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Patenting Software-Related Inventions Is Getting Easier

By **Malgorzata Kulczycka and Brian Hickman** (February 23, 2021, 5:07 PM EST)

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The U.S. Supreme Court's 2014 decision in Alice Corp. v. CLS Bank[1] set a high bar for establishing patent eligibility of software-related inventions. The bar was so high that it discouraged many inventors from pursuing patent protection.

However, the most recent court decisions[2] clearly indicate that some software-related inventions are patent-eligible.

For example, in July 2020, the U.S. Court of Appeals for the Federal Circuit in Packet Intelligence LLC v. Netscout Systems Inc.[3] held that the claims reciting a technical solution to a technical problem and directed to collection, comparison and classification of information were patent-eligible.

Also in 2020, the Federal Circuit in Uniloc USA Inc. v. LG Electronics USA Inc.[4] decided that the claims changing the normal operation of a communication system to solve the problems arising in computer networks are patent-eligible. These two and several other cases have encouraged inventors of software-related inventions to pursue patent protection.[5]

Why the Filings of Software-Related Inventions Have Been Increasing Recently

One reason for an increase in new filings for software-related inventions is the Federal Circuit's decision last year in Packet Intelligence v. Netscout.[6]

In that case, the Federal Circuit held that a patentee's claim solved "a technological problem [of disjointed connection flows in a network environment] by identifying and refining a conversational flow such that different connection flows can be associated with each other and ultimately with an underlying application or protocol."[7]

The patentee's specifications explained that the known network monitors were unable to relate disjointed connection flows to each other. The Federal Circuit explained that the claim solved a challenge unique to computer networks, and thus was patent-eligible.

Another decision favorable to a patentee was the Federal Circuit's decision last year in Uniloc v. LG.[8] In Uniloc, the claims were directed to improving a conventional communication system to enable a rapid response time between primary and secondary stations.[9]

The Federal Circuit explained that in cases involving software innovations, patent-eligibility analysis should include determining whether a claim's focus is "on specific asserted improvements in computer capabilities."

With a bright-line statement, the Federal Circuit reaffirmed that software inventions can be

patentable in the U.S. since "[o]ur precedent is clear that software can make patent-eligible improvements to computer technology, and related claims are eligible as long as they are directed to non-abstract improvements to the functionality of a computer or network platform itself."[10]

However, even if the inventions do not provide explicit improvements to the functioning of a computer itself, the inventions may still be patent-eligible.[11] The courts have clarified that a decision on patent eligibility depends on (1) the type of technology to which the invention is directed, and (2) the way the claims are drafted.[12]

The holdings in the above cases are consistent with the guidance published by the U.S. Patent and Trademark Office in January 2019, the "2019 Revised Patent Subject Matter Eligibility Guidance."[13] The guidance provides a constructive explanation of the patent-eligibility determination process, which until the guidance was ambiguous and caused a great deal of confusion in the legal community.

Furthermore, the USPTO provided concrete examples[14] of patent-eligible, software-related inventions, as well as the justification for finding those examples patent-eligible.

Since the publication of the guidance and the examples, the number of filings of software-related patent applications has been gradually increasing.[15]

Why Prosecution of Software-Related Inventions Is Easier Recently

Prior to the USPTO guidance, the vague eligibility standard gave patent examiners a great deal of leeway to reject the applicants' claims as patent-ineligible. That was changed to some extent by publishing the guidance, which explained the process and clarified the steps that the examiners must follow when determining patent eligibility of the claims.[16]

The process for determining patent eligibility includes Steps 1, 2A and 2B. Step 1 is applied to the claims to determine whether the claims are directed to a process, machine, manufacture or a composition of matter. This step is usually satisfied if the claims have been drafted correctly.

Then, in Step 2A, it is determined whether the claims are directed to any exception, such as an abstract idea. Step 2A continues to be troublesome in that the courts have repeatedly refused to define "abstract idea." Consequently, examiners often satisfy Step 2A by making a bald assertion that claims are directed to an abstract idea and leave it to the applicants to prove otherwise.

If the examiner finds the claims to be directed to an abstract idea, then, in Step 2B, it is determined whether the claims are nevertheless directed to patent-eligible subject matter.

The guidance clarified Steps 1, 2A and 2B and provided mechanisms for applying the analysis under those steps in an objective and logical way.

More specifically, the guidance defined two prongs for Step 2A. In Prong 1, the examiners are instructed to evaluate whether a claim recites a judicial exception, i.e., a law of nature, a natural phenomenon or an abstract idea. The guidance clarifies that the abstract idea exception includes (1) mathematical concepts; (2) certain methods of organizing human activity; and (3) mental processes.[17]

Claims that do not fall within any of these enumerated groupings cannot be characterized as reciting an abstract idea (unless some extraordinary circumstances apply). By enumerating the groups to which abstract ideas belong, the USPTO effectively limits what can be asserted to be an abstract idea, and thus limits the situations in which the examiners can arbitrarily and capriciously "convict" the applicants' claims as allegedly directed to an abstract idea.[18] In the past, without the guidance's elaboration on the term "abstract idea," the examiners' rejections of the applicants' claim, as purportedly directed to abstract ideas, have been nothing short of subjective.

In Prong 2 of Step 2A, the guidance provides that, if the claims are allegedly directed to an abstract idea, then the examiner needs to evaluate whether the claims recite additional elements that integrate the identified abstract idea into a practical application.

The guidance provides a multitude of examples of the integrations to practical applications, including not only improvements to the functioning of a computer, but also applying or using the alleged abstract idea in a meaningful way to a particular technological environment. This clarification is significant because it opens the door to the possibilities for justifying patent eligibility of the claims even if the claims are preliminarily classified as directed to an abstract idea.

But if an applicant cannot prevail under Prong 2 of Step 2A, then the applicant may show, in Step 2B, that even though the claims fail to integrate the alleged abstract idea into a practical application, the claimed invention is nevertheless patent-eligible because the recited approach is not well known, not routine and not conventional.

The streamlined process for determining patent eligibility, defined by the guidance, provides a great help to the patentees and the legal community at large.

Specifically, IP practitioners should consider drafting the claims as capturing an inventive technical solution (i.e., a practical application) to a technical problem. Both the solution and the problem should be well described in the application's specification, and if the claims are rejected as patent-ineligible, the practitioners should rebut the rejections by advancing the arguments structured according to the guidance's framework.

Example of a Software-Related Claim That Could Be Patentable These Days

This section analyzes an example claim that might have been rejected as patent-ineligible in the past but might be found patent-eligible in light of the recent court decisions[19] and the USPTO guidance.

Suppose that the example claim recites:

> determining that a count of the plurality of requests for access to a computer network received at user queues during a particular time period is greater than a total capacity of servers of the computer network during the particular time period; determining a count of excess arrivals for the particular time period; and using a multi-period queuing model, generating one or more characteristics of the user queues.

When drafting a specification for the above invention, an IP practitioner should describe a technical problem that the inventors encountered and the recited technical solution that the inventors derived and that provides a specific improvement over the prior systems, resulting in the improved network monitoring.

If the above claim is rejected as patent-ineligible, the IP practitioner should argue that the above claim should be found patent-eligible because, based on the guidance's analysis, the claim as a whole integrates the alleged abstract idea (i.e., a mental process) into a practical application. Specifically, under Prong 2, the claim as a whole is directed to a particular improvement in monitoring access to a computer network, and thus is patent-eligible.

Conclusion

This article advances two recommendations for IP practitioners with regard to ensuring patent eligibility of the inventions directed to software-related technologies.

First, in light of recent Federal Circuit decisions, IP practitioners should feel encouraged to patent software-related inventions, especially if the inventions are directed to improvements to the functionality of a computer or computer network platform itself,[20] or if the inventions are directed to technical solutions to technical problems.[21] The claims should be drafted as capturing a technical solution to a technical problem, and both the solution and the problem should be well described in the specification.

Second, if the claims are rejected as patent-ineligible, IP practitioners should rely on the USPTO's

guidance and the USPTO's examples that clarify the process for determining patent eligibility of the claims, and address the rejection using the guidance's framework to show a practical application that is recited in the claims.

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[1] Alice Corp. v. CLS Bank International , 573 U.S. 208 (2014).

[2] Packet Intelligence LLC v. Netscout Systems, Inc .,19-2041 (Fed. Cir. July 14, 2020); Illumina, Inc. et al. v. Ariosa Diagnostics, Inc. et al. (Aug. 3, 2020); XY, LLC v. Trans Ova Genetics, LC (July 31, 2020).

[3] Packet Intelligence LLC v. Netscout Systems, Inc.,19-2041 (Fed. Cir. July 14, 2020).

[4] Uniloc USA, Inc. v. LG Electronics USA , Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[5] https://www.ipwatchdog.com/2020/11/01/technology-specific-patent-filing-trends-pandemic/id=126901/ (see Figure 2: filings of the software related inventions in 2019-until April 2020 (beginning of the Covid-19 pandemic) assigned to the USPTO Art Units known from examining the software-related inventions increased by about 10%).

[6] Packet Intelligence LLC v. NetScout Systems, Inc. (Fed. Cir. July 14, 2020).

[7] Packet Intelligence LLC v. Netscout Systems, Inc.,19-2041 (Fed. Cir. July 14, 2020).

[8] Uniloc USA, Inc. v. LG Electronics USA, Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[9] Uniloc USA, Inc. v. LG Electronics USA, Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[10] https://www.ptabwatch.com/2020/05/federal-circuit-reaffirms-that-software-is-patent-eligible/#:~:text=30%2C%202020)%2C%20the%20Federal,non%2Dabstract%20improvements%20to%20the.

[11] Uniloc USA, Inc. v. LG Electronics USA, Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[12] Uniloc USA, Inc. v. LG Electronics USA, Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[13] DEPARTMENT OF COMMERCE United States Patent and Trademark Office [Docket No. PTO–P–2018–0053] 2019 Revised Patent Subject Matter Eligibility Guidance; https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf.

[14] https://www.uspto.gov/sites/default/files/documents/101_examples_37to42_20190107.pdf; https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_app1.pdf.

[15] https://www.ipwatchdog.com/2020/11/01/technology-specific-patent-filing-trends-pandemic/id=126901/ (see Figure 2: filings of the software related inventions in 2019-until April 2020 (beginning of the Covid-19 pandemic) assigned to the USPTO Art Units known from examining the software-related inventions increased by about 10%.).

[16] https://www.patentdocs.org/2019/01/uspto-issues-updated-subject-matter-eligibility-guidance.html.

[17] DEPARTMENT OF COMMERCE United States Patent and Trademark Office [Docket No. PTO–P–2018–0053] 2019 Revised Patent Subject Matter Eligibility Guidance; https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf.

[18] https://www.gtlaw.com/en/insights/2019/1/summary-of-new-uspto-subject-matter-eligibility-guidance; "Revised Patent Eligibility Guidance Effectively Defines What is an Abstract Idea" by Gene Quinn, January 4, 2019, https://www.ipwatchdog.com/2019/01/04/patent-eligibility-guidance-abstract-idea/id=104754/.

[19] Illumina, Inc. et al. v. Ariosa Diagnostics, Inc. et al. (Aug. 3, 2020).

[20] Uniloc USA, Inc. v. LG Electronics USA, Appeal No. 19-1835 (Fed. Cir. Apr. 30, 2020).

[21] Packet Intelligence LLC v. Netscout Systems, Inc.,19-2041 (Fed. Cir. July 14, 2020).