The use of cloud computing as an alternative to local computing options has risen dramatically over the past few years. This has prompted many companies to restructure their traditional software offerings as cloud computing applications and services or provide new cloud computing offerings altogether. In its simplest form, cloud computing refers to the provision of remote computer resources and/or services over a network. For example, an end user can access a remote computer resource, such as software, a server or storage space, over the Internet. In such a situation, the cloud computing service stores data supplied by the end user so that the user can access the data from Internet-enabled computers or mobile devices.

Competition to drive consumers to a particular provider’s cloud computing service is robust, and businesses are seeking to gain an advantage over their competitors when it comes to cloud services. As a result, many businesses are now considering patent protection for their cloud computing innovations, but may question whether patent protection is available for such technology. Although seeking patent protection for cloud computing services does not require a fundamental change in approach to drafting or claiming, practitioners should be aware of certain considerations when preparing patent applications that are directed to cloud computing technologies.

**Divided Infringement**

The provision of cloud computing services often requires the cooperation of several different parties. A user and a cloud computing service provider typically exchange information, but it is not uncommon for cloud computing service providers to outsource certain tasks to subcontractors or third parties. To avoid the issue of divided infringement upon enforcement, it is important to consider the portions of a cloud computing service that will be performed by particular actors.

Divided infringement occurs when multiple actors are required to perform all of the steps of a method claim. Successfully enforcing such a claim typically requires investigating each actor’s participation in a process. This can further complicate an already complex patent litigation process. To avoid this situation, practitioners should consider drafting cloud-related method claims from the perspective of a single actor. For example, if a method claim is intended to capture the interaction between a cloud user and a cloud computing service provider, the claim should encompass the actions of only one of the user and the service provider. This approach
will provide a patent owner with well-defined and straightforward claims that are more likely to be infringed by a single actor.

Consider the Infringer

A patent provides a patent owner with the right to exclude others from making, selling, offering for sale, using or importing the claimed invention for the term of the patent within the territory covered by the patent. As with patents for other types of inventions, patent claims covering cloud computing technologies should be drafted with potential infringers in mind so that the patent owner can assert the patent against or license the patent to individual third parties.

A patent applicant should craft claims that are intended to cover the actions of the one or more parties that the patent is most likely to be enforced against. Such parties typically include competitors in the same or related fields, service providers, or other medium to large business entities. Parties that are less likely to provide a meaningful return when enforcing a patent via litigation include individual users or other small entities. For example, if a patent applicant’s goal when seeking patent protection is to prevent its competitors from practicing its invention, claims directed to the use of the invention by its competitors’ customers would be of less value than claims directed to the provision of services by the competitor itself with respect to enforcement.

It is often the case that multiple potential infringers are of interest to a patent applicant. Drafting separate claim sets to cover the activities potentially performed by or devices potentially used by each of these entities would provide a patentee with the most comprehensive tool when seeking to restrict third party activities.

Detecting Infringement

Identifying the use of cloud computing technologies, especially technologies involving back-end processing, by third parties can be extremely difficult. A cloud computing service provider’s data centers can often be situated in more than one location. For example, the data centers could be distributed throughout the United States and abroad. When providing services over the cloud, providers may be performing one process at a particular location and a second process at a separate location. Alternately, a particular process may be distributed across multiple locations. Determining and detecting infringement in such an environment can be daunting. Enforcing patents when infringing activities are cross-border can be even more difficult. This is especially true when patent claims are directed solely to the back-end provision of cloud services, such as data processing.

Unlike traditional software that is provided on a physical medium, such as a CD, and for which the data constructs are readily ascertainable, cloud software applications provide challenges to patent owners investigating potentially infringing activities. A patent owner may never have direct access to the complete system of a suspected infringer, which makes infringement detection difficult. Infringement actions that are filed without such knowledge are also a risk for a patentee. A patent owner must have a good faith basis for filing suit, and is required under Rule 11 of the Federal Rules of Civil Procedure to conduct a prefiling investigation. By filing an infringement action based merely on an assumption of how a party’s system operates, a patentee not only risks losing the case, but also suffering sanctions and monetary penalties.

Drafting at least one claim that includes an easily detectable limitation can simplify a patent owner’s infringement analysis when the patent is enforced. For example, a practitioner may consider claiming a feature or functionality that is easily detectable through a user interface, such as the receipt of certain information from a user or the display of certain information to the user. While the novelty of an invention may lie within the behind-the-scenes processing of a cloud service, a patent directed to a novel invention is of little value if the patentee cannot detect infringement by others.
An Invention Must Still be Novel and Nonobvious

While cloud computing applications have only recently come to the forefront of public perception and are therefore considered to be new, a cloud innovation must still meet the threshold tests of patentability in that it must be novel and nonobvious. Simply performing a service or providing a software application via distributed systems in the cloud is unlikely to be sufficient to exceed these thresholds. Practitioners should ensure that the novelty of cloud technology that is the subject of a patent application is clearly identified, described and claimed. Simply providing a known service in a cloud environment is not likely to constitute patentable subject matter.

Filing Strategy

Patent applicants can benefit from a strategy of filing multiple related applications for a cloud computing invention. Each application could be directed, for example, to a separate potential infringer. In this manner, the patent applicant can avoid drafting claims requiring dual actors for infringement and can tailor claims to each of multiple potential infringers. Moreover, if multiple potential infringers exist, it is likely that a large enough number of claims could be drafted so that it would be cost-prohibitive to include them all in a single application. Filing multiple applications will not only reduce excess claim fees, but will also prevent potential prosecution headaches down the road. For example, including a diverse claim scope in a single application increases the risk of a restriction requirement once the application is examined, which in turn can raise the cost of the patent process for the patent applicant. Accordingly, care should be given to determining the parties for which asserting the patent is the most viable and separating the claims into separate applications.

Another benefit of filing multiple applications is that the patent applicant is permitted to more precisely define the scope of a certain portion of the invention. For example, if a cloud computing invention involves the interaction between a service provider and a business end-user, filing two applications will allow the applicant to separately define the invention from the perspective of each of the service provider and the user. This provides several benefits to the patent applicant. First, it allows a patent examiner to focus on the operation of a single portion of the system. This may allow a patent examiner to conduct a more thorough and pointed prior art search, which in turn will theoretically lead to the discovery of materially relevant references. A patent that issues over such references is unlikely to be easily invalidated. Second, a more narrowly defined claim scope allows an applicant to better target its licensing efforts. A patent having an entire claim set directed to a cloud computing service provider’s use of the invention will likely make the patent more attractive to a potential cloud computing service provider licensee than a patent having a mixture of claims directed to a user and to a cloud computing service provider.

Conclusion

Cloud computing is a quickly developing technology framework for which consumers are rapidly increasing their demand. Innovators across multiple and varied industries are considering whether obtaining patent protection for cloud computing offerings is a viable option considering the difficulties in navigating the patent process. The strategies presented here with respect to patent drafting and filing are intended to help practitioners more efficiently and effectively serve such innovators and to obtain the best possible protection for their client’s inventions.

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