



AN IMPORTANT MARKET: SOFTWARE PATENTING IN JAPAN

Developing a robust international patent prosecution strategy is essential in today's global economy, and Japan is a vital jurisdiction, say Kenji Sugimura and Rebecca Chen.

Software is one of the most innovative and fastest growing industries in the world, leading corporations to turn increasingly to patents to protect their software-related inventions. Businesses have begun to leverage the value of software-related patents, evidenced by the prolific mobile patent wars and the wave of multibillion dollar patent portfolio acquisitions.

Including Japan in a company's international patent prosecution strategy is crucial for several reasons. Japan is the third largest economy in the world. Additionally, Japan has the second highest number of registered software-related patents in the world. These registered patents cover a wide range of technologies including embedded software in consumer goods and appliances and developments in vehicle network technology. Japanese companies also rank among the top patent filers.

As the applicability of software inventions continues to broaden, more opportunities are created for inventors to license their patented inventions to these Japanese companies. Given the importance of the Japanese industry and the opportunities within the software-related technology in the global marketplace, it is imperative for companies to develop international patent prosecution strategies with Japan in mind. Specifically, foreign companies should be aware of the similarities and differences in prosecuting software-related patents in Japan and in their home countries.

Software patentability trends in Japan

In 1999, the allowance rate for business method patents at the Japanese Patent Office (JPO) reached an all-time high of roughly 35 percent.

Subsequently, the JPO experienced a surge in business method patent filings. This surge was met with a dramatic decrease in the average grant rate of business method patents during the following six years; it lingered around 8 percent between 2003 and 2006 (8 percent is extremely low in comparison to the average of 50 percent across all technical fields). Since 2006, the average grant rate for business method patents has risen to the current rate of roughly 25 percent.

The earlier dip in grant rate was due in part to the business method-related patent boom at the turn of the century. It drove many companies and individuals to draft patent specifications before acquiring an accurate understanding of examination guidelines and other patent rules. During that time there were very few case studies, so even experienced patent drafters were unsure how the JPO would interpret specific rules.



There are various challenges associated with the protection of intangible software-related inventions. Equipped with knowledge gained from numerous cases that have since succeeded and failed at the JPO, Japanese patent attorneys can now draft specifications and claims to avoid rejection. This phenomenon can be seen in the rising grant rate of business method-related patents. In view of these trends, it is advantageous to understand the intricacies of the Japanese patent practice.

Subject matter eligibility

The Japanese Patent Act defines an invention as a “highly advanced creation of technical ideas utilising the laws of nature”. Unlike hardware-related inventions, there is no direct link between software-related inventions and the laws of nature. The requisite use of the laws of nature is

met when “information processing by software is concretely realised using hardware resources”. The JPO further clarifies that “information processing software is concretely realised by using hardware resources” when the software and hardware resources are working together so as to realise arithmetic operations or manipulations of information. Therefore, software can be patentable if the information processing by the software is concretely realised using hardware.

The information-processing device and operational method which work in concert with that software, and the computer-readable storage medium on which the software is recorded, are also patentable as software-related inventions. The key here is to ensure that the description of software-related inventions conveys the software and hardware resources “working in concert”. This allows claims to be amended in the future

to show that the software works together with the hardware, which is essential for responding to rejections for non-statutory subject matter.

In addition to the requisite cooperation between software and hardware, the Japanese Patent Act also requires that all patentable inventions be “industrially applicable”. Inventions that may have market or commercial potential can be patentable. In contrast, inventions where practical application is impossible, even if the invention is theoretically operable, are not patentable.

Description requirements

As mentioned earlier, proper attention should be paid in drafting the specifications of software-related inventions to ensure that the description includes a specific or concrete means to carry out the invention. The Japanese Patent Act requires that the invention for which a patent is sought be

clearly defined. Rejections from the JPO based on a lack of clarity in the invention can arise from:

- Unclear descriptions of the claim itself;
- Incomprehensible technical meaning of elements defining the invention;
- Technically unrelated elements used in defining the invention;
- Use of expressions where the standard or degree of comparison is unclear; and
- Defining the invention by the intended result to be achieved where nothing tangible is devised.

Additionally, the specifications must satisfy the 'enablement' requirement. The description of the invention within the specification must be sufficiently clear as to enable "a person skilled in the art" to work the claimed invention. A person skilled in the art is deemed to have ordinary creative ability and use of ordinary technical means for performing research and development in the technical field to which the invention pertains. The original specification should fully disclose the hardware arrangement of the apparatus to which the software is applied, the specific functions of the hardware, and the relationship between software and the hardware.

The claims must satisfy the support and clarity requirements. Accordingly, in drafting the claims, care must be given to the language used so that the claims properly and clearly recite a method performed by a computer or machine and not by a hypothetical person or administrator. The claims and the specification must also be written in concert with one another so that the claimed invention is sufficiently supported by the original specification. Again, the claimed features must be sufficiently disclosed in the specification as a step executed by hardware.

The JPO deems drawings to be supplemental in nature and not required. However, in practice, when prosecuting software-related inventions, drawings should be used to complement the disclosure. The functional description of the elements of the invention should be coupled with hardware descriptions and supported with flowcharts, diagrams, and outlines. The latter should explain how the steps are carried out by the software and should be as detailed as possible, including the application of subroutines and modules, data flows, and timing charts when possible. The inclusion of these details is important to enable one skilled in the art to carry out the software-related invention and to establish a basis for future amendment should any of the claims be

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rejected for being unclear, or for failing to recite a method performed by hardware.

Inventive step

Only inventions with an inventive step are allowed to be patented. Whether claimed inventions involve an inventive step is determined by whether those inventions could have easily been invented by a person skilled in the art, based on prior art and the state of the art in the field to which the present invention pertains at the time of the filing. The JPO will examine the claimed invention together with the prior art to assess whether the invention is a simple aggregation of features from prior art and whether the prior art discloses a motivation to arrive at the claimed invention.

In software-related inventions, advantages of the invention that are expected by computerisation are not considered inventive. These non-inventive advantages include quicker processing times and processing large amounts of data. Other non-inventive advantages of software-related inventions include combining technologies used in one field and applying them to another field, additions of commonly known means or replacement by equivalents, software implementation of functions performed by hardware, and computerisation of existing human transactions. Although helpful, these advantages are usually considered to be within the scope of the ordinary creative activities of a person skilled in the art. Therefore, in cases where there are no technical difficulties or hindrances pertaining to the combination or application of existing technologies, no inventive step is recognised.

Given Japan's prominence within the software industry and the global marketplace, it is prudent

for companies to develop international patent prosecution strategies with Japan in mind. Companies should be aware of the similarities and differences in prosecuting software-related patents in Japan and in their home countries. This will enable them to craft original applications from their home country in anticipation of future international patent prosecution.

Understanding how the JPO interprets specific patent requirements is crucial when drafting patent applications, to avoid the challenges associated with the protection of intangible software-related inventions and in order to tailor applications appropriately prior to filing, or entering the national phase in the case of Patent Cooperation Treaty filings, in Japan. ■

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