free license from the Italian firm. This agreement also required the two firms to refrain from bringing infringement suits against one another in any country.

Subsequently, Singer learned of a multi-cam patent held by a Swiss company, Gegauf, which Vigorelli had cross-licensed under an arrangement similar to that between it and Singer. On April 14, 1956, Singer was able to negotiate a royalty-free license from Gegauf on the strength of its desire to combat Japanese competition in the market. Under the terms of this agreement, the parties agreed, "not to do anything, either directly or indirectly and in any country, the result of which might restrict the scope of the claims of the other party relating to the subject matter of the above mentioned patents and patent applications." The two companies also agreed that, "each undertakes, in accordance with the laws and regulations of the Patent Office concerned, to facilitate the allowance in any country of claims as broad as possible, as regards the subject matter of the patents and patent applications referred to above."[37] The agreement also contained a covenant not to sue clause. In addition, Singer was not permitted to make a "slavish" copy of the Swiss machine, and to make its patent attorneys available to Gegauf for the defense of any of the licensed patents.

Other interesting information

On the strength of the Gegauf patent, Singer filed suit against the largest domestic importer of Japanese multi-cam machines, Brother International Corporation, as well as two other distributors of multi-cam machines. In January of 1959, Singer initiated proceedings before the U.S. Tariff

[37] Unites States v. Singer Mfg. Co., 374 U.S. 174 (1963).

Commission seeking a presidential order which would exclude all imported machines, European as well as Japanese, which read in the Gegauf patent, claiming that foreign competition was threatening to drive domestic companies into bankruptcy.

The Tariff Commission proceedings were held in abeyance while the U.S. Supreme Court heard the case in 1963. The Supreme Court held that Singer was in violation of the Sherman Antitrust Act, and the Commission proceedings were dropped.

Pools created in response to U.S. government policy objectives

Manufacturers Aircraft Association - 1917

Technology/purpose

As the United States drew closer to entering into the First World War, Glenn Curtiss and the Wright brothers held most of the essential patents on airplane manufacturing components. They were charging high royalty rates, and the time and expenses involved in litigation was causing stagnation in the airline industry at a time when the United States needed to increase its aircraft production for the war effort. To that end, an advisory panel headed by then-Assistant Secretary of the Navy Franklin D. Roosevelt recommended the formation of a patent pool. The proposal was backed by the Naval Appropriations Act of the fiscal year 1918, which allocated $1 million "for the purchase or condemnation of basic aeronautic patents." The motivation for the creation of the pool was described by the U.S. Court of Claims as follows: [38]

> During and prior to January 1917, the development of the aircraft industry in the United States was seriously retarded by the existence of a chaotic situation concerning the validity and ownership of important aeronautical patents. This situation was one of great concern to the Government of the United States. A National Advisory Committee for Aeronautics had been created pursuant to an act of Congress to consider and advise the President and the departments on aeronautical problems and to consider and devise some plan to remedy the existing difficulties. January 13, 1917, the Secretary of the Navy reported to the chairman of the executive committee of the National Advisory Committee that various companies were threatening all other airplane and seaplane manufacturing companies with suits for infringements of patents, resulting in a general demoralization of the entire trade; that it was difficult for the Government to obtain fulfillment of orders because some companies would not expend any money on their plants for fear that suits brought against them would force them out of business; that to protect themselves in case they were forced to pay large license fees the companies had greatly increased the sales prices of their products to the Government. . . . The Committee forthwith proceeded to consider the problem confronting the Government and on March 23, 1917, the subcommittee on patents of the National Advisory Committee rendered a report recommending the formation of the Aircraft Manufacturers Association among all aircraft manufacturers and suggesting the details of a cross-license agreement among its members.

[38] Manufacturers Aircraft Assoc., Inc., v. United States, No. J-569, United States Court Of Claims, 77 Ct. Cl. 481; 1933 U.S. Ct. Cl. LEXIS 277, May 8, 1933, Decided.

Management

The MAA was created in July 1917, with an initial membership of eleven aircraft manufacturers, a number that would be expanded to include virtually every important manufacturer of aircraft purchased by the federal government.

Royalties

Before the MAA, the royalty on a single Wright Brothers patent was $1,000 per plane. After the creation of the pool, the combined royalty for all patents in the pool were set at $200 per plane, and in March 1918, the royalties were lowered to $100 per plane, in both cases as a response to threats from the U.S. government to acquire the patents by eminent domain.[39]

The MAA allowed additional patents to be added to the pool. The patents were divided into two classes: "normal patents" were licensed into the pool, with most patents not earning any share of the royalties. "Exceptional patents" earned ongoing royalties in a proportion to be determined by a formal arbitration procedure. The arbitration procedure worked as follows:

> "To submit claims for compensation in respect to airplane patents or patent rights hereafter acquired to a board of arbitrators consisting of one member appointed by the board of directors of the Association (Inc.), another by the subscriber making the claim, and a third by the other two, who shall determine the total amount of compensation, if any, to be paid for the same, and the rate of royalty to be paid toward such compensation by any subscriber desiring to take a license under such patent." [40]

Other interesting information

Before the creation of the MAA, Glenn Curtiss was involved in protracted litigation with the Wright Brothers over their key patent for airplane navigation. Curtiss sought advice from Henry Ford, who had to contend with extensive patent litigation involving the Selden patent and other patents held by the ALAM.

Radio Corporation of America (RCA) - 1919

Technology/purpose

In its early years, radio was relatively unregulated in the United States. But in 1917, the U.S. government took over elements of the radio industry, introducing a number of new military applications, and experimented with broadcasting news and entertainment to the troops. The U.S. government was also involved in numerous disputes with American Marconi, the foreign-owned company that controlled many of the key radio patents and broadcast stations. After the war, the Navy, advised by Franklin D. Roosevelt, sought to end foreign control over the U.S. radio industry. The Navy encouraged General Electric to buy out the U.S. branch of Marconi, and

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[39] Ibid.

[40] Merges, Robert. "Institutions for Intellectual Property Transactions: The Case of Patent Pools." Available at www.law.berkeley.edu/institutes/bclt/pubs/merges/pools.pdf

pool patents from Marconi, AT&T, Telefunken and Westinghouse into what became in 1919 the Radio Corporation of America (RCA).

The purpose of this patent pool was to exclude foreign manufacturers and operators from a key military technology.

Management

RCA was formally incorporated on October 17, 1919. Subsequently, American Telephone and Telegraph (AT&T) and Westinghouse became joint owners of RCA, and entered their own patents related to radio production into the pool.

Upon its incorporation, RCA entered into a cross-licensing agreement with GE, by which both corporations were entitled to one another's radio patents. Under the terms of this agreement, RCA became the exclusive vendor for radio products manufactured by GE. In return for this concession, RCA waived the right to manufacture on its own behalf.

One of the provisions in RCA's articles of incorporation was that American interests control the majority of the company's stock. Another prohibited the election of a director or officer who was not a U.S. citizen, and a third required that no more than 20 percent of the company's stock could be foreign owned.

One of the Board's first acts was to invite President Wilson to nominate a naval officer to present the government's views at meetings of stockholders and directors.

RCA was headed by Owen D. Young, Chairman of the Board; Edward J. Nally, President; and an employee of Marconi Wireless since 1906, David Sarnoff, who was the Commercial Manager.

Other interesting information

In 1932 the Justice Department filed an antitrust suit which required GE, AT&T, and Westinghouse to sell their interests in the company. RCA retained its patents and full ownership of NBC.

More recent pools that address standardization (1995-current)

MPEG-2 Patent Portfolio - 1997

Technology/Purpose

MPEG-2 is a video compression technology that was adopted as a standard by the Motion Picture Expert Group (MPEG) International Standards Organization (ISO) in 1995. The technology reduces the number of bits in a file, thereby making videos easier and faster to transmit, and available over lower bandwith carriers.

The purpose of the MPEG-2 pool is to offer "one-stop shopping" for licenses necessary to produce MPEG-2 products.

Management

The MPEG-2 Patent Portfolio License currently offers nondiscriminatory access to "essential" MPEG-2 Video and Systems patents owned by many patent holders as an alternative to negotiating separate licenses. These include patents owned by Alcatel Lucent, Canon, Inc., CIF Licensing, LLC, Columbia University, France Télécom (CNET), Fujitsu, General Instrument Corp., GE Technology Development, Inc., Hitachi, Ltd., KDDI Corporation (KDDI), LG Electronics Inc., Matsushita, Mitsubishi, Nippon Telegraph and Telephone Corporation (NTT), Philips, Robert Bosch GmbH, Samsung, Sanyo Electric Co., Ltd., Scientific-Atlanta, Sharp, Sony, Thomson Licensing, Toshiba, and Victor Company of Japan, Limited (JVC). New licensors and essential patents are added from time to time.

Royalties

The royalty terms for the license are detailed on the MPEG LA web page.[41] They are described as "fair, reasonable, and non-discriminatory" (FRAND).

Other important license provisions

A "most favorable royalty rates protection" assures licensees that no one licensee will get more favorable royalty rates than another. The agreement also contains a "grant-back" clause, a mechanism by which future essential patents held by licensors are automatically licensed back into the pool, without raising royalty rates.

Other interesting information

According to MPEG LA, "Wide acceptance of the MPEG-2 Patent Portfolio License is responsible for the worldwide utility of MPEG-2 technology" and has facilitated the standardization of "MPEG-2 set-top boxes, professional (e.g., encoders, file servers and multiplexers) consumer electronics (including DVD player and television receiver/decoder), personal computer and packaged medium products in the current world market."

Bluetooth Special Interest Group (SIG) - 1997

Purpose/Technology

Bluetooth is a technology which allows the interconnection of mobile phones, computers, laptops, printers, PDAs, and other devices by means of a short-range radio frequency band.

Bluetooth technology is licensed by the Bluetooth Special Interest Group (SIG), whose mission statement is to "Strengthen the Bluetooth brand by empowering SIG members to collaborate and innovate, creating the preferred wireless technology to connect diverse devices."[42] In short, this pool is meant to establish a standard and to allow easy access to the technology.

Management

[41] http://www.mpegla.com/m2/m2-agreement.cfm

[42] http://www.bluetooth.com/Bluetooth/SIG/Mission/

Bluetooth technology was initially developed by Ericsson Mobile Communications in 1994, but to capitalize on the technology's full capabilities, Ericsson invited four major telecom and data companies to join the Bluetooth SIG in 1997.[43] The SIG oversees the development of Bluetooth standards and acts as the licensing agent for technologies and trademarks. Headquartered in Bellevue, Washington, with offices in Malmö, Sweden and Hong Kong, the Bluetooth SIG is a privately held, not-for-profit trade association.[44] Until recently, the SIG was run by volunteer staff from member companies, but now employs an Executive Director, a General Manager, and a small staff of operations, engineering, and marketing specialists. The company, though, still relies on volunteers to participate in working groups on the standardization and the qualification processes.

The SIG does not make, manufacture, or sell Bluetooth products, but owns the trademarks and standardization documents, markets the Bluetooth brand, and licenses to more than 7,000 member companies involved in making, manufacturing, and selling Bluetooth-enabled products.

These 7,000 member companies are divided into three different classes. The highest level is known as a "promoter company." According to the official Bluetooth website

> Promoter companies are intensely engaged in the strategic and technical development of Bluetooth wireless technology. In addition to sitting on the Board of Directors, Promoter members sit on the Bluetooth Qualification Review Board (BQRB), and dedicate hundreds of individuals to the Committees and Working Groups that guide the ongoing development and promotion of the technology.[45]

Promoter companies include Agere, Ericsson, Intel, Lenovo, Microsoft, Motorola, Nokia, and Toshiba.

"Associate members" are licensed to use Bluetooth specifications and trademarks, and are also permitted to join the working groups to enhance the core and profile specifications as well as to review new specifications before they are publicized. Associate members pay an annual fee based on their company's annual revenue, with "small" associates (less than $100 million USD/year) paying $7,500 USD/year and "large" associates (more than $100 million USD/year) paying $35,000 USD/year.[46] Associate members also have access to SIG-created testing tools, qualification listings, and other pertinent information at complimentary or reduced fees.

The third level of membership, "adopted members," may use published specifications and trademarks, but do not influence the specification process, nor do they have early access to unpublished specifications. Adopted members are not required to pay an annual fee.

Royalties

SIG licenses to member companies on a royalty-free basis.

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[43] http://www.enea.com/epibrowser/Customer%2520success%2520stories/CS_Ericsson_LIcensing_Technology.pdf+bluetooth+patent+pool&hl=en&ct=clnk&cd=7&gl=us

[44] http://www.bluetooth.com/Bluetooth/SIG/

[45] Ibid.

[46] http://bluetooth.com/Bluetooth/SIG/Membership/FAQ/

Other licensing terms

Companies must be members of the SIG to obtain the Bluetooth specifications and to qualify for the royalty-free license to develop, manufacture, and sell Bluetooth products. The SIG enforces a qualification process by which products are tested for conformity to the standard.[47]

Other interesting information

The Bluetooth SIG in December 2005 announced that it would look to include Wi-Fi, near field communication (NFC) and ultra-wideband (UWB) technologies in combination with Bluetooth to develop specifications for interconnectivity. As regards UWB specifically, the specification is set for introduction in early 2007, with prototyping to follow later that year.[48]

The one billionth Bluetooth device was shipped on November 14, 2007.

OpenCable Applications Platform (OCAP) - 1997

Technology/Purpose

The OCAP specification is intended to allow developers of interactive television services and applications to design products able to run on any cable television system in North America. Applications of this type would include digital recording, electronic programming, and eCommerce, such as "at-home shopping". The OCAP is based on the DVB's MHP standards, and as such OCAP and the DVB Project are coordinating their efforts in calling for IPR related to the DVB standard.

The purpose of the OCAP pool is to allow "one-stop shopping" for licenses related to OCAP.

Management

Via Licensing Corporation administers a joint patent licensing program on behalf of OCAP for patents essential to the implementation of OCAP standards. Via Licensing is an independent subsidiary of Dolby Laboratories, and describes itself as specializing in "intellectual-property law, technology standardization, strategic business development, and program administration" and that "affiliated specialists in the fields of finance, antitrust law, and patent analysis complete the set of capabilities that make Via Licensing a premier service provider to companies and organizations seeking patent licensing administration services."[49]

Royalties

For consumer devices, Via Licensing imposes a licensing fee of $1.50 per device. For service providers the license fee is $0.30 per subscriber per year, or a one-time, five-year license for $1.50 per subscriber.

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[47] http://www.bluetooth.com/Bluetooth/SIG/Directory/

[48] Reynolds, Melanie. "Bluetooth Group Looks for Allies." Electronics Weekly 13 Dec. 2005.

[49] http://www.vialicensing.com/about/

Other licensing terms

The license term is five years. A sample of the OCAP licensing terms can be requested from the Via Licensing website.[50]

DVD3C – 1998

Technology/Purpose

DVDs (Digital Versatile or Digital Video Discs) are used for the storage of high-quality audio and video information, such as movies, and can also be used for data storage. DVDs are formatted differently from CDs, and store information at a higher density. DVDs can be read-only (audio, video, data, burned, and factory-pressed discs), DVD-video, DVD-audio, and DVD-data. All read-only discs are considered DVD-ROM discs.

The purpose of the pool is to provide "one-stop shopping" for licenses essential to the manufacture of DVD products.

Management

Sony and Philips organized the first DVD patent pool, called DVD3C, after 10-member negotiations for a pool among all major DVD-related patent-holders failed. Pioneer subsequently entered into this agreement, and LG has recently joined. Philips acts as the licensor in this pool.

Royalties

Royalty payments are allocated under guidelines set by the "Ground Rules for Royalty Allocation." The Department of Justice Business Review Letter disclosed details of the confidential royalty allocation formula. The agreement requires Toshiba to charge royalties of $0.75 per DVD disc and 4% of the nets sales price of DVD players and decoders, with a minimum royalty of $4.00 per player or decoder.

According to the General Information concerning Philips' Optical Storage Licensing Programs, "The royalty rate in standard licenses is not related to fluctuations in the market price of a licensed product. Further, the royalty rate is not computed on a per-patent basis and does not fluctuate as patents are added or removed…therefore, the same royalty rate is payable when using one essential patent as when using several."[51]

Royalty allocations in this agreement are determined under the "Ground Rules for Royalty Allocation," rather than on subjective analysis by an expert.

Other license terms

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[50] http://www.vialicensing.com

[51] http://www.ip.philips.com/licensing/licensingpolicy.html

[51] http://www.sipro.com

The DVD3C pool, like the MPEG-2 and -4 pools, makes use of a grant-back provision, which requires all licensors to incorporate their new essential patents into the pool.

G.729 Audio Data Compression - 1998

Technology/Purpose

G.729 is an algorithm for compressing voice audio which is used in applications where quality, time delay, and bandwidth are the most important factors. Such applications include cellular phones, conferencing, fax over IP, voice over IP, voice over ATM, voice over frame relay, and other applications.

According to Sipro Lab Telecom's (the licensing agent for G.729) website, "our mission is to efficiently and effectively provide a comprehensive one-stop-shop for all IPR licensing-related services for the timely promotion and commercialization of standard telecommunications technologies. Our aim, on behalf of our clients and working closely with our partners, is to accelerate the global market adoption and success of key technologies towards improving the quality and availability of communications around the world."[52]

Management

Sipro Lab Telecom, of Montreal, Canada, was named the exclusive licensing agent for G.729 in 1998. It is a privately owned company which acts as the intermediary between owners and licensees, and facilitates the negotiation of licenses from commercial and legal perspectives.

The Sipro website states that, "On behalf of the IPR owners, Sipro Lab Telecom is mandated to centralize and administer the licensing process for rights to G.729 in accordance with ITU-T policies as well as to promote wider acceptance of this state-of-the-art standard."

France Telecom, Mitsubishi Electric Corporation, Nippon Telegraph and Telephone Corporation (NTT), and the Université de Sherbrooke are all members of the IPR pool, and Sipro also has a "one-stop shopping" agreement with Nokia and NEC, who did not join the pool.

Royalties

Extensive information is available on request from Sipro.[53]

Other important license provisions

In June of 2005 the G.729 Consortium (France Telecom, Nippon Telegraph and Telephone, and the University of Sherbrooke) changed its licensing policy, and now only offers licenses to end-product manufacturers, which would include audio-visual conferencing devices, call center equipment, IP phones, IP/PBXs, media gateways, etc.

The change in the licensing terms excludes generic manufacturers of microprocessors from obtaining licenses from G.729 Consortium members, though the Sipro Lab Telecom website

[52] Ibid.

[53] www.sipro.com

claims that "[p]rior to establishment of the Pool, the complexity of negotiating IPRs with each intellectual property owner discouraged potential integrators. Now, thanks to the G.729 IPR Pool, integrators have centralized access to G.729 IPRs, which significantly contributes to the emergence of this high-end line of codecs."[54] Under the new licensing policy, all end-product manufacturers must obtain their own G.729 license to integrate this technology before sending their product to market. No generic microprocessor manufacturer has sought, or been granted, a G.729 Consortium license to date.[55]

MPEG-4 - 1998

Technology/purpose

MPEG-4 refers to a set of standards for compressing audio and visual information, especially as relates to broadcast television, streaming video on the web, and videophone conversations. These standards were introduced in 1998 by the Motion Picture Experts Group (MPEG).

The purpose of the MPEG-4 pool is to provide "one-stop shopping" for patents essential to the manufacture of MPEG-4 products.

Management

MPEG-4 is also licensed by MPEG LA. As is the case with MPEG-2 technology, a group of experts is responsible for determining whether patents are "essential" to the MPEG-4 standard, i.e. whether a product would necessarily infringe upon one or more patents in the MPEG-4 portfolio.

Royalties

The license of patents is royalty-free up to the first 50,000 units sold per year. After 50,000 units, MPEG LA imposes a charge of $0.25 per unit, and implements a cap of $1 million per company per year, and a $3 million cap on enterprises. Royalty rates do not change upon renewal of a patent's inclusion, and rates will not rise more than 25% for similar license grants.

According to MPEG LA, "[t]o align with the real-world flow of MPEG-4 commerce, reasonable royalties are apportioned throughout the MPEG-4 Visual value chain. The License employs annual limitations to provide cost predictability, threshold levels below which certain royalties will not be charged in order to encourage early-stage adopters and minimize the impact on lower volume users, and licensing options that require no royalty reports. The License enjoys wide marketplace acceptance."[56]

Other notable terms

Under the governance of MPEG LA, new licensors with essential patents can be added to the portfolio upon their approval by the panel of experts by means of a "grant-back" clause. New

[54] ibid.

[55] http://www.mpegla.com/m4v/

[56] http://www.mpegla.com

additions will not result in additional royalty fees being assessed under the terms of the license. Each patent is accepted into the portfolio for a term of 5 years, and can be renewed for as long as the patent is deemed useful.

IEEE 1394/FireWire - 1999

Technology/Purpose

FireWire is Apple Inc.'s proprietary name for the IEEE 1394 standard for interfacing PCs, digital video and digital audio equipment.

The purpose of the 1394 patent pool is to provide "one-stop shopping" for patents essential to the manufacture of IEEE 1394-compatible products and systems.

Management

MPEG LA administrates all essential patents for implementing the IEEE 1394 standards. The 1394 Patent Portfolio License includes essential patents owned by Apple Inc., Canon, Inc., Hitachi, Ltd., Koninklijke Philips Electronics, N.V., LG Electronics Inc., Matsushita Electric Industrial Co., Ltd. (Panasonic), Samsung Electronics Co., Ltd., Sony Corporation, STMicroelectronics and Toshiba Corporation.

MPEG LA describes itself as "an independent licensing administrator . . . not related to any standards agency and . . . not itself a user or owner of patents under license or an affiliate of a patent owner."[57] The firm has offices in the Denver, Washington, DC, London, Tokyo and Shanghai.

MPEG LA's web page also says that "MPEG LA is granted a nonexclusive sublicense from essential patent owners, collects and distributes royalties for the benefit of essential patent owners, and receives an administrative fee out of royalties collected."

Royalties

The terms of the agreement define it as being "fair, reasonable, and non-discriminatory" (FRAND),[58] offering worldwide coverage from licensors, and including all of the licensors' essential patents. MPEG LA charges a royalty of $0.25 for every product which uses one or more 1394 product.

Other important license provisions

The agreement includes a "most favorable royalty rates" clause, which is intended to ensure that no licensee will get more favorable royalty rates than another. Under the terms of this agreement, new licensors and essential patents may be added to the pool at no additional royalty (pending expert evaluation).

[57] http://www.mpegla.com/1394/1394web.ppt#5

[58] http://www.3glicensing.com/FaqSubSection.asp?Index=24&ParentSubSectionIndex=37

3G Patent Platform Partnership - 1999

Technology/Purpose

3G stands for third generation technology, in the context of mobile phone standards. 3G technology is used to simultaneously send voice and non-voice data, for example a telephone call, an SMS, and an MMS. One standard used by some telecommunication companies is W-CDMA technology (Wideband Code Division Multiple Access).

The purpose of the 3G Patent Platform Partnership is to allow for "fair, reasonable, and non-discriminatory" access to rights essential for implementing the W-CDMA 3GPP standard.

Management

The 3G Patent Platform Partnership is a group of 19 telecommunications companies ("Platform Companies"), both operators and equipment makers, involved with regulating the vast number of patents in this field.

Services required by the Platform Companies, such as patent evaluation and certification, among other things, will be provided by 3G Patents Limited, a new company registered and incorporated in England for this purpose. Platform Companies elect an international Board of Directors from the major mobile companies. Membership is open to all interested and involved parties.

According to 3G Patents Limited, "The actual commercial implementation of the Platform was assigned to the 3G Patent Platform Partnership (3G3P) set up in September 1999, a contractual joint venture under English law, comprising nineteen major operators and manufacturers (Partners), four other manufacturers as official Promoters and two industry associations (Associates)."[59]

The members of 3G3P provided all funding necessary for the commercialization of the platform.

Other licensing terms

Under the W-CDMA Patent Licensing Program, there is the option to enter into a joint license agreement for terminals (telephones, fax machines, or any other device able to communicate over a line), or a standard license agreement for all 5 product categories. For more information, see www.3glicensing.com.

Other interesting information

The 3G Patent Platform Partnership estimates that "several hundred different patents, among several thousand publicly claimed as essential, will actually be determined to be 'essential patents' in implementing 3G standards, and that probably in excess of 150 firms will be involved in producing 3G-compliant products."[60] The preface to the 3G Patent Platform Specification

[59] Ky P. Ewing, Jr. "EC and DoJ approval of the 3G patent platform" available at www.globalcompetitionreview.com

[60] FAQ available here: http://www.dvd6cla.com/faq.html (accessed March 12, 2007) and royalty page available here: http://www.dvd6cla.com/royaltyrate.html (accessed March 12, 2007).

indicates that as many as 100 companies may already own patented technologies essential to the 3G specification.

DVD6C - 1999

Technology/Purpose

See DVD3C.

Management

The DVD6C Licensing Agency administers a patent pool formed in 1999 between Toshiba Corporation, Hitachi Ltd., Matsushita Electric Industrial Co., Ltd., Mitsubishi Electric Corporation, Time Warner Inc., and Victor Company of Japan, Ltd. Toshiba Corporation acts as the licensor in this agreement.

Royalties

The DVD6C pool is also governed by the "Ground Rules for Royalty Allocation" guidelines, and the website of the licensing agency explains how royalties under the joint license for DVD-Video players and DVD-ROM drives will be calculated.[61] The royalties are 4% of the net selling price of the product or U.S. $4.00 per product, whichever is higher. Royalties for DVD decoders are 4% of the net selling price of the product or U.S. $1.00 per product, whichever is higher.

Other license information

The DVD6C agreement contains a grant-back clause, which, according to the licensing agency's website, "requires licensees to grant each of the licensing companies of DVD6C (and their licensees) a non-exclusive license on fair, reasonable and non-discriminatory terms to use any of their patents that are deemed essential for the manufacture, use or sale of DVD Products. This grantback is restricted only to those DVD products actually licensed to the licensee."[62]

Other Interesting Information

The U.S. Department of Justice cleared both the 3C and the 6C patent pools, as "it appears that the proposed arrangement is likely to combine complementary patent rights, thereby lowering the costs of manufacturers that need access to them in order to produce discs, players and decoders in conformity with the DVD-Video and DVD-ROM formats."[63] The Department of Justice decided that it was preferable for potential licensees to deal with two pools rather than with the ten companies on an individual basis. In October 2000, the European Commission also approved the DVD6C patent pool, considering it to have a beneficial effect for consumers, and issued an administrative letter to this extent.[64]

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[61] http://www.dvd6cla.com/agreement.html

[62] Department of Justice Business Review Letter

[63] European Commission Press release, 9 October 2000.

[64] http://www.mhp.org/products_and_conformance/conformance_and_licensing

Multimedia Home Platform (DVB-MHP) - 2004

Purpose/Technology

The MHP enables users to receive and execute Java-based applications on a TV-set, including e-mail, information services, games, or at-home shopping. MHP was designed by the DVB Project (Digital Video Broadcast).

The purpose of this pool is to protect patent-holders by means of a "covenant not to sue" clause, thereby promoting the manufacture of MHP-based products.

Management

ETSI (European Telecommunications Standards Institute) licenses the intellectual property rights essential to the MHP specifications. ETSI is a non-profit organization based in Sophia Antipolis, France, and established under French law for the standardization of telecommunications in Europe.

655 members from 59 countries in and out of Europe participate in ETSI's activities, and ETSI is officially recognized by the European Commission. ETSI members determine among themselves the organization's work program and allocation of resources.

Funding comes primarily (64%) from member contributions, partially (21%) from EC/EFTA contracted work and special projects. Remaining funding comes from partners' funding and commercial activities. Of this funding, 70% is allocated to ETSI's work programs, and the remaining funds are consumed by operational costs.

Royalties

For a €1000 fee, ETSI provides the MHP test suite. Upon passing these tests for implementation, the implementer is entitled to use the MHP mark, for which it pays an initial €10,000 plus an annual royalty fee to the DVB Project.

The DVB MHP patent license is royalty-free as long as the licensee does not bring an infringement claim against another implementer. This "covenant not to sue" clause encourages the production of MHP equipment on a royalty-free basis, and also deprives licensees of their right to royalty payments on their IP. However, the licensee does retain the right to bring claim, if it so chooses, at which point the DVB MHP Patent License Agreement terminates and Sun Microsystems (the major patent-holder, because MHP is based on Java technology) will offer a similar license with a royalty scheme not to exceed $1 per hardware unit.[65]

Other important license terms

For essential IPRs, the implementer can either sign a short-term patent license, enter into a broader arrangement with the MHP, or claim that it has developed the MHP implementation on a "clean-room basis", which means that implementers can prove that they created an identical product without access to the previously existing technology.

[65] http:www.mpegla.com/avc/avc-agreement.cfm

AVC/H.264 - 2005

Technology/Purpose

H.264 or AVC (Advanced Video Coding) is a video codec standard for digital compression, the technical content of which is identical to the MPEG-4 standard.

The purpose of the patent pool is to provide "one-stop shopping" for patents essential to the manufacture of H.264 products.

Management

The patent pool for AVC/H.264 is administrated by MPEG LA.

Royalties

A summary of the license terms is available.[66] In short, the terms are similar to those outlined above for MPEG-2 and -4, with royalties assessed by units sold per year and the inclusion of a maximum annual royalty (a cap). All licensed products are royalty-free for up to 100,000 units per year.

Open Invention Network (OIN) for Linux Software - 2005

Technology/Purpose

Linux is an operating system developed under the GNU Project, and is an example of free software and open source development, which means that the source code is available for anyone to download, modify, and re-issue.

The end goal of Open Invention Network (OIN) is to create "a system under which companies will make substantial investments in Linux without any worries regarding intellectual property issues, and under which companies can embed, repackage, and use Linux to create complementary products"[67] the end goal of which is to facilitate innovation in any field able to make use of the technology.

Management

OIN is a company formed in 2005 specifically to promote and protect Linux software. Initial investors included IBM, Sony, NEC, Philips, Novell, and Red Hat. OIN is an incorporated, Limited Liability Company.

Royalties

OIN will license any patent, royalty-free, with the only stipulation being that licensees refrain from asserting their own patents against the Linux environment.

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[66] http://openinventionnetwork.org

[67] *supra,* pg. 19.

UHF RFID Consortium - 2005

Technology/Purpose

Radio Frequency Identification (RFID) tags can be attached to things or people and used for non-intrusive identification. Common examples would be the EZ-PASS system or the anti-shoplifting tags attached to commercial merchandise. UHF (Ultra-high frequency) refers to a bandwidth commonly used for television broadcast, and increasingly used by mobile phone companies and two-way radio users.

According to Via Licensing, the licensing agent for the UHF RFID Consortium, "The purpose of this program is to benefit the RFID industry and patent holders alike, by providing the market with a convenient and cost-effective way to obtain licenses to the patents essential to the practice of the UHF RFID standards."

Management

In September of 2006 the UHF RFID Consortium announced that Via Licensing would administer their patent licensing program. For information on Via Licensing, refer to the section on OCAP.[68]

Other licensing terms

Under the terms of the agreement, Via Licensing will contract an independent, third-party specialist to determine essentiality for all submitted patents and will conduct calls for any additional patents. A single license issued under "fair, reasonable, non-discriminatory" terms will be made available to all interested parties on behalf of essential patent holders.

Recent Pools (and proposals for pools) involving biomedical and agricultural technologies

Pillar Point Partners (Laser Eye Surgery) – 1992

Purpose/Technology

On June 3, 1992, Summit Technology, Inc. and VISX, Inc. pooled existing and certain future patents related to photorefractive keratectomy (PRK).[69] PRK, commonly called laser eye surgery, is a procedure for correcting near/farsightedness and astigmatism by using lasers to reshape the patient's cornea to properly focus light.

The purpose of this pool was to fix prices and eliminate competition between the only two companies with FDA approval to market PRK laser equipment in the United States.

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[68] http://www.ftc.gov/opa/1998/08/sumvisx.shtm

[69] http://www.goldenrice.org/Content1-Who/who3_collab.html

Management

Summit and VISX created a new company, Pillar Point Partners (PPP), under which they pooled and licensed their patents.

Royalties

PPP established a $250 per-use licensing fee, which was divided between the two companies according to a predetermined formula.

Other licensing terms

Under the terms of the pool agreement, neither company was permitted to license its own products without the consent of the other party.

Other interesting information

On March 24, 1998, the FTC issued a complaint against PPP, alleging that the pool restrained competition and fixed prices. In addition, according to the FTC, the two firms no longer competed in the licensing of PRK technology. To counteract these anticompetitive effects, the FTC ordered the two firms to abolish the per-use fee, to notify its customers of this change, to dissolve PPP, and license to each other royalty-free, non-exclusive patents. The firms are also prohibited from coordinating licensing decisions, and from setting the prices at which other manufacturers may license their PRK patents.

Golden Rice Pool - 2000

Purpose/Technology

Golden Rice is a beta carotene-infused, genetically engineered strain of rice aimed at combating vitamin-A deficiency, a leading cause of blindness in third world children. Vitamin A deficiency also exacerbates viral infections, including HIV-AIDS, measles, and several childhood infections. UNICEF estimates that 124 million children are vitamin-A deficient.

The goal of the pool is to provide access to the patents needed to grow, distribute, and use Golden Rice.

Management

According to the Golden Rice website, "The patented key technology for Golden Rice production, invented by Prof. emeritus Ingo Potrykus, of ETH-Zurich and Prof. Peter Beyer, of the University of Freiburg, provided access to a package of ancillary technologies required to engineer the trait into rice. A license to those technologies was obtained from Syngenta. The package contained proprietary technologies belonging not only to Syngenta but also to Bayer AG, Monsanto Co, Orynova BV, and Zeneca Mogen BV. These companies provided access to the required technologies free of charge, for humanitarian purposes."[70]

[70] Potrykus, I. "Golden Rice and Beyond." Available at http://www.plantphysiol.org

Syngenta also helps on the administrative side, ensuring the distribution of the technology to the National Agricultural Research Centers of developing nations, though these governments are ultimately responsible for providing the technology to subsistence farmers.[71]

The Golden Rice Humanitarian Board formed the Golden Rice Network, coordinated by Dr. Gerard Barry of IRRI, to deploy Golden Rice "to the smallholders who will be the primary beneficiaries of the technology."[72]

Other licensing terms

The licenses are granted free of charge to any farmer earning less than $10,000 annually. The inventors also have the right to grant sub-licenses for the same purpose.

Other interesting information

In the United States there are more than 70 patents relating to Golden Rice, but only 12 of those are related to developing countries, and all of those patents have been waived by the right-holders.

AvGFP (Green Florescent Protein) - 2001

Technology/Purpose

GE Healthcare, BioImage A/S, Invitrogen IP Holdings, Amersham Biosciences, and Columbia University in 2001 pooled several patents related to green florescent protein (GFP), a reporter molecule drawn from bioluminescent marine animals which allows researchers to visualize cellular proteins without using chemical dyes.

The purpose of the GFP pool was to clear a patent thicket that restricted commercial use of GFPs.

Management

GE Healthcare acts as the licensing agent in this agreement. According to a GE Healthcare press release, "GE Healthcare has the exclusive rights to offer comprehensive licensing for the intellectual property necessary to make the best use of this GFP technology."[73]

Other licensing terms[74]

GE Healthcare's GFP License includes rights covered by American, European, and Japanese patents on performance-enhancing mutations for AvGFP.

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[71] http://www.goldenrice.org/Content1-Who/who3_collab.html

[72] http://www.gehealthcare.com/company/pressroom/releases/pr_release_10165.html

[73] http://www6.gelifesciences.com/aptrix/upp00919.nsf/Content/drugscr_applications~drugscr_applic_technol~drugscr_gfp~gfp_licenses

[74] http://www.pipra.org

Under the terms of the license, academic and non-profit organizations are free to use AvGFP for research purposes, provided this research is not in the service of a commercial entity, and the research is not passed on to a for-profit organization.

GE Healthcare may also grant licenses to the Columbia GFP rights in addition to the GFP license, or as a separate agreement for the rights held by Columbia University.

The license allows the sub-licensee to purchase products from other licensed vendors, which cannot be purchased without first obtaining a license from GE Healthcare. GE Healthcare also offers a range of GFP-based cellular assays (analysis programs), which include full user rights for each particular assay. Licenses are offered on negotiable terms which may be customized depending on the licensee's requirements. Some examples of licensing schemes include, among others: a non-renewable Technology Evaluation License, of 6 or 12 month duration, intended to cover a single site or project and marketed to smaller biotechs and startups considering using GFPs; a Single Project License which is annually renewable, or; a Research License, which allows broad access to an organization for general research and confers immunity for past infringement.

GE Healthcare's license also includes a Field of Use clause which restricts the use of patented technology to research and development into human therapeutics. This field may be expanded by request to include plant, veterinary, and agrochemical applications.

Public Intellectual Property Resource for Agriculture (PIPRA) - 2001

Technology/Purpose

PIPRA is an initiative aimed at making agricultural technology more readily available for the development and distribution of subsistence crops in the developing world. To this end, PIPRA promotes the management of IP in such ways that biotechnological products are made freely available for research and humanitarian projects, and is exploring the development of a patent pool to give biotech crop researchers greater freedom to operate.

Management

The PIPRA initiative is a collaboration among 39 universities, foundations, and non-profit research institutions in 10 countries. There is no membership fee to join PIPRA; the only requirement is that member institutions be non-profit, working in the agricultural field, and agree to the terms in a Memorandum of Understanding, provided on the group's website.[75] PIPRA is funded by the Rockefeller and McKnight Foundations, and is based on the UC Davis campus under the direction of Dr. Alan Bennett, Executive Director of PIPRA and Associate Vice Chancellor for Research at UC Davis.

Other interesting information

PIPRA members are still working out the details of their collaboration and trying to draft a business model. They have currently agreed to support the following activities: reviewing public sector licensing practices, developing a collective public IP database (in order to inform research institutions of IPR obstacles), exploring the development of shared technology packages (patent

[75] Ibid.

pools), exploring the development of pilot projects, and developing a business model. On the subject of patent pools, the PIPRA website says:

> Patent pools have been used effectively to expedite the development of more than 70 technologies with significant societal impact, including farm implements and digital videodisks. Using the collective public IP asset base to make complementary sets of key technologies available should help public sector researchers obtain freedom to operate in crop biotechnology and significantly reduce the transaction costs now associated with negotiating the large number of licenses required to develop a new crop variety.[76]

stART Licensing, Inc. – 2005

Technology/Purpose

In April 2005, Geron Corporation and Exeter Life Sciences, Inc. formed stART Licensing, Inc., a company which will manage and license their combined portfolio of patents related to animal reproductive technologies, including the cloning technology developed at the Roslin Institute for the cloning of Dolly the sheep.

According to Dr. Scott Davis, President of stART, the company "will focus on generating revenues through an active and broad licensing program. By offering companies and academic institutions access to enabling rights from the Roslin patent portfolio, coupled with the most promising cloning improvements, we can enable best practices, accelerating research and product development in this field."[77]

Management

Geron and Exeter hold 49.9% and 50.1%, respectively, of the for-profit company, and Geron receives additional cash and milestone payments. Exeter provided the start-up capital, and provides management services.

Royalties

According to a Geron press release, "Geron and Exeter will receive distributions of profits from stART proportionate to their equity interests."

Other interesting information

Geron faced three patent interferences from Advanced Cell Technology and Infigen, but the U.S. Patent and Trademark Office invalidated each of these competing animal cloning patents, which enhanced the value of the stART portfolio.

[76] http://www.geron.com/pressview.asp?id=709

[77] www.vialicensing.com

The SARS IP Working Group – proposed 2005

Technology/purpose

The SARS IP Working Group wants to avoid the delays and complications involved in the development of a SARS vaccine by pooling all relevant patents. The end goal is to make SARS vaccines and treatments readily available in case of a pandemic.

Management

The WHO SARS Consultation Group created the IP Working Group. Researchers and non-profit organizations in the U.S., Canada, and Hong Kong have applied for patents to organize a patent pool.

Essential Medical Inventions Licensing Agency (EMILA) – proposed 2006

Technology/purpose

The Essential Medical Inventions Licensing Agency (EMILA) is a proposal to manage patent pools or licensing programs that increase generic competition and access to patented medical products and vaccines in developing countries.

Management

EMILA will be a nonprofit Swiss organization, with members representing a wide constituency from around the globe. These members will elect an executive board that will act as a board of directors. Management will comprise an Executive Director, responsible for the day-to-day operations of the EMILA, and the executive board. The Executive Director and the executive board will determine staffing requirements in order to carry out the EMILA mission. EMILA will have several expert committees that will assist the Executive Director and the executive board, including an EMILA Scientific Advisory Board (SAB).

Royalties

A person who use the pooled patents would pay a single royalty to the pool, using the WHO/UNDP Tiered Royalty Method (TRM). Royalties would be divided among patent owner according to the advice of experts, or through arbitration.

UNITAID pool for AIDS medications – proposed 2006

Purpose/Technology

The UNITAID patent pool was proposed by MSF and Essential Inventions, to pool patents on fixed dose combination AIDS drugs.

Management

UNITAID is a drug purchase facility created by France, Brazil, Chile, Norway, and the United Kingdom and now supported by several other countries. UNITAID's goal is to increase the supply and lower the prices of essential medications in the developing world.

UNITAID is hosted by WHO, in order to avoid the creation of a new bureaucracy, and has established a partnership with the GFATM (Global Fund to Fight AIDS, Tuberculosis, and Malaria). It is not a stand-alone institution, but rather is designed to support organizations such as WHO, UNAIDS, and UNICEF.

Appendix

Patent Pools and Standards in Development

Via Licensing Patent Calls[78]

- Digital Radio Mondiale
- IEEE 802.11 networking
- IEEE 802.16 networking
- MHP
- MPEG-4 Audio
- Near Field Communications (NFC)
- OCAP
- Spectral Band Replication
- TV-Anytime
- UHF-RFID

MPEG LA Programs in Development[79]

- Digital Rights Management Technology
- ATSC (digital terrestrial television standard)
- DVB-H
- Blu-Ray disc

[78] www.mpegla.com