

Patent pools in high-tech industries

Patent pools are the ideal solution wherever an independently administered, one-stop patent licence would be a convenient alternative providing efficient access to core patented technology

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Consumer electronics, telecommunications, computer and related high-tech industries have successfully employed a patent pool licensing model pioneered by MPEG LA that provides access to core “essential” patents from many companies in a single transaction at a known price. The availability of a patent pool licence allows companies to focus on their business rather than patent licensing, and this in turn encourages innovation through marketplace competition. The MPEG LA® Licensing Model offers fair, reasonable, non-discriminatory access to essential intellectual property from multiple patent owners under a single licence as an alternative to negotiating licences separately with each patent owner. It balances marketplace desire for efficient and widespread access to important technology with patent owners’ expectation of reasonable return on their intellectual property. Next-generation wireless telecommunications technologies may also benefit from this licensing model.

Industry standards and patent thickets

A patent is the grant of a property right covering an invention. The right conferred by the patent generally gives its owner the right to exclude others from making, using, offering for sale, selling or importing a product or service incorporating the

invention in the absence of a licence. Technology standards and platforms often involve numerous blocking patents owned by many patent owners, and the number of requisite patent licences may be inefficient and too costly for users to negotiate. This is often referred to as a patent thicket. A patent thicket increases uncertainty and conflict, and restricts freedom of design in a technology area, thereby impeding its adoption, interoperability and use.

The first modern patent pool – MPEG-2

In the 1990s the MPEG-2 standard – the core international digital video compression standard required for virtually all digital television including DVD, faced a patent thicket. The single biggest challenge to MPEG-2 adoption was access to essential patents. MPEG-2 patents owned by many parties made it virtually impossible for the standard to be used. Following a seminal business review letter it obtained from the US Department of Justice (a comfort letter was also obtained from the European Commission), MPEG LA offered an alternative patent pool licence as a solution to address the market’s need for transactional efficiency. The licensing model pioneered and employed by MPEG LA enables users of MPEG-2 technology to acquire essential patent rights from multiple patent owners in a single transaction as an alternative to negotiating separate licences with each patent owner.

MPEG LA’s MPEG-2 licensing programme helped to produce the most widely employed standard in consumer electronics history. The MPEG-2 Patent Portfolio Licence includes 880 essential patents in 57 countries owned by 25 patent owners representing leading consumer electronics companies and universities. It has approximately 1,500 licensees, accounting

Figure 2. Companies that are licensors in MPEG LA patent pools, (June 30, 2009 Data)

Alcatel Lucent
Apple Inc.
British Telecommunications plc
Canon, Inc.
CIF Licensing, LLC
Competitive Technologies, Inc.
Columbia University
DAEWOO Electronics Corporation
ETRI (Korea)
France Télécom
Fraunhofer-Gesellschaft
Fujitsu Limited
General Instrument Corp.
GE Technology Development, Inc.
Hitachi, Ltd.
KDDI Corporation
Koninklijke Philips Electronics N.V.
LG Electronics Inc.
Microsoft Corporation
Mitsubishi Electric Corporation
Nippon Telegraph and Telephone Corporation (NTT)
NTT DOCOMO
Oki Electric Industry Co., Ltd.
Panasonic Corporation
Pantech&Curitel Communications, Inc.
Robert Bosch GmbH
Samsung Electronics Co., Ltd.
SANYO Electric Co., Ltd.
Scientific-Atlanta, LLC
Scientific-Atlanta Vancouver Company
Sedna Patent Services, LLC
Sharp Corporation
Siemens AG
Sony Corporation
STMicroelectronics N.V.
Sun Microsystems
Telenor ASA
Thomson Licensing
Toshiba Corporation
Victor Company of Japan (JVC)
Zenith Electronics, LLC

Figure 1. Current MPEG LA licenses*, (June 30, 2009 Data)

MPEG-2 Program started in 1997	<ul style="list-style-type: none"> • 25 patent holders • 880 patents in 57 countries • 1451 licensees
ATSC Program began end of September 2007	<ul style="list-style-type: none"> • 8 patent holders • 118 patents in 22 countries • 97 licensees
AVC/H.264 a/k/a MPEG-4 Part 10 Program started in 2005	<ul style="list-style-type: none"> • 24 patent holders • 768 patents in 41 countries • 634 licensees
VC-1 Program began mid-March 2007	<ul style="list-style-type: none"> • 17 patent holders • 513 patents in 32 countries • 126 licensees
MPEG-4 Visual – Part 2 Program started in 2004	<ul style="list-style-type: none"> • 29 patent holders • 873 patents in 51 countries • 606 licensees
MPEG-2 Systems Program began end of April 2006	<ul style="list-style-type: none"> • 9 patent holders • 190 patents in 29 countries • 68 licensees
IEEE 1394 Program started in 1999	<ul style="list-style-type: none"> • 10 patent holders • 268 patents in 22 countries • 344 licensees

* Detailed information about these programs including the patent lists, royalties, licensors and licensees is available at www.mpegla.com

for most MPEG-2 products in the current world market, including set-top boxes, DVD players, digital television sets, personal computers and DVD video discs. The MPEG LA® Licensing Model has become the template for addressing patent thickets in other widely used technology standards.

Other high-tech patent pools developed by MPEG LA

In addition to MPEG-2, MPEG LA offers patent pools covering the following standards: ATSC digital television, AVC/H.264, MPEG-4 Visual, VC-1, MPEG-2 Systems and IEEE-1394. The number of patents, licensors and licensees in each pool is shown in Figure 1. More than 40 different licensors participate in various MPEG LA pools, as shown in Figure 2.

Patent pools for wireless 4G technology

Wireless telecommunications is undergoing a rapid and dramatic shift from voice networks to data networks. Just as the shift from analogue video to digital video in the 1990s required broad adoption of MPEG-2 and other digital video standards and resulted in the development of patent pools to provide widespread access to the underlying core technology, the shift from wireless voice networks to wireless data networks using broadly adopted worldwide standards will benefit from patent pools to provide widespread

access to the underlying core wireless technology. The wireless standard provides the platform for efficient interoperability and a patent pool provides efficient access to the core patents underlying the standard, fuelling adoption and widespread use of the standard.

The flat internet protocol (IP) network architecture used in fourth-generation (4G) telecommunications networks such as LTE and WiMAX will provide seamless interoperability between data devices and networks. From a technology provider viewpoint, 4G networks require access to patent rights from areas of traditional telecommunications, wireless data transmission technology, smart antenna and MIMO antenna technology, and computer network packet switching technology. Instead of following the model of traditional telecommunications patent licensing involving a handful of companies, in 4G licensing there will be many patent owners as licensors.

In addition, the subscriber devices operating on 4G networks will include devices beyond mobile phones and traditional laptop computer connections that allow mobile internet access. Many other device categories will utilise 4G data services, such as e-book readers, GPS units, utility meter readers and energy conservation devices, and a wide array of consumer products including digital

cameras, MP3 and other audio players and DVD players. There will be many technology users requiring access to the essential patent rights owned by many licensors.

A patent pool provides an efficient platform for clearing the 4G patent thicket and providing access to the underlying patent licensing transactions for both licensors and licensees. With the availability of efficient licensing pools such as those provided by MPEG LA, companies are free to focus on their business of building and supplying products and services for 4G next-generation networks, instead of devoting disproportionate energy to negotiating patent licences on core 4G technology.

Common misunderstandings involving patent pools

There are several areas of common misunderstanding about what is required to make a successful patent pool and the benefits it provides.

First, not every technology standard may benefit from a patent pool. Some standards are not burdened by patent thickets and some will not be widely adopted in the marketplace, even with the availability of an efficient patent licence. For standards that will not be widely adopted or that do not involve patent thickets, the significant effort and expense required to create a patent pool may not be worthwhile, because bilateral licensing provides an adequate mechanism for accessing the required patent rights.

Second, in order to be viable, a patent pool need not include patents from all known licensors or provide complete patent licensing coverage for a particular technology standard. The purpose of a patent pool is not to solve all patent licensing issues faced by a company, but to provide an efficient, cost-effective patent pool licence as an alternative to negotiating separate patent licences with each pool licensor. In other words, the proper inquiry is whether a pool licence provides a “better” alternative than patent licensing without a pool in place. The question of whether all possible patent owners will be licensors in a pool is a red herring that obscures the simpler economic and practical question of whether a pool provides an efficient licensing alternative to the market when compared with the status quo, for both licensors and licensees.

Elements of the MPEG LA® Licensing Model

Where many users require many licences under many interdependent patents owned by multiple patent owners, a patent pool licence may be useful in promoting

technological innovation and use, permitting freedom of technological movement, reducing the potential for conflict and providing a realistic alternative to traditional bilateral licences. The key elements of the licensing model are outlined below.

Marketability

A licence must be responsive to marketplace needs and to variations on the MPEG LA® Licensing Model suited to meet them.

Without both buyers and sellers, a licence is unmarketable. Among other things:

- Licences should resolve patent thickets (critical mass of essential patent owners with a critical mass of essential patents) that favour a pool licence as an alternative to bilateral licences.
- The subject technology should be of value to a mass market.
- Royalty products should be readily identifiable.
- The licence should reflect a balance of royalty, revenue, administrative fee and other incentives that realise reasonable return to patent owners, reasonable access for licensees, reasonable profit for a licensing administrator and necessary compliance and enforcement efforts.

Legal tenability

A patent pool licence offers fair, reasonable, non-discriminatory access to essential intellectual property, with the goal of including as much intellectual property as possible for the convenience of the market. The patent pool administrator employs independent patent experts to evaluate patents for their essentiality to the defined technology, offers a standard licence agreement with the same terms to everyone, actively markets the licence and takes responsibility for enforcing contractual compliance.

Essentiality and defined field of use

A patent may not be included unless it is infringed by use of the defined technology. This communicates clearly to both licensors and licensees the rights granted by the joint licence and why patents are included or excluded. As a legal matter, it assures that the joint licence is precise enough to include what a licensee needs to practise the particular technology, and that competent competitive implementation options are neither favoured nor foreclosed.

Non-exclusive

Alternative (eg, direct bilateral) licensing options are not precluded to either licensors or licensees.



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Bill Geary is vice president of business development at MPEG LA, where he is responsible for identifying, organising and facilitating new patent pools for licensing by the company. He has been involved in the formation and operation of patent pools in many different technologies for more than 10 years.

Before joining MPEG LA, Mr Geary was general patent counsel in Samsung Electronics' Washington, DC office, where he handled worldwide patent licensing and litigation.

Independence

The licence administrator is neither licensor nor licensee (nor an affiliate of any); both are customers, thus assuring impartial administration of the joint licence with a goal of balancing reasonable access for users with reasonable return to patent owners. Each licensing programme is administered separately, fairly and impartially.

Licensor protections

Licensors share in reasonable allocation of royalties commensurate with their contributions to the licence. The independent patent evaluation process and openness of the joint licence to as many essential patents as possible assure fairness, value and competition law compliance. In addition, to prevent licensees from using the joint licence to protect themselves from lawsuits in order to sue others on their own patents, and to encourage negotiation and innovation in support of the technology platform, a patent owner may remove its patents from licence coverage as to a particular licensee if the licensee brings a lawsuit or other proceeding for infringement of an essential or related patent against the licensor and has refused to grant the licensor a licence on fair and reasonable terms and conditions under the patents on which the lawsuit is based.

Licensee protections

Licensee data is protected as confidential from patent owners, licensees and others. In addition, licensors are required to include all of their patents essential to the defined technology. Licensees are assured most favourable royalty rates and pay the same royalties to MPEG LA whether or not they are patent owners (while at the same time any existing bilateral licences between licensee and licensor may be adjusted directly between them). To assure that a licensee does not take advantage of the joint licence, yet refuse to license its own patents on fair and reasonable terms, any licensee (or affiliate) may add essential patents to the joint licence on the same terms and conditions as other patent holders. But if a licensee chooses not to do so, it agrees to grant back a licence similar in scope to the joint licence rights granted to the licensee on fair and reasonable terms under any essential patents that the licensee and its affiliates may own. In addition, a clear, up-to-date list of licensed patents is maintained, and in the interest of including as much essential intellectual property as possible, the joint licence must remain open for the continuing submission, evaluation

and inclusion of essential patents from both existing and new licensors.

Professional management

The licensing administrator provides a seamless worldwide connection among patent owners, users and technology. This requires:

- A financially sound and motivated organisation with expertise in identifying joint licensing products the market can use.
- Building consensus among fiercely independent patent owners, each with its own expectations of value.
- The development of joint licence products that meet patent owners' interest in a reasonable return and the interest of the marketplace in access to fundamental technology under fair, reasonable terms.
- Intellectual property, antitrust, contract drafting and administration.
- Licensing and marketing.
- Website management.
- Secure online reporting in compliance with audited procedures required by publicly traded companies.
- Licence transaction fulfilment and auditing.
- International tax mitigation and reconciliation.

Conclusion

Wherever an independently administered, one-stop patent licence would provide a convenient alternative to licensing core patented technology, the MPEG LA[®] Licensing Model may provide a solution. By balancing patent users' desire for efficient access to intellectual property with patent owners' interest in reasonable return, while reducing the associated transaction costs, MPEG LA creates the opportunity for wide adoption of new technologies and monetisation of intellectual property and fuels innovation. Today, MPEG LA clears patent thickets in seven licensing programmes covering essential patents in 57 countries (www.mpegla.com). Applying its business model, MPEG LA is developing new programmes for tomorrow in the fields of wireless communication and biotechnology. ■

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