PATENT POOLS: AN INNOVATIVE APPROACH FOR COMMERCIALIZING BIOTECHNOLOGY PATENTS

Presented to: The Arizona BioIndustry Association

November 1, 2005

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Overview

- The Challenge
- Defining "Patent Pools"
- Success Stories
  - Use of patent pools in other technology sectors could serve as a model for biotechnology/pharma industry sectors

Overview

- Biotechnology/Pharma companies and Research Institutes could potentially use patent pools as an innovative way of commercializing their patents
- Logistical issues associated with operating patent pools
- Anti-trust considerations
- Conclusions

Part I

Introduction to the Challenge

The Challenge

- Patent licensee's standpoint
  - Multiple patents covering related technologies increasingly requires negotiating multiple licenses from different patent-holders when seeking to develop or use a product or process
    - More "blocking patents"
    - Obtaining only one license may not give the necessary "freedom to operate"
    - Concern about patent infringement litigation
  - Such "patent thickets" have the potential
    - To raise the transaction costs of doing research and the ultimate cost of products
    - Increase royalty costs due to "stacking of royalties"
  - Organization for Economic Cooperation and Development, "Genetic Inventions, Intellectual Property Rights and Licensing Practices: Evidence & Policies," 2002, Page 15
    (available www.oecd.org - discussion of gene patents)

The Challenge

- Patent licensor's (patent holder's) standpoint
  - Biotechnology and pharma companies and universities/research institutes increasingly have difficulty commercializing individual ("lone") discoveries and/or inventions:
    - Increasingly rare that a lone scientific discovery will fulfill a critical industry need
    - Even patents that have "stand-alone" commercialization potential may fail to find industry application because:
      - » Often not cost effective for a biotech/pharma company to commercialize the stand-alone
      - » Often difficult for universities/research institutes to identify and approach the appropriate industry licensee for the stand-alone

The Challenge

- Patent licensor's standpoint, *cont.*
  - Patent portfolio of Biotech/Pharma companies, research institutes/universities increasingly evaluated by "**breadth**" and "**depth**":
    - "Breath": range of technology categories or applications
    - "Depth": number of patents within a given category
  - Patent-holders asking: "What can we do with stand-alone discovery/invention?"

Part II

Defining Patent Pools

Defining Patent Pools

- Arrangement among multiple patent holders to aggregate the commercialization of their patents:
  - Licensable group of patents
    - Inventions are complementary
  - Patents held by two or more patent holders
    - Technology companies
    - Universities
    - Other research institutes

Defining Patent Pools

- Typical features include:
  - Aggregation of complementary technologies held by multiple patent holders which are "licensed out" to potential licensees through coordinated licensing effort
  - Patents can be licensed to end users/licensees either:
    - Through new entity created by patent holders
      - » New entity is initially licensed the IP rights from the members in order to administer the patent pool and then licensed to end users
    - By authorizing an entity to represent the interests of the patent holders
  - This patent "administrator" acts as "clearinghouse" for licensing out the complementary patents to end users/licensees
  - Allocation of licensing fees to each patent pool member often based on agreed-upon formula

Part III

Success Stories from Other Technology Industry Sectors

Success Stories

- Yes, there are successful uses of patent pools
  - However, to date, these "success stories" tend to be in technology sectors ***other than*** the biotechnology/pharma industry
  - Nevertheless, these success stories could serve as models for the biotechnology/pharma industry
- Application of patent pools may vary by industry sector
  - Patent pools seem conducive to various industries such as:
    - Digital media
    - Wireless/telecommunications
    - Software
    - Hardware
    - Internet technology
    - Other technologies that have developed "standards"

Success Stories

- Use of patent pools in conjunction with "Technology Standards-Setting" organizations
- What are Technology Standards-Setting organizations, (SSOs) and "Standards"?
  - Technology "standards" are common designs for products or processes
  - Standards-Setting Organizations ("SSOs"):
    - Industry groups that develop commonly used technology standards with the intent that the standard will provide greater interoperability and compatibility solutions for particular technologies
    - May also establish a compliance/certification program to certify that the products/processes are compliant with the standard

Success Stories

- Rapid growth in SSOs in many technology industry sectors
  - PC/computer industry
  - Wireless/telecommunications
  - Internet
  - Semiconductors
  - Cable
  - Advanced television
  - Medical equipment/devices
  - Other hardware and software

Success Stories

- Moving Pictures Experts Group (MPEG)
  - SSO that develops digital video compression technology standards for the electronics industry
    - The MPEG2 standard/specification defines how to represent a digital video stream for use in digital cable TV systems, digital satellite for TV and DVD players
    - Scores of "blocking patents" required to implement the standard/specification held by members:
      - » Columbia University, General Instrument, Lucent, Matsushita, Mitsubishi, Philips, and Sony

Success Stories

- MPEG, *cont.*
  - MPEG LA was created:
    - Is a separate corporation which acts as agent to market and license the blocking patents to implementers/licensees:
    - Is a common licensing administrator empowered to grant licenses, collect royalties and distribute back to each licensor/patent pool member
  - Regarded as huge success:
    - 28 members have contributed patents to the pool
    - 500 patents administered
    - Generates US$ millions in licensing revenue

Success Stories

- Other success stories
  - Semiconductor and EDA industry:
    - Extensive use of cross-licensing to develop complex technologies
  - DVD-ROM and DVD-video formats II (1999)
    - Hitachi, Matsushita, Mitsubishi, Time Warner, Toshiba and others pooled DVD-related patents
  - IEEE 1394 digital interface
    - Apple, Compaq, Matsushita (Panasonic), Philips, Sony, ST Microelectronics and Toshiba formed patent pool related to digital interface technology

Part IV

Biotechnology/Pharma Companies
and Research Institutes

Could Potentially Utilize Patent Pools
as an
Innovative Way to Commercialize Patents

Patent Pools in BioTech Industry

- Commentators in the Biotechnology/Pharma industry increasingly evaluating the potential utility of patent pools in their industry:
  - Association of University Technology Managers (AUTM)
  - Association of Independent Research Institutes (AIRI)
  - Licensing Executives Society (LES)
  - United States Patent & Trademark Office (USPTO)

Patent Pools in BioTech Industry

- Potential benefits to patent-holders/licensors:
  - Provides opportunity to generate revenue from "stand-alone" patents that might otherwise provide little to no revenue from royalties
  - Such revenue generation is particularly important to obtain some "ROI' to offset the high expense of obtaining, protecting and defending patents in USA and overseas
  - Aggregation of patents of patent-holders provides opportunity to create a "*breath*" and "*depth*" that allows the patent-holders in pool to:
    - Address a particular technology need; and
    - License the patents towards licensees in that target area

Patent Pools in BioTech Industry

- Potential benefits to patent-holders/licensors:
  - Patent pools help to leverage the aggregate marketing resources of the patent-pool members
  - Aggregation of technologies can generate industry attention:
    - For biotech/pharma: facilitates quicker and easier technology propagation of the aggregate inventions- which, in turn, maximizes the commercialization of the patents
    - For research institutes/universities: integration of complementary technologies

Patent Pools in BioTech Industry

- Potential benefits to patent-holders/licensors:
  - May foster further technology collaborations with the other patent-holders
  - Participation in successful patent pool could augment reputation in your industry sector

Patent Pools in BioTech Industry

- Potential benefits to licensees:
  - Provides convenient, "one-stop" licensing for licensees seeking licenses to complementary technologies/patents
  - Access to quality patents ("*breath*" and "*depth*") and market specific technology for far less than it would cost licensee to develop the technology on its own
  - Greater design/engineering *freedom* offered to licensee's engineers/developers since patent pools:
    - Offers access to more patents with greater "*breath*" and "*depth*"
    - Can design/engineer with less fear of patent infringement

Patent Pools in BioTech Industry

- Potential benefits to licensees:
  - In general, gives greater "freedom to operate" to licensee, thus lessening:
    - Litigation potential and costs
    - Disruption from infringement litigation
  - Access to larger portfolio of technologies (with "*breath*" and "*depth*") helps licensee to penetrate more of its market
  - May foster further technology collaborations with licensors

Part V

Logistical Issues Associated with Operating Patent Pools

Operational Logistics

- Who administers the pool?
  - One or more of members could manage/administer the pool:
    - Often for a fee
    - These selected managers may be authorized to negotiate on behalf of the pool members
  - Create new corporate entity to administer/manage the pool:
    - New entity gets patent license from each member
    - Then licenses out the patents to end-users
    - MPEG LA is an example

Operational Logistics

- What patents should be included in the pool?
  - Issued patents v. pending patents
  - Form patent review board to evaluate individual patents to determine if they are complementary
  - There are anti-trust concerns—we will touch on this in Part VI

Operational Logistics

- How will the pool be marketed?
  - Ideally, all members will promote the pool.
  - At minimum: establish a web site for pool to provide single resource for potential licensees
  - If a separate corporate entity is administrator: marketing might be one of its functions.

Operational Logistics

- How will royalty/revenues be collected and split between the pool members?
  - This is an issue that must be candidly discussed upfront
  - One approach: each licensor's revenue share can be equal to its share of patents in the pool

Operational Logistics

- How will ongoing patent expenses be paid?
  - Will each pool member continue to pay for its respective patent costs (prosecution; maintenance)?
  - Or, will these costs be shared?

Operational Logistics

- Can a member continue to use its patents outside the pool?
  - Anti-trust reasons to *allow* use outside pool (we will touch on this in Part VI).
  - However, on a practical basis, the inclusion of the patent in the pool likely minimizes the potential to license the patents to third parties outside the pool since any such license will have to be non-exclusive.

Operational Logistics

- Issues related to patent infringement by a third party against one of the patents in the pool:
  - Does each member monitor its own patents?
  - Will any costs be shared?
  - What about lawsuit against third party that is infringing?

Part VI

Anti-Trust Considerations Associated with Patent Pools

Anti-Trust Consideration

- "Anti-competitive" considerations
  - U.S. Justice Department and U.S. Federal Trade Commission's "*Antitrust Guidelines for the Licensing of Intellectual Property*" ("IP Guidelines") published in 1995 sets forth the enforcement policies of DOJ and FTC in this area
  - DOJ can conduct a business review of proposed patent pools under these IP Guidelines
  - These IP Guidelines (Section 5.5 covers "cross-licensing and pooling agreements") indicate patent pooling can be "pro-competitive" and does not have to be anti-competitive

Anti-Trust Considerations

- IP Guidelines state that patent pooling can be "*pro-competitive*" when the patent pool:
  1. Integrates complementary technologies;
  2. Reduces transaction costs for licensees ("one-stop shopping" for licensees, thus avoid negotiations with multiple licensors);
  3. Helps licensees to better identify blocking patents;
  4. Helps licensees to avoid costly infringement litigation, and;
  5. Promotes the dissemination of the technology

Anti-Trust Considerations

- IP Guidelines state that patent pooling can be "*anti-competitive*" if these factors exist:
  1. If certain entities are excluded from the pool, then the agencies ask:

     a.) Whether excluded entities can/cannot effectively compete in the relevant market concerning the products incorporating the licensed technologies

     b.) Do pool members collectively possess a certain "market power" in the relevant market; and

     c.) Whether limitations on participation are/are not reasonably related to the efficient development/exploitation of the pooled technologies.

Anti-Trust Considerations

- Anti-competitive factors, *cont.*
  2. If the pooling arrangement deters or discourages members from engaging in further research and development, thus retarding future innovations
     a.) Such as mandatory, exclusive grant-backs to licensor with non-reasonable royalties to licensee
  3.) Are certain restrictions placed on patent holder's rights to use their patented technology outside the patent pool. (i.e., are licensors free to license their patents outside the pool?)

Part VI

Conclusion

Conclusion

- Are patent pools conducive to the biotechnology and pharma industry?
  - White paper from the United States Patent & Trademark Office argues "YES" !
  - *"Patent Pools: A Solution to the Problem of Access In Biotechnology Patents?"* U.S. Patent and Trademark Office December 2000

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