Patenting software in China: the challenges of drafting

By: Stephen Yang
Peksung Intellectual Property, Ltd.

How should you draft a Chinese patent application for a computer program invention? Stephen Yang of Peksung Intellectual Property offers some prosecution solutions

The prosecution of computer program patent applications in China has been difficult. Chinese examiners are very meticulous in the format of claim drafting. This article will explain the current Chinese practice and give advice on the drafting of claims and descriptions in such applications.

According to the Guidelines for Patent Examination, a claim of a computer program patent application can be drafted as a method claim or apparatus claim. In the apparatus claim, each component should completely correspond to each step in the computer program flow, or each step in the method claim reflecting the computer program flow. Each component in the apparatus claim will be regarded as function modules and the apparatus claim, which is defined by such a group of function modules, is regarded as the function module architecture to realise the solution, mainly through the computer program described in the description rather than physical devices to realise the solution through hardware. An example is given below:

Claim 1: an online printing method comprises step A, step B and step C.
Claim 2: an online printing system comprises first means to perform step A, second means to perform step B and third means to perform step C.

Claim 2 meets the drafting requirements as it is drafted in the format of function module architecture completely corresponding to the steps of the method and is construed as function module architecture realising a solution through the computer program. If the description includes sufficient description of the computer program flow, such a claim is regarded as being supported by the description. If an apparatus claim is drafted, the applicant should make sure each component therein completely corresponds to each step in the computer program or each step in the method claim. The subject of the apparatus claim should strictly correspond to that of the method claim, too.

However, a decision made by the Shanghai High People's Court on 24 February 2014 in Nokia v Huaqin (HuGaoMin San (Zhi) ZhongZi No.96 (2013)) brought about heated discussion among intellectual property professionals in China over this type of claim format.

In this decision, the Shanghai High People's Court maintained the first instance court's decision and rejected Nokia's allegation that Huaqin infringed claim 7 of its Chinese patent (ZL200480001590.4), which is a product claim drafted in the format of function module architecture. The court decided that claim 7, written in the format of "a terminal device, configured to", uses functional limitation. As a result, its scope should be construed according to Article 4 of the Interpretation of the Supreme People's Court on Issues Concerning the Application of Law in the Trial of Disputes over Infringement of Patent Rights, issued by the Supreme People's Court. This prescribes that for a technical feature in a claim represented by function or effect, the courts will determine its content by referencing the specific embodiment and its equivalent embodiment(s) of the function or effect as described in the description and the appended drawings.

However, as the description contains no content about the hardware device, the court decided that since there is no specific embodiment of a hardware device in the description, it is impossible to determine the scope of claim 7 with functional limitations and to determine whether the allegedly infringing product falls within the scope of claim 7. One of Nokia's arguments was that in a related invalidation case, the Patent Re-examination Board, Beijing No.1 Intermediate People's Court and Beijing High People's Court all decided that claim 7 is clear and maintained its validity. But the Shanghai High People's Court ruled that claim 7 is

clear only in the sense of meeting the requirement for granting patent rights and the practice is not applicable to judging infringement.

This decision has been regarded as controversial. On the one hand, the State Intellectual Property Office (SIPO) regards claims drafted in function module architecture as protecting methods, in essence. On the other hand, the Shanghai High People's Court regarded such claims as strictly product claims with functional limitations. Although China does not follow case law, applicants are advised to keep the Nokia v Huaqin decision in mind when drafting their claims and descriptions.

First of all, applicants should make sure that the descriptions in their computer program patent applications meet the sufficiency requirement. Although not compulsory, it is preferred to include a principal flow chart of the computer program in the drawings of the description. An explanation of every step of the computer program should be made in the description in natural language, based on the flow chart. Actual source code is not necessary but may be helpful with annotations.

In addition, in light of the Nokia v Huaqin case, it is preferred to include content relating to hardware in relation to the computer program rather than only describe the program itself. Such a description may include the implementing environment of the computer program, hardware components, network structure and relations of components, etc.

In practice, many claims comprise both hardware features and method features corresponding to steps of the computer program. Claims may take one of the following formats:

Claim 3: an online printing system comprises a memory and a processor configured to execute the instructions stored in the memory, wherein said instructions comprise step A, step B, and step C.
Claim 4: an online printing system comprises a memory and a processor configured to perform step A, step B, and step C.
Claim 5: an online printing system configured to perform step A, step B and step C.
Claim 6: an online printing system comprises a memory, first means to perform step A, second means to perform step B and third means to perform step C.

Claim 3 will be objected to for a lack of clarity. The examiner will comment that the instructions are neither structure nor method features and so the structure of the system is unclear.

Claim 4 will be objected to for lack of claim support. The examiner will comment that since it is not drafted in function module architecture, the definition of the processor is regarded as covering all the possible manners of performing the method, but the description only discloses using a computer program to perform the method and so a person skilled in the art cannot appreciate that other manners not disclosed in the description can also perform the method. Therefore, claim 4 is not supported by the description.

Claim 5 will be objected to for lack of claim support. The examiner's reasoning will be exactly the same as that for claim 4.

Claim 6 will be objected to for lack of clarity. The examiner will comment that the claim is not drafted completely corresponding to the steps of the method and comprises a combination of a physical hardware device and virtual functional module architecture, which actually protects the method realised through the computer program but not the physical device, and so it is not clear whether this claim protects a method or a product. Therefore, claim 6 is unclear.

As can be seen from above, for inventions that only involve computer programs, applicants should avoid using terms such as instructions, avoid using steps of a method to define a system or a hardware feature, and avoid using a combination of hardware features and function modules. Applicants may amend claims in any one of the formats of claims 3 to 6 to the function module architecture format of claim 2. However, there must be a corresponding

method claim or detailed explanation of each step of the computer program in the description. Otherwise, the amended claim lacks support by the description.

For inventions that involve both hardware and a computer program—their interaction or improvements to both the hardware and the computer program—their claims have to be drafted to include both hardware features and method features defining at least some of the hardware features. However, it may be difficult to persuade Chinese examiners to accept such claims. They would either request applicants to draft product claims in function module architecture or comment that the claims are not supported by the description because they are not drafted in such a format.

However, applicants can still try the following arguments. As prescribed in the Guidelines for Patent Examination, if technical features in a product claim cannot be clearly expressed in terms of either structure features or parameter features, it is permissible to express them with the aid of process features. In addition, applicants may argue that the invention relates to both hardware and computer programs, and so claims are not suitable to be drafted in the format of function module architecture. For this type of claim, it is not appropriate to determine that a claim is not supported by the description simply because it is not drafted in the format of function module architecture and judgement should be made on the basis of the disclosed technical solution, in essence.