Fed. Circ. Data Patent Opinion Elucidates Software Eligibility

On Nov. 15, in Koninklijke KPN NV v. Gemalto M2M GmbH, the U.S. Court of Appeals for the Federal Circuit reversed an ineligibility finding under Title 35 U.S. Code Section 101 by U.S. District Judge Leonard Stark of the U.S. District Court for the District of Delaware.[1] Judge Stark had granted the defendants' motion for judgment on the pleadings under Federal Rule of Civil Procedure 12(c) and found that claims 1-4 of U.S. Patent No. 6,212,662 were patent ineligible under Section 101.

In reversing, the Federal Circuit found in a precedential decision that, when a software patent claims a specific technological improvement that separates the invention from the prior art, the claimed invention is nonabstract and patent eligible under Section 101.

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The Koninklijke opinion clarifies the test for eligibility of software inventions under Section 101 and provides a helpful road map for patent applicants and litigants addressing software eligibility determinations under U.S. Supreme Court and Federal Circuit precedent.

The '662 patent describes an apparatus and method for error detection in digital transmission systems that is implemented in software. Specifically, the inventors developed a bit position permutation method that modifies blocks of data prior to generating block-specific error check data that are transmitted alongside the permutated blocks from a transmitter device to a receiver device.

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The receiver device receives both the permutated blocks of data and the error check data from the transmitter, and performs the same operation as the transmitter in reverse order, calculating block-specific error check data first and reversing the bit position permutation of the blocks of data second.[2] The receiver device compares its calculated block-specific error check data to error check data received from the transmitter to determine whether the error check values are the same or different, the latter demonstrating that a transmission error or equipment fault occurred.

As described in the '662 specification, permutating bit positions of blocks of data in the described manner substantially reduces the chance that a systematic transmission error or equipment fault is not detected by the receiver. The issued claims of the '662 patent are reproduced below. Claims 2-4 were the subject of the appeal before the Federal Circuit.[3]

1. A device for producing error checking based on original data provided in blocks with each block having plural bits in a particular ordered sequence, comprising:

   a generating device configured to generate check data; and

   a varying device configured to vary original data prior to supplying said original data to the generating device as varied data;

   wherein said varying device includes a permutating device configured to perform a

permutation of bit position relative to said particular ordered sequence for at least some of the bits in each of said blocks making up said original data without reordering any blocks of original data.

2. The device according to claim 1, wherein the varying device is further configured to modify the permutation in time.

3. The device according to claim 2, wherein the varying is further configured to modify the permutation based on the original data.

4. The device according to claim 3, wherein the permutating device includes a table in which subsequent permutations are stored.

As required by the U.S. Supreme Court for analysis of patent eligibility under Section 101, Judge Stark applied the two-part framework of Alice Corp. v. CLS Bank International[4] and found that "all claims of the '662 patent [are] ineligible because they are directed to an abstract idea [of reordering data and generating additional data] and contain no saving inventive concept."[5]

Regarding the first step of Alice, Judge Stark concluded that the claims of the '662 patent were directed to an abstract idea "because they do not say how data is reordered, how to use the reordered data, how to generate additional data, or even that any data is transmitted [from a transmitter to a receiver, as described in the '662 patent specification]."[6]

Regarding the second step of Alice, Judge Stark concluded that any "inventive concept" described in the '662 patent specification that might be patent eligible was "not captured in the claims."[7]

The Federal Circuit reviewed the question of patent eligibility de novo[8] and, applying Alice, reached the opposite conclusion under the first step. In particular, the Federal Circuit found that the claims of '662 patent were eligible "because they are directed to a non-abstract improvement in an existing technological process."[9]

The appellee argued that Judge Stark did not err in finding the claims of the '662 patent ineligible, because, inter alia, the claims "fail to recite a last application step that uses the generated check data to actually perform error detection."[10] The Federal Circuit disagreed, finding that "[a] claim that is directed to improving the functionality of one tool … that is part of an existing system … does not necessarily need to recite how that tool is applied in the overall system … in order to constitute a technological improvement that is patent eligible."[11]

More specifically, the Federal Circuit determined that "the claims sufficiently capture the inventors' asserted technical contribution to the prior art by reciting how the solution specifically improves the function of prior art error detection systems."[12]

The Federal Circuit compared the appealed claims 2-4 to the claimed invention of Finjan[13] stating, "[h]ere, as in Finjan, the claimed invention is … directed to a non-abstract improvement because it employs a new way of generating check data that enables

detection of persistent systematic errors in data transmissions that prior art systems were previously not equipped to detect."[14]

The Federal Circuit found that by "requiring that the permutation applied to original data be modified in time, claim 2 ... recites a specific implementation of varying the way check data is generated that improves the ability of prior art error detection systems to detect systematic errors."[15]

The Federal Circuit did not advance to step 2 of Alice after finding the claims to be patent eligible under step 1.[16]

The Koninklijke opinion serves as a reminder to patent prosecutors that, although the law may not require it, an "asserted technical contribution" established "by reciting how the solution specifically improves the function of prior art … systems" may well provide a basis for finding a claim to be patent eligible.[17]

More specifically, if a patent application clearly recites or otherwise asserts a technical advantage provided by a claimed invention, and a claim of that application is directed to an implementation that achieves the asserted technical advantage, then that claim should not be found to be directed to an abstract idea under Alice step 1 even if the claim does not itself recite how the claimed invention is applied in the overall system that the invention improves.

More simply, because "pending claims [are] given their broadest reasonable interpretation consistent with the specification,"[18] it is important to clearly articulate in a patent application any improvement(s) that an invention provides to prior art systems or methods. After the Koninklijke opinion, it is clear that such disclosure can be exceptionally useful to inform claim interpretation and patent eligibility arguments presented in responses to office actions rejecting claims under Section 101.

Down at the courthouse, the Koninklijke opinion should have major implications for software patent cases going forward. Prior Federal Circuit precedent concerning software patents has been difficult for litigators, district courts and the Federal Circuit to reconcile. The Koninklijke opinion itself cites to numerous prior Federal Circuit cases such as Finjan, Digitech and others and seeks to both analogize and distinguish them.

What sets the Koninklijke opinion apart, however, is that it provides a clearer path for determining whether a software patent will stand or fall under Section 101. If a software patent provides a technological improvement over the prior art and claims a specific implementation of that improvement, then it should survive a Section 101 defense. This clarity has been absent in prior precedent, and the Koninklijke opinion appears to have set a clear standard that should be helpful to the parties and the courts going forward.

The future road map for litigators representing patent owners must emphasize that a technical contribution over the prior art provided by the software at issue is specifically described and claimed in order to defeat a Section 101 defense. Defendants' counsel can point to the absence of that specificity to make their own case for the application of the defense.

Patent owner litigators should likewise make every effort to ensure that Section 101 eligibility determinations are made after claim construction, so that the patent owner has a proper opportunity to emphasize that the patentable distinction(s) are set forth in the claim(s) at issue. It appears more difficult after the Koninklijke opinion for a defendant to successfully argue that a Section 101 defense should be decided on the face of a pleading and without a claim construction hearing.

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[1] Koninklijke KPN N.V. v. Gemalto M2M GMBH 🔴, 2019 WL 6041479____Fed. Cir. ___(2019).

[2] See, e.g., '662 patent, FIG. 2.

[3] The only independent claim, claim 1, was statutorily disclaimed by the assignee of the '662 patent for "reasons unrelated to [the] appeal" before the CAFC. Appellant's Br. at 15, n.5.

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

[5] Koninklijke Opinion, pg. 9.

[6] Id., at 9, internal quotations omitted.

[7] Id., at 10, emphasis original.

[8] Id.

[9] Id., at 13.

[10] Id., emphasis added.

[11] Id., at 13 – 14, emphasis added.

[12] Id., at 14.

[13] Finjan, Inc. v. Blue Coat System, Inc. 🔴, 879 F.3d 1299 (Fed. Cir. 2018).

[14] Koninklijke Opinion, at 13.

[15] Id., emphasis added, internal quotations omitted.

[16] Id., at 18.

[17] Id., at 14.

[18] MPEP § 2111, emphasis added, internal quotations omitted.