

# 1 Research and Study on Desirable Patent Protection for New Areas (Business Methods)

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*With the rapid diffusion of computers and networks in recent years, there has been a growing interest in patent applications for new business method inventions utilizing these technologies.*

*However business method inventions have given rise to various issues including whether or not they can constitute statutory subject matter or how their novelty and involvement of an inventive step can be judged, because they do not necessarily need to involve technological progress in hardware.*

*We have examined the appropriate protection of business method inventions based on domestic and overseas trends and opinions gathered from various industrial sectors.*

*This paper is a summary of our study report: "Report of Research and Study on Desirable Patent Protection for New Areas (Business Methods)."*

## I Background to Business-related Inventions

Business-related inventions utilizing computers, etc. (hereinafter referred to as "business-related inventions") had existed even before the Internet came into commercial use as a technology that supports business infra-structures. Such inventions include inventions related to production planning technology or production control technology of the manufacturing industry and inventions related to sales management technology that combines technologies of the manufacturing and distribution industries. These inventions had long been subject to debate as computer software-related inventions.

In recent years, there has been dramatic development in such information processing technologies as the basic computer technology, communications technology, and data processing technology, while active development was also seen in computer software that applies these technologies to communications infrastructures such as the Internet. The development resulted in the emergence of technologies that support business infrastructures, exemplified by the electronic settlement system or the electronic money system. Meanwhile, the increased commercial use of the Internet has given rise to the emergence of new businesses utilizing the global and open features of the Internet. Successive proposals have been made on systems that integrate businesses and technologies that support business infrastructures, and business systems represented by Internet shops and home banking came to be established. These business

systems have come to be recognized as the core of business-related inventions, which are one mode of computer software-related inventions.

Business-related inventions have developed in two ways.

One was through expanding the applied fields of computer software-related technology; in other words, expanding the scope of computer software-related inventions that had been made by the manufacturing or distribution industries. Inventions in this category include new business methods utilizing computers or networks, such as e-commerce or intermediary businesses<sup>(\*1)</sup> on the Internet that were realized through the development of information technology (IT).

The other was through expanding business types connected to computer software-related inventions. Business-related inventions came to be filed not only by the manufacturing and distribution industries, but also by the finance/insurance and service industries that had conventionally been considered to have less connection with patents. Inventions in this category include inventions on financial businesses<sup>(\*2)</sup>, such as the securitization technology, development of derivatives (derivative financial instruments), technology of finance-related operations, financial transaction technology, and asset management technology.

These business-related inventions are drawing attention not only in Japan, but also in Europe and the United States. Particularly, in the United States, the number of business-related inventions is said to be increasing since the CAFC handed down the decision on the State Street Bank<sup>(\*3)</sup> in July 1998.

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(\*1) "Intermediary business on the Internet" released by the JPO in August 1999 (<http://www.jpo-miti.go.jp/info/tyuukai.htm>)

(\*2) "Financial business from the perspective of patents - Difference between levels of financial technologies in Japan and the US -" released by the JPO in June 1999 (<http://www.jpo-miti.go.jp/info/kinyuu.htm>)

(\*3) State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368, 47 USPQ 2d 1596 (1998)

## II Handling of Business-related Inventions (Software-related Inventions) in Japan, the United States and Europe

### 1 Handling by the Japanese Patent Office (JPO)

#### (1) Handling of Business-related Inventions

The JPO considers business-related inventions as one mode of computer software-related inventions. The JPO has announced on its Website in December 1999 that business-related inventions will be examined in accordance with the "Implementation Guidelines for Examinations in Specific Fields: Chapter 1 - Computer Software-related Inventions" (hereinafter referred to as "CS Implementation Guidelines") (\*4).

#### (2) Judgment on Constitution of Statutory Subject Matter

The question of whether an invention constitutes statutory subject matter (a "statutory invention") is judged by whether or not it is a "creation of technical ideas by which a law of nature is utilized" (Section 2(1) of the Japanese Patent Law). Whether or not an invention is a "creation of technical ideas by which a law of nature is utilized" is judged from the items described in the claims.

The specific method to judge the constitution of statutory subject matter is as follows:

- ① Comprehend the claimed invention based on items described in the claims.
- ② If it falls under any of the categories of "Non-statutory Invention" set forth in the "Implementing Guidelines for Examination of Industrially Applicable Inventions," the claimed invention does not constitute statutory subject matter. The categories of "Non-statutory Invention" are as follows:
  - (a) laws of nature per se;
  - (b) mere discoveries;
  - (c) those contrary to laws of nature;
  - (d) laws or the like other than laws of nature or inventions which only utilize such laws (e.g. economic laws), arbitrary arrangements, mathematical methods or mental activities;
  - (e) personal skills;
  - (f) mere presentations of information;
  - (g) mere aesthetic creations; and
  - (h) inventions for which it is clearly impossible to resolve the problem to be solved by any means presented in the claims.

Business methods that do not utilize technologies such as computers or network

systems fall under Category (d). Thus, they do not constitute "statutory inventions" for the reason that they are merely based on arbitrary arrangements or mental activities.

③ Cases in which inventions do not fall under any of the above categories

③-1 First, the examiner comprehends the problem to be solved by the claimed invention by comprehensively examining the items in the detailed description of the invention which are disclosed for persons skilled in the art to understand the technical significance of the invention. Then, the examiner comprehends the means for solving the problem, by also considering the common general technical knowledge at the time of filing the application.

③-2 If the means for solving the problem comprehended in ③-1 (e.g. program processing) is a means utilizing a law of nature, the invention is regarded as a "creation of technical ideas by which a law of nature is utilized."

In order for the above means for solving the problem to be a means utilizing a law of nature, the specific details of the means must be very clear.

When the means for solving the problem is any of the following, it can be regarded as a means utilizing a law of nature:

- (i) controlling of hardware resources or processing accompanying such control;
- (ii) information processing based on the physical or technical property of an object; or
- (iii) processing using hardware resources.

When the means for solving the problem is a mathematical solution, a law of nature per se, a natural phenomenon, a mathematical expression of a law of nature or a natural phenomenon (e.g.  $E=mc^2$ ), or when the means is solely related to human science, it is not regarded as a means utilizing a law of nature.

④ However, even if the means for solving the problem is a means utilizing a law of nature, the invention is not regarded as a "statutory invention" when the means is solely any of the following: "processing using a computer"; "recording a program or data on a medium"; or combination of "processing using a computer" and "recording a program or data on a medium." The reason for such handling is that to regard inventions as "statutory" in the above-mentioned cases would be tantamount to virtually considering inventions that do not fall under "statutory inventions" as patentable.

(\*4) "Examination of business-related inventions" released by the JPO in December 1999 (<http://www.jpo-miti.go.jp/shoukai/bisinsa.htm>)

In this manner, computer software-related inventions are treated as statutory inventions in Japan even if the claimed technology is applied to the area of business methods, as long as the means for solving the problem falls under a creation of technical ideas by which a law of nature is utilized. Therefore, the question of whether or not an invention is a business method does not seem to present a problem when the JPO judges whether an invention constitutes statutory subject matter.

Of business method inventions that do not utilize any computer software-related technologies, those falling under categories of "non-statutory inventions" (laws or the like other than laws of nature or inventions which only utilize such laws (economic laws for example), arbitrary arrangements, mathematical methods, mental activities, etc.) are regarded as non-statutory subject matter.

### **(3) Judgment on Involvement of an Inventive Step**

The question of whether a business-related invention involves an inventive step is judged based on the same standards as for a computer software-related invention. The involvement of an inventive step concerning a computer software-related invention is judged in the following manner.

First of all, the examiner precisely comprehends the state of the art at the time of filing the application with regard to the technical field to which the invention pertains. Then, the examiner makes a judgment through reasoning that a person skilled in the art could have easily arrived at the claimed invention based on the cited inventions.

In the reasoning process, the examiner compares the claimed invention with the cited inventions, and clarifies the identical features and differences found in the items that define the inventions. The chief aspect of the reasoning is whether or not any features of these or other cited inventions (including well-known and commonly-used arts) could serve as a cause or a motivation for the claimed invention. The examiner also considers any effects that are more advantageous compared with the cited inventions as helpful facts for affirmatively presuming the involvement of an inventive step.

The judgment on inventive step is a determination on whether a person skilled in the art could easily arrive at the claimed invention. Therefore, the examiner comprehends the ordinary creativity of persons skilled in the art and constantly bears in mind what a person skilled in the art would do to develop reasoning that the invention could have been easily arrived at. If the means of solving a specific problem is to select the most appropriate material from well-

known materials, to make the scope of numerical values optimum or suitable, to substitute a material with an equivalent material, or to change the design in line with a specific application of technology, it is regarded as the exercise of ordinary creative ability expected of a person skilled in the art. Therefore, if the differences were only found in these points, the invention would generally be considered as an art that could have been easily arrived at by a person skilled in the art, unless there were any other grounds on which it could be presumed to involve an inventive step.

(i) The problem to be solved by the invention

Problems pertaining to software programming or to computerization are often general problems common to computer technologies. Some of such examples are "to advance the level of judgments by applying AI (artificial intelligence) or fuzzy logic" and "to facilitate data input by improving the GUI (graphical user interface)."

The examiner judges the involvement of an inventive step by considering such general problems that had been known in the field of computer technologies.

(ii) Exercise of ordinary creative ability expected of a person skilled in the art

In cases of software-related inventions for an applied field, persons skilled in the art would be those who satisfy all of the following requirements:

must have a common general technical knowledge on the applied field and the field of computer technology (e.g. systematization technology);

must be able to use ordinary technical means for research and development;

must be able to exercise ordinary creativity such as making design changes; and

must be able to comprehend all state-of-the-art technologies in the fields to which the invention pertains (the applied field and the field of computer technology) at the time of filing the application.

Accordingly, for business-related inventions, persons skilled in the art would be those who are able to comprehend all state-of-the-art technologies in the business field and the field of computer technology at the time of filing the application.

## **2 Practices within the USPTO**

Practices within the USPTO are based on decisions of the US Supreme Court, the Court of Appeals for the Federal Circuit (CAFC) and the Court of Customs and Patent Appeals<sup>(\*)5</sup> (CCPA). The USPTO has publicly released

examination guidelines, training materials, Manual of Patent Examining Procedure (MPEP), etc. In order to study the judgment on constitution of statutory subject matter, which is a particularly notable issue for computer software-related inventions, it is essential to understand the case law.

### (1) Constitution of Statutory Subject Matter

35 USC§101 provides as follows concerning constitution of statutory subject matter: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." In the decision of the Diehr case<sup>(\*6)</sup>, the US Supreme Court stated that "the committee reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to 'include anything under the sun that is made by man,'" and mentioned the following as non-statutory subject matter:

- (a) laws of nature;
- (b) natural phenomena; and
- (c) abstract ideas.

The CAFC held in the Alappat case<sup>(\*7)</sup> that, in the Supreme Court decisions of the Flook case<sup>(\*8)</sup> and the Benson case<sup>(\*9)</sup> ruling that mathematical subject matter is not patentable on its own, the court "never intended to create an overly broad, fourth category of subject matter excluded from Article 101. Rather, at the core of the Court's analysis in each of these cases lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection."

The CAFC held that in cases of applying the principle of exception that mathematical algorithms do not constitute statutory subject matter, it is required to examine whether or not the claimed subject matter, as a whole, represents more than abstract ideas in nature, as indicated in the Diehr decision. Accordingly, the CAFC concluded that where the claimed invention as a whole is directed to a combination

of mutually-related elements constituting a machine like the subject matter of Alappat, the invention is not a mathematical concept that falls under an abstract idea, but a machine that produces a useful, concrete, and tangible result. The CAFC did not adopt the Freeman-Walter-Abele test, which had conventionally been used as the standard to judge whether or not a filed invention constituted statutory subject matter.

In the State Street Bank case, the CAFC emphasized that the Freeman-Walter-Abele test had little, if any, applicability to determining the presence of statutory subject matter. It mentioned that application of the test could be misleading, because a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to patent protection.

The State Street Bank case<sup>(\*10)</sup> was a dispute over the invalidity of patent on a system for mutual funds<sup>(\*11)</sup> owned by Signature Financial Group. In the decision of this case, the CAFC denied the existence of the business method exception in the US patent laws. In other words, it stated that business should be subject to the same legal requirements for patentability as applied to any other process or method, and that the business method exception should be abolished since it is an unofficial obstruction against the definition of statutory subject matter under §101, often misleading, unnecessary, and outdated. With regard to the fact that the Massachusetts District Court stated, "5,193,056 Patent is claimed sufficiently broadly to foreclose virtually any computer-implemented accounting method necessary to manage this type of financial structure," as the reason for invalidity based on the business method exception, the CAFC ruled that whether or not the claims are too broad to be patentable should not be judged under §101, but rather under §102 (anticipation), §103 (unobviousness), and §112 (specification).

After the State Street Bank case, the CAFC held in the AT&T case<sup>(\*12)</sup>, which concerned a method of a long-distance telephone service, that the claimed process constitutes statutory subject

(\*5) The Court of Customs and Patent Appeals (CCPA) was reorganized into the Court of Appeals for the Federal Circuit (CAFC) in October 1982.

(\*6) *Diamond v. Diehr and Lutton*, 450 U.S. 175, 209 USPQ 1 (1981)

(\*7) *In Re Alappat*, 33 D.3d 1526, 31 USPQ 2<sup>nd</sup> 1545 (1994)

(\*8) *Parker v. Flook*, 437 U.S. 584, 198 USPQ 193 (1978)

(\*9) *Gottschalk v. Benson and Tabbot*, 409 U.S. 63, 175 USPQ 548 (1972)

(\*10) *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ 2<sup>nd</sup> 1596 (1998)

(\*11) "Data Processing System For Hub and Spoke Financial Services Configuration" (US Pat. No. 5,193,056)

(\*12) *AT&T Corp. v. EXCEL Communications, Inc. and EXCEL Telecommunications, Inc.*, 50 USPQ 2d 1447 (1999)

matter because it uses the Boolean algebraic principle in order to create a useful, concrete, and tangible result. Against this decision, Excel further argued that method claims comprising mathematical algorithms were only patentable if they involved a physical transformation or conversion of subject matter, and the claims in question did not satisfy this requirement. However, the CAFC dismissed Excel's claim by holding that physical transformation is not an invariable requirement, but merely one example of how a mathematical algorithm may constitute statutory subject matter<sup>(\*13)</sup>.

## **(2) Future Examination Practices**

In 1996, after the CAFC gave a series of decisions on patentability of computer-related inventions (the Alappat case, the Lowry case<sup>(\*14)</sup>, etc.), the USPTO issued Examination Guidelines For Computer-Related Inventions. It then published training materials to supplement these guidelines<sup>(\*15)</sup>. The training materials explain patentability of computer-related inventions by taking business methods of mutual funds, etc. as examples. In the example of mutual funds, it is explained that mere calculation of an optimum account allocation for the funds in the mutual funds cannot be considered as a practical application, and thus, does not constitute statutory subject matter. However, if the invention includes a step of displaying the optimum account allocation on an investor monthly account summary report to an investor, etc., the invention is statutory. Accordingly, it was regarded that "abstract ideas," such as a process constituted only by mathematical operations without involving any practical applications, did not constitute statutory subject matter.

In the State Street Bank case, the CAFC ruled that an invention is patentable if it creates a useful, concrete, and tangible result. In order to clarify the content of useful, concrete, tangible results, the USPTO is allegedly planning to make slight modifications to the examination guidelines to fully reflect the gist of the CAFC decision, based on the interpretation that such results should be directly applicable and have real world value.

Incidentally, the amended Patent Act enacted on November 29, 1999 included a provision on the prior user's right for business methods. The new section provides that a person, who had actually

reduced to practice a business method corresponding to the claimed patent at least one year before the effective filing date of such patent, can raise a defense to an action for infringement under 35 USC§271 that was filed against the person for having infringed the process claim of the said patent.

## **3 Practices within the EPO**

### **(1) Legal Groundwork**

Practices within the EPO are based on the European Patent Convention (EPC), Implementing Regulations to the EPC, and case law of the Boards of Appeal. With regard to examination practices, guidelines for examination are also released.

There are provisions on business-related inventions under Article 52 of the EPC.

Article 52(2):

"The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

- (a) discoveries, scientific theories and mathematical methods;
- (b) aesthetic creations;
- (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
- (d) presentations of information."

Article 52(3):

"The provisions of paragraph 2 shall exclude patentability of the subject matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject matter or activities as such."

Business methods as such are excluded from patent protection. However, handling of the so-called business-related inventions, which actualize business methods by computers, etc., depends on the interpretation of this Article 52 of the EPC.

In the decision of T1173/93 where the main point of dispute was patentability of claims on computer program products (decision of July 1, 1998; OJEP0 10/1999, 609), the Technical Board of Appeal analyzed the past Board decisions on patentability of such claims and added a new interpretation to it. This Board decision is considered to serve as an important decision in studying the future trends on this issue. Since this

(\*13) "Call message recording for telephone systems" (US Pat. No. 5,333,184). Nevertheless, this patent was later judged to be invalid for the reason that the invention is obvious from prior art documents by a US District Court of the District of Delaware (December 25, 1999).

(\*14) The Lowry decision (decision of August 26, 1994) indicated that storage media storing structured data can constitute statutory subject matter.

(\*15) "Training Materials Directed To Business, Artificial Intelligence, And Mathematical Processing Applications" (<http://www.uspto.gov/web/offices/pac/compexam/comguide.htm>)

decision was favorably accepted in Europe, it is highly likely that the practices of each European country will be harmonized based on this idea.

## **(2) Past Case Law of the Boards of Appeal**

The non-statutory inventions listed under Article 52(2) of the EPC are all abstract subject matter (e.g. scientific theories) or non-technical subject matter (e.g. aesthetic creations and mere presentations of information).

Considering that Article 52(2) of the EPC and Rule 27 (Content of the description) and Rule 29 (Form and content of claims) of the Implementing Regulations to the EPC require the applicant to describe and define the invention in terms of its technical character, a basic idea can be derived that patentable invention must have a technical character.

The decisions by the Boards of Appeal have undergone changes concerning how this technical character should be evaluated.

In the beginning of the 1990s, it became established to evaluate the technical character based on whether or not the invention made some kind of technical contribution to the state of the art, and ensuing judgments on the technical character were made based on this criterion.

In the decision of T854/90 (OJEP0 1993, 669), the claimed invention in question was related to an automated self-service machine (e.g. a cash dispenser) that allows access by using a person's different cards based on the credit information of a single specific card owned by that person. The Board stated that, because the claimed items merely indicated how to use a device, they were directed to the method of doing business as such even if it utilized technical elements. The Board further examined the involvement of an inventive step, and concluded that the difference from prior arts was only artificial rules, which were equivalent to arbitrary arrangements made when necessary by a person skilled in the art, and thus, the claimed invention did not involve an inventive step either.

The criterion for technical contribution was criticized as being unclear, because it involved a very detailed evaluation of technical contribution of the invention to prior arts, and seemed to overlap with the evaluation of inventive step. Under this criterion, a large number of new information technologies would be judged as non-statutory subject matter.

In the decision of the SOHEI case (T769/92) in 1995, the Technical Board of Appeal made an attempt to introduce an unprecedented criterion by using a term "technical consideration."

This was a case where the applicant claimed multiple types of independent management systems (including financial management and inventory management). These systems were

intended to be used for inputting various kinds of managerial data that were subject to independent processing. The Board acknowledged the patentability of these systems for the reason that they provided multiple files and means for processing data and therefore involved technical considerations. It added that the patentability will not be denied by the fact that a part of the systems was used for financial management.

The introduction of the criterion of technical consideration is considered to have made it easier for claims including non-technical items to be acknowledged. The fact that many of the later Board decisions supported patentability is believed to be based on an idea that any invention with a technical character is patentable.

These precedents show how the Boards of Appeal of the EPO made a liberal interpretation and application of the EPC before the IBM decision.

The European Commission emphasized in the "Green Paper on the Community patent and the patent system in Europe" dated June 24, 1997 that appropriate protection of programs is indispensable for the development of European industries, and there was an increasing call for patent protection of programs in Europe.

## **(3) Recent Development (the IBM decision)**

In the IBM decision (T1173/97), the point of dispute was whether or not claims on computer program products were patentable when Article 52(2) of the EPC excluded computer programs from patentable subject matter. IBM claimed that the purport of Article 52 of the EPC was to exclude subject matter lacking a technical character, therefore, even a computer program should be patentable if it had a technical character. The Examining Division had rejected the invention stating that as long as programs were excluded from patentable subject matter under Article 52 of the EPC, such claims cannot be patented.

The Technical Board of Appeal invoked Article 31(1) (General rule of interpretation) of the Vienna Convention on the Law of Treaties ("A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.") to interpret the purport of excluding computer programs from patentable subject matter under Article 52(2) of the EPC. It concluded that, since the purport of Article 52 of the EPC was to exclude non-technical subject matter from patentable subject matter, computer programs excluded under Article 52(2) of the EPC did not incorporate programs having a technical character. The Board also mentioned that

although the TRIPs Agreement did not apply directly to the EPC, such an interpretation was also in compliance with the purport of Article 27 of the TRIPs Agreement, which provides that patents shall be available for inventions of all technical fields.

The Board made further examination on the criterion for judging whether a computer program had a technical character. As a result, it held that although the mere functioning of a computer cannot be used as a criterion to judge the presence of a technical character, because all computer programs execute instructions given to a computer, further technical effects produced from executing the program can be used as such a criterion. The Board presented a different criterion from "technical contribution" that had been conventionally used for judging patentability, mentioning that the technical effects can be something known from the past and that the evaluation of technical contribution, which compares the invention in question with prior arts, should rather be conducted for examination on inventive step.

The Board stated that whether a computer program was claimed as such or as an item recorded on a medium did not affect patentability, and quoted the decision of T163/85 (OJEPO 1990, 379) where claims for color television signals were acknowledged.

This IBM decision is regarded to have indicated the following new interpretations:

- (a) Computer programs having a technical character are patentable subject matter;
- (b) The status of the program does not affect the patentability (Whether it is a program as such, a program recorded on a medium, or a program in a signal form does not matter.);
- (c) The technical character of a computer program is evaluated by the presence of "further technical effects"; and
- (d) "Technical contribution" should be used for examination on inventive step, and is not appropriate as a criterion for constitution of statutory subject matter.

The original point of dispute in this decision was over the appropriateness of claiming computer program products. However, the Board took a further step in offering a new criterion for evaluating technical character, thereby corresponding to the past criticism that the criterion for the technical character caused confusion with that for the inventive step.

The European Patent Organization is currently making a drastic revision of the EPC. In response to the IBM decision, it is also examining to amend Article 52 of the EPC.

Although this decision concerns computer programs, the same idea is expected to be

applied to business-related inventions, because most business-related inventions are also expressed in the form of programs.

#### **(4) Expected Examination Practices**

The EPO is revising the current guidelines for examination to reflect the purport of the IBM decision, and is expected to release the new guidelines in the next few months.

The following are the revisions expected in light of the IBM decision:

- (a) Even in cases where the claimed invention provides a technical effect, if it does not provide a solution to the technical problem, it does not fall under a statutory invention set forth in Article 52(1) of the EPC;
- (b) In cases where the claimed invention is a computer program as such or such program recorded on a medium, the technical effects produced at the time of running the computer should be identified;
- (c) If the technical effects exceed the ordinary physical interaction between a program and a computer, regardless of whether or not they are already known effects, the claimed program has a technical character;
- (d) Otherwise, it is not regarded as a statutory invention set forth in Article 52(1) of the EPC;
- (e) The claims must specify all features required to bring about that technical character.

#### **(5) Future Prospects**

The IBM decision by the EPO presented a new criterion for judging the patentability of claims comprising non-technical items. However, this is only a decision given by one of the collegial bodies of the EPO. Furthermore, patents granted by the EPO are subject to validity disputes in the respective member countries. It is necessary to observe the future development of the matter in each country in order to see how each country accepts the idea presented in the IBM decision.

The UK Patent Office has reflected the essence of the IBM decision in its examination practice. Also, some German patent court judges have indicated their support for the new criterion presented in the IBM decision. Because the IBM decision has derived the conclusion by taking the TRIPs provision into account, it is highly likely that this idea will be accepted by the member countries.

Concurrently with the amendment of the EPC, the European Commission is creating a directive for harmonizing laws on patentability of computer programs. This directive is highly assumed to be in line with the IBM decision.

### **III Report of a Questionnaire Survey on Protection of Business-related Inventions**

As a part of this research and study, a questionnaire survey was conducted from December 1999 through February 2000 in order to comprehend the current status of business-related inventions in each industry more accurately. The survey was conducted on member enterprises of the Japan Information Service Industry Association (JISA), Japanese Bankers Association, The Marine and Fire Insurance Association of Japan, Inc., Japan Intellectual Property Association, and Japan Personal Computer Software Association (JPSA).

Of 905 sample enterprises, 469 enterprises accounting for 51.8% of the total responded to the questionnaire. The main businesses of the respondents were related to computers, software/information services, communications, chemicals, metal/machinery, banking, insurance, etc.

A total of 45.6% of the respondents acknowledged the need for protection of business-related inventions utilizing computers, etc., far exceeding the 19.6% of enterprises responding that there is no such need. In both the computer and banking industries, about as much as 70% of enterprises acknowledged the need for protection of business-related inventions. It was found that, as a whole, the respondent enterprises support statutory protection of business-related inventions. Also, enterprises with a larger capital amount, a larger number of employees and a larger sales amount were more inclined to support statutory protection of business-related inventions.

On the other hand, only 14.9% of the respondent enterprises acknowledged the need for protection of business methods that do not utilize any computers or networks. Apart from the 33.3% support indicated by computer-related industries, most enterprises showed a similar tendency. Overall, enterprises tended to be negative about statutory protection of business methods that do not utilize computers or networks.

When asked about the desired protection of business-related inventions after pointing out the fact that cross-border transactions will become possible through the Internet, 86.9% of the respondents supporting protection indicated their wish for internationally-harmonized protection of business-related inventions. The same tendency was observed in the results by each industry. When the enterprises not supporting protection of business-related

inventions were asked about measures for business-related inventions after pointing out the issue of extraterritorial application, 63.0% responded that international harmonization should be achieved. The survey results suggested the demand for international harmonization of patent systems and practices.

The survey revealed that it is possible to meet the demand of the industries by protecting business-related inventions utilizing computers, etc. by taking international harmonization into account. Therefore, it is considered that the industries do not have any serious objections to the present JPO policy.

As for the respondents' awareness of filing applications for business-related inventions, only 17.7% of the total had filed applications for business-related inventions. However, 40.1% of the total number of enterprises, which is more than double the percentage of those who have already filed applications, were taking some measures regarding business-related inventions, and as much as 72.8% of the total indicated their intention to file business-related inventions in the future. It was found that although Japanese enterprises are not yet filing applications for business-related inventions actively, they are steadily taking measures on business-related inventions.

### **IV Examining the Protection of Business-related Inventions**

#### **1 Clarification of Examination Practices for Business-related Inventions**

Business-related inventions utilizing computers, etc. are an extension of computer software-related inventions, and they are examined in accordance with "Implementation Guidelines for Examinations in Specific Fields: Chapter 1 - Computer Software-related Inventions."

Since the Japanese Patent Law provides that a statutory "invention" must be a "creation of technical ideas by which a law of nature is utilized" (Section 2(1) of the Japanese Patent Law), it is considerably difficult to regard business methods that do not utilize hardware resources, such as computers, per se as statutory subject matter based on the interpretation of the current law.

It is considered that most part of the present demands of Japanese industries can be met by protecting business-related inventions utilizing computers, etc.

Therefore, it should basically be sufficient to protect business-related inventions utilizing



computers, etc. in accordance with the current examination standards.

In terms of inventive step, the involvement of an inventive step should be acknowledged when a new innovative method utilizing computers or the Internet was invented or when the method of using the information infrastructure was novel even if the business method itself was already known. However, when the invention was merely an already known business method mounted on an information system, the judgment should be made carefully by also estimating its effects.

It is desirable to clarify specific criteria for examination of business-related inventions by establishing examination standards, etc.

It is important to conduct accurate examination on novelty and inventive step. Because gathering of prior art documents, etc. is essential to this end, increasing efforts should be made to expand computer software databases (CSDB).

In the event that business-related inventions were patented and exerted influence on wide-ranging areas, there may then be a need to take policy actions regarding their enforcement. Therefore, it is also required to pay special attention to their influence.

## **2 Issue of International Harmonization**

Information is distributed across borders through computer networks. Business-related inventions will also be worked across borders. Under such a situation, there would be strong calls for international harmonization. Operations pertaining to statutory protection of business-related inventions should take account of international harmonization with countries overseas.

Industries also hold expectations for the international harmonization of patent systems and practices concerning business-related inventions.

Since there are virtually no national borders in the world of the Internet, inventions on systems utilizing Internet servers (particularly apparatus inventions) present a problem of whether a party can escape from infringing a patent granted in a specific country by installing a server in a country that does not grant patent rights for such inventions, and working the invention in question on a worldwide scale. Accordingly, it was pointed out that inventions in the area of the Internet may not be protected completely under the present patent systems, which are based on the principle of territoriality. Meanwhile, it was reversely pointed out that if even a single country granted patent rights on business-related inventions utilizing the Internet,

a party can be sued by the patentee for infringing the patent in spite of working the invention in countries that do not grant patents for such inventions (issue of extraterritorial application); therefore, there is a concern that the country providing the largest scope of patent protection would gain dominance. The need to examine the issue of judicature for patent disputes was also pointed out.

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