Interim Report of
"Study Group on the Legal Protection of Software and Promotion of Innovation"
(Tentative Translation)

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Commerce and Information Policy Bureau

1. Point of departure for discussion

Innovation is key to maintaining and enhancing the dynamism of industrial activity. To promote innovation on a large scale, the outcomes of creativity and originality, which are the driving forces of innovation, as well as the profits derived from them, must be appropriately attributed to developers and inventors. This is the perspective from which intellectual property rights systems have been developed and the rights of developers and inventors have been defined and protected. Patents, while protecting new ideas and granting inventors exclusive rights to use such ideas, make the patented inventions accessible to the public. In contrast, the protection given by copyrights to software, which operates through a specific notation called source code, is targeted at the notation itself. Unlike patents, which protect ideas and/or inventions, copyrights protect specific existing products, such as software and programs, and the subject of a copyright is not required to be disclosed.

There is no doubt that such intellectual property rights systems have made a major contribution to the promotion of innovation. However, some point out that a certain incongruity may have developed between the original intention of the copyright and patent systems and the current reality in new fields of technology. This may be particularly true for the software sector, where new inventions are made atop prior inventions. That is to say, the results of innovative development often consist of several inventions that are inextricably layered or linked. To effectively promote and foster continuous innovation, approaches taking this characteristic of software into consideration should be taken when constructing systems and environments.

2. Qualities and issues distinctive to software and the software industry:

The aforementioned incongruity is typically seen in the software sector, presumably because of the following characteristics of software.

<Characteristics of software>

(1) Multilayered structure and communication structure:

As seen in operating systems, middleware and application software, software products have a multi-layered structure, in which the functions of software at upper levels are performed based on those at lower levels. As a result of this, an extension of the functions of upper-level software, for example, must be designed to allow for smooth connection with the lower-level, platform software(s). Given such software structure, a competitive environment in which component products for each layer can be developed without restriction cannot be created without first establishing an environment where developers of upper-level software can properly use rules (protocols, APIs) for invoking the functions of lower-level software and data formats controlled by lower-level software.

A newly developed software component can fulfill its functions only by communicating with other related components. A component has both functions that are performed by the component itself and functions to communicate with other components. In terms of intellectual property rights to be given to software components, some even argue that no exercise of powerful exclusive rights should be allowed for technologies related to the latter functions.

(2) Locked-in effect on software users

Users of information technology accumulate necessary data and install useful applications in their systems, and many different systems are networked for interoperation. A principle of behavior beyond product performance and price competition comes to rule the market if specific software vendors of these systems become dominant. In other words, if the provider of software that accounts for the major part of the market has the exclusive right to use technologies especially related to interoperability and interfaces (and even more so if these technologies have been standardized), factors such as economies of scale and high cost of migration to another platform tend to result in a long-lasting monopolistic market and generate adverse effects on innovation because of inhibited competition.

<Characteristics of the software industry>

The software industry demonstrates the following five characteristics:[1]

(1) innovation occurs on a cumulative basis; (2) capital costs are low, particularly relative to the pharmaceutical, biotechnology and hardware industries; (3) the rate of technological change is rapid, and product life cycles are short; (4) alternative means of fostering innovation exist, including copyright protection and open source software; and (5) the industries have experienced a regime change in terms of the availability of patent protection.[2]

Because of these characteristics of the industry, combined with the characteristics of software itself,

[1] "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy," A Report by the Federal Trade Commission, October 2003, Chapter 3, p. 55-.

[2] The concept of how patents for software-related inventions should be granted has changed in Japan, as follows:

1975: Release of “Patent Examination Criteria for Inventions Concerning Computer Programs (Part 1)”
1982: Release of “Examination Guidelines for Inventions Concerning Microcomputer Application Technologies.”
1997: Amendment of the examination criteria to include storage media containing programs as patentable subject matter.
2000: Amendment of the examination criteria to include programs as patentable subject matter.
2002: Amendment of the Patent Act to clearly define that programs are patentable subject matter.

Reference: Change in the concept of how patents for software-related inventions should be granted in the U.S.

1972: Decision in Gottschalk v. Benson (Supreme Court) →Algorithms are not patentable subject matter.
1981: Decision in Diamond v. Diehr (Supreme Court) →Software-related technologies are patentable subject matter.
1994: Decision in In re Alappat (CAFC) →Affirmation of the patentability of specific algorithms.
1994: Decisions in In re Warmerdam and In re Lowry (CAFC) →Affirmation of the patentability of storage media containing information.
1996: Release of the Examination Guidelines→Algorithms can be claimed as process claims if they are practically applicable as technological arts; data structures, although non-statutory subject matter, can be inventions if stored in media.

the concept of what patents and other intellectual property rights should be has an increasingly greater impact on innovation in the software sector.

It can be also suggested that there are problems specific to software patents, such as the undefined scope of certain patents and the small benefit, in terms of promoting innovation, of disclosing technologies through patents because release of the source code of the patented software product is not required even when the content of the patent is disclosed to the public.

<Debate in other countries>

In the U.S. and Europe, discussions as described below are taking place concerning protection of technologies under intellectual property systems in order to promote innovation in the software sector, with particular focus on the balance between protection by patents and their utilization.

In the U.S., "Innovate America[3]," which was published in December 2004, emphasizes the following points: "While IP ownership is an essential driver of innovation, technological advances in many cutting-edge areas are dependent on shared knowledge, standards and collaborative innovation." "Much shared knowledge and collaborative innovation relies on a standards-based, interoperable, global infrastructure."

In the European Union, the European Commission proposed the CII Directive (a joint directive by the European Parliament and the Council on the Patentability of Computer-implemented Inventions) as a means of securing agreement between EU countries as to software-related patentability decisions. In response, broad-ranging and in-depth discussions recently took place around such propositions as permitting exceptions concerning software-related patents in order to ensure interoperability.[4]

3. Challenges arising from the situation outlined in the above chapter:

The software sector is multilayered and communication-enabled and tends to have a locked-in effect on users, as described in the previous section. Because of such characteristics, the granting of patents may have created unduly powerful exclusive rights in this sector. While certain aspects of this problem can be mitigated by ensuring stringent examinations before patents are granted, the aspects associated with software characteristics may not be easily resolved. Software is essentially characterized by its ability to function only through communication with other software programs. There is an argument that in these essential qualities of software, certain measures should be taken to limit rights, even for claims that formally meet requirements for patentability, to effectively foster innovation across the software sector.

Rights could be limited through one of the following approaches: (1) Based on the current system, restrict the exercise of patent rights on a case-by-case basis by using the abuse of rights principle, (2)

[3] INNOVATE AMERICA (December 2004), National Innovation Initiative Report; Council on Competitiveness

[4] The European Parliament rejected this Directive and related amendment proposals on July 6, 2005, mainly because of the disapproval of developing strict EU-wide rules and opposition from supporters of OSS to the grant of patents for software.

Granting licenses on a case-by-case basis under the compulsory licensing system of the Patent Act, (3) Avoid case-by-case determination and restrict the exercise of patent rights systematically based on a clause of the Patent Act that limits the effect of patents.

The optimal approach should be decided after concrete problems arising from patents in the software sector are identified.

Even in the software sector, with such characteristics as described above, the majority of patents are exercised according to the original intent of the patent system. Therefore, attention should be focused on resolving individual issues and disputes that could potentially inhibit innovation (approaches oriented toward dispute resolution).

The first step toward this should be an examination of cases in which software patents are interfering with innovation in software, identifying concrete problems, and considering adoption of Approach (1) to problematic patterns of practice, as appropriate.

In this process, industry-oriented measures should also be considered alongside legal measures.

4. Actions to Assure Promotion of Software Innovation

(1) Forthcoming legal response – Introduction of legal principle to obtain the same effect as the patent misuse principle:

[Specific action plan]

In order to introduce a legal principle affording effects similar to patent misuse as adopted in the United States, action should be taken to classify systematically as abusive conducts those activities made by patentees to restrict transactions of third parties or to exploit their patents against public welfare for the purpose of maximizing their monopolistic powers, such as (1) Mandating acquisition of a license for another patent (tie-in), (2) Mandating assignment of related patents acquired after licensing, (3) Prohibiting licensees from initiating litigation related to infringement of related patents (Non-assertion of patents provision), (4) Prohibiting licensees from demanding invalidation trials concerning related patent rights (Non-challenge clauses), and (5) Acting to impede interoperability. The system will be organized so that the party arguably infringing the right can use actions considered to exert a significant rights-abusing effect as an argument and as a cause of action in lawsuits to confirm non-existence of the right.[5]

Specifically, “abuse of right” will be legally interpreted as provided in Section 3, Article 1 of the

[5] Article 40 of the TRIPs Agreement
(1) Members agree that some licensing practices or conditions pertaining to intellectual property rights, which restrain competition, may have adverse effects on trade and may impede the transfer and dissemination of technology.
(2) Nothing in this Agreement shall prevent Members from specifying in their legislation licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market. As provided above, a Member may adopt, consistently with the other provisions of this Agreement, appropriate measures to prevent or control such practices, which may include, for example, exclusive grantback conditions, conditions preventing challenges to validity and coercive package licensing, in light of the relevant laws and regulations of that Member. (The following is omitted).

Civil Code and set forth “Rules for Economic Transactions in the Market,”[6] specifying that the above actions can constitute an abuse of right.

[Benefit]

i) Predictability can be assured objectively to some extent, and flexible actions can be taken relative to individual cases.

[Remarks]

i) “Interoperability” is not clearly defined. As a prerequisite for the above action, it is necessary to clarify the definition.

ii) If the “abuse of right” under the Civil Code is expressed systematically in the form of rules, it will be possible to study cases that directly correspond to actual situations, both formally and practically. However, further discussion will be required to consider to what extent we can prepare patterns of "abuse of right” in advance, as a general rule.

(2) Actions by the industry

[Specific action plan]

Propagation of a concept along the lines of “Creative Commons”[7] (or similar). In this possible approach, people will positively participate in the construction of a public domain using particular licenses for intellectual property rights they hold by utilizing the existing intellectual property rights system. Creativity and innovation will be enhanced by making full use of that domain.

Specifically, several corporations have already declared their willingness to make their patents available for free use by the open source community (Patent Commons). This (waiver of patent rights) goes beyond the concept of the “patent pool” conventionally used in the standardization process.[8] In the future, action should be taken to popularize, either in governmental projects or through agreements among private enterprises, the business practices of mutual non-assertion of rights to such patented inventions as relating to certain categories of software, such as OSS, or to interoperability of software, thereby making this concept the standard in the industry, going beyond the previous patent system or standardization activities

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[6] Article 4 of Law to Authorize the Establishment of the Ministry of Economy, Trade and Industry
The Ministry of Economy, Trade and Industry shall take charge of the following tasks in order to perform its duties as described in the preceding article.
(5) Matters related to preparation of rules for economic transactions in the market.
Reference: "Rules on Electric Commerce” have been already prepared to show interpretation on how the Civil Code and other related laws are applied to various legal problems in electronic commerce. These rules also cover the legal interpretation for intellectual properties as matters in the field of information property transactions.

[7] Creative Commons is a project managed primarily by Professor Lessig of Stanford Law School. It is based on the concept that all creative activities can be supported by intentionally restricting control through intellectual property rights (mainly copyrights) and placing the remaining section in the “Commons.” ("Free Culture," Lawrence Lessig (2004) etc.)

[8] IBM (January 11, 2005) http://www.ibm.com/ibm/licensing/patents/pledgedpatents.pdf
Nokia (May 25, 2005) http://www.nokia.com/nokia/0,1522,,00.html?orig=/iprstatements etc.

[Benefit]

It is possible to increase the range and depth of intellectual property in the public domain by utilizing the current patent system.

[Disadvantage]

It is difficult to use this approach effectively as protection against those who do not support this concept.

5. Further Issues to be Studied

(1) Compulsory License System:

In relation to "decision on non-exclusive license set for public interest[s]" (Article 93 of the Patent Law), we will investigate if there is any specific case where the software patent impedes innovation in the software industry, taking into account compliance with international treaties. We will study what form the compulsory license system should take, if necessary, bearing in mind patterns relating to research tools, other fields, and other measures.

The following are matters that may require attention in such consideration:

[Matters requiring attention]

i) For software patents, it is necessary to clarify the contents of "public interest[s]" that are sufficient for decision-making according to the above article, considering the characteristics of the software and competition policies.

ii) The Patent Strategic Plan Related Issues Working Group, a subcommittee of the Industrial Structure Council, discussed the compulsory system last year. They studied the possibility of applying a compulsory license to the patents that would be essential for patents and technology standards related to upstream technology for which alternatives are not easily available, such as research tools. They reached the following conclusions, which must be properly considered:

* Regarding a review of the compulsory license system and its operation as a solution to the problem, there are objections both within and outside Japan. Even within the Japanese industry, no consensus necessarily exists.

* We should not draw quick conclusions just from the viewpoint of reviewing the system and operating a compulsory license. It is also necessary to carefully consider other measures.

iii) The 1994 agreement between the U.S. and Japan is limited to non-exclusive licenses relating to the utilization of inventions under Article 92 of the Patent Law. It is not related to this matter.

(2) Enhanced Application of the Antimonopoly Law:

Exercise of patent rights related to software interoperability can constitute an "unfair trade practice". This clarification in the "Policies of Antimonopoly Law in Relation to Patent and Know-how License Agreements" is expected to:

* Clarify the position on the exercise of such rights in the competition policy; and

* Make it clear that such exercise may be subject to civil suit in addition to ordinary enforcement

procedures by the Fair Trade Commission.

Matters that may require attention in taking this measure include:

[Matters requiring attention]

i) It cannot be said that a transaction constitutes an “unfair trade practice" under the Antimonopoly Law just because the action requirements are satisfied. It is also necessary for competitive injury to be verified.

ii) Making a request for injunction under Article 24 is subject to the condition that the act in question “will or may result in considerable damage”, but no clear interpretation exists for this phrase as there is only a small body of precedents.

(3) Use of Patent Rights Restriction provision and others:

As a statutory action, it is possible to discuss incorporating implementation of a patented invention relating to interoperability into the “range not covered by the effect of patent right[s]" under the patent right[s] restriction provision (Article 69). However, it is necessary to study this carefully, taking into account the following points:

[Remarks]

i) According to Article 30 of the TRIPs Agreement, when providing exceptions to a patent right, it is necessary that "such exceptions do not unreasonably conflict with normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner.”

ii) According to Article 27 of the TRIPs Agreement, patents shall be available for any inventions in all fields of technology. Coordination with this provision will be required.

iii) Further study will be required to clarify the contents of “implementation of the patented invention related to interoperability" as an exception, and to construct a theory explaining why it should constitute an exception.

To date, issues related to establishing right[s] have been also discussed, but specific problem cases have not been examined. It is necessary to verify and clarify the issues.