Standards and Patent Pools

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Abstract

This article explains how standards, patents, and patent pools are related. It explains the advantages of patent pools, mentions a drawback that requires caution, and presents practical examples of patent pools.

1. Standards and patents

A patent assigns someone the exclusive right to put into practice a certain invention for a certain period of time in compensation for disclosing technical details of the invention to the public. This concept is therefore the complete antithesis of standardization, which normally aims to promote the widespread use of standardized technology. One way to bring together these conflicting concepts is to make use of a "patent pool", which is a term that often appears in newspaper reports these days. Although this term was explained in the March 2005 issue of NTT Technical Review [1], it is explained again here for the benefit of new readers to the relaunched online version. In addition, an issue regarding patent pools that requires caution is newly introduced here.

First, let me explain the relationship between standards and patents. Consider, for example, the case of DVD (digital video disk) recorders and players. If the video encoding technology used for digitally encoding and recording the images were to differ from one manufacturer to another, your friends would not be able to view DVD content that you recorded unless they had the same devices as you. That would be extremely inconvenient and it would stifle the widespread popularity of such devices. Therefore, recorder and player manufacturers, as well as other parties, got together and set common standards for the video encoding technology that various companies can use. As a result, DVD recorders and players are now widespread.

However, a new problem arises now. What about the compensation for the companies that created patented inventions by spending money and effort? Because standards are intended for universal use, the technical know-how required for a standard should not be monopolized by any company, and other companies should never be prohibited from using it. Although a company's fundamental aim in getting patents is to obtain the exclusive right to put into practice a certain invention, patents required for a standard should be licensed non-exclusively. However, if each company sets its own royalty, then even if the royalty for each patent is small, the total fee for the many patents required to implement the overall standardized technology can be very expensive. That triggers an escalation of device prices, which hinders the widespread use of devices.

The concept of a patent pool was established to control patent licensing so that the overall fee would be low, regardless of the number of patents involved. That is to say, patents required for a standard (known as essential patents) are collected and a lump-sum royalty license for all these patents together is set. Licensing fees paid by device manufacturers that use and implement the standard are divided among the patent pool members, the price of the devices is kept low, and devices enter practice use. Standardized technology offers the prospect of large unit sales, so

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a small patent royalty per device can provide reasonable compensation to all the patent holders. In the past, before the advent of patent pools, one company would control its patented technology and sell products in small numbers at high prices. Patent pool members do not insist on exclusive control of their patents in order to dominate the market and hinder their competitors. Instead, they compromise and try to work together for mutual benefit through cross-licensing. This is the idea behind the patent pool.

2. Operation of a patent pool

A patent pool agent is established, as shown in **Fig. 1**. All the essential patents, which may be owned by multiple holders (the licensors), are gathered by the agent. A user or implementer of a standard (the licensee) can obtain licenses to use all these patents through this agent. Furthermore, the license fee to be paid by the licensee is calculated by the patent agent and the agent pays each licensor in proportion to the number of its patents.

3. Advantages of patent pools

The patent pool has two main advantages.

1) Achieves efficient negotiation for patent licenses

Negotiation for a patent license through the patent pool requires only negotiation with the agent managing the patent pool. This eliminates a lot of the effort that would be needed to negotiate with each patent holder individually.

2) Avoids an accumulation of patent fees

The patent pool ensures that there is no escalation in license fee even when many patents are involved.

4. Caution regarding patent pools

Although a patent pool might seem to offer nothing but benefits to the user or implementer of a standard, there is one drawback that should be noted. When an entity (typically a company, university, or institute) that obtains a license to use patents through a patent pool has a patent that is essential for another standard, there may be some sense of obligation to reciprocate by granting licensing rights for that patent to the members of the patent pool. This is known as a grantback obligation. Such grantback obligations may even be specifically written into patent licensing agreements. An entity that is unwilling to offer such grantback rights to others might have to abandon the idea of licensing patents through a patent pool. In

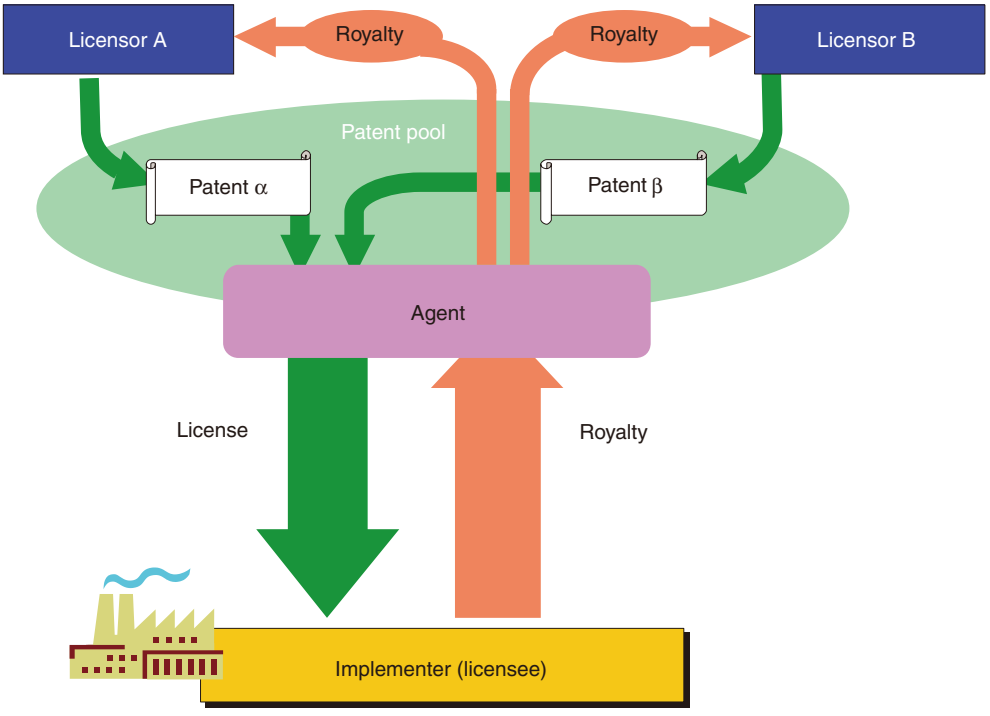

Fig. 1. Patent licensing through a patent pool.

some cases, this sense of obligation can extend not only to the licensee but also to all of its affiliates, e.g., its parent company and fellow subsidiaries. It is widely recognized that the reason grantback obligations apply to affiliates is to hamper the transfer of essential patents licensed by a licensee to its affiliates since they were not party to the licensing agreement. It is therefore essential to clarify the reciprocation policy in terms of grantback obligations before obtaining a license through a patent pool.

5. Practical examples of patent pools

The MPEG-2 (Moving Picture Experts Group-2) Patent Pool was formed in 1997 for patents concerning the ISO (International Standardization Organization) standard related to video recording. Patent licenses were granted in a lump to manufacturers such as makers of DVD recorders/players. After that, in 1998, the Voice Encoding Standard G.729 Patent Pool of ITU (International Telecommunication Union) came into being. A lot of IP (Internet protocol) telephony manufacturers obtain patent licenses in a lump through this patent pool.

Nowadays, many patent pools are being set up and operated in many fields besides video and voice encoding, such as for the third-generation cellular phone market's international standard WCDMA (wideband code division multiple access). The patent pool scheme is appropriate in the following circumstances.

(1) Essential patents are held by a large number of companies

(2) Devices that implement the standard will be used in large numbers, e.g., more than a few tens of thousands worldwide.

6. Conclusion

Standards and patents, which originally had opposite purposes, can come together in harmony thorough the use of a patent pool. This concept enables the widespread implementation of standardized technology while enabling licensing fees to be recovered and patent rights to be exercised properly. Even though the patent pool is not optimal for any standard, the fact that standardized technologies will spread over a wide area and more patents will tend to be covered as essential patents means that the patent pool scheme will probably grow in importance from now on.

References

[1] H. Watanabe, "Patent Licensing of Standardized Technology through a Patent Pool," NTT Technical Review, Vol. 3, No. 3, pp. 63–67, 2005.

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