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## Tech Process Claims Post-Bilski: RCT V. Microsoft

Law360, New York (February 1, 2011) -- On Dec. 8, 2010, the Federal Circuit in *Research Corp. Technologies Inc. (RCT) v. Microsoft Corp.* issued its first decision applying the U.S. Supreme Court's June 2010 decision of *Bilski v. Kappos* to a computer-related invention. *Bilski* indicated that certain types of software and business method patents may be invalid if the claims attempt to cover abstract ideas, which are not patentable subject matter under 35 U.S.C. § 101.

The *Bilski* court reiterated that laws of nature, physical phenomena and abstract ideas are not patentable under 35 U.S.C. § 101. The Supreme Court in *Bilski* held that the machine-or-transformation test is a useful test but is not the exclusive test for determining whether a process is patentable under 35 U.S.C. § 101. However, the Supreme Court did not articulate any specific alternate tests for patentability of process claims.

*RCT v. Microsoft* is of interest because it is the first Federal Circuit case providing guidance on the patentability of process claims for computer-related inventions that do not satisfy the machine-or-transformation test. In *RCT v. Microsoft*, the district court found that U.S. Patents 5,111,310 (the '310 patent) and 5,341,228 (the '228 patent) were invalid on summary judgment under 35 U.S.C. § 101. Claims 1-2 of the '310 patent and claim 11 of the '228 patent were appealed.

The claims on appeal for the '310 patent and the '228 patent are for methods of digital image halftoning using a blue noise mask. Halftoning techniques allow displays and printers to render an approximation of an image using fewer colors or shades of gray than an original image. The blue noise mask has a power spectrum with primarily high frequency components. The '228 patent is a continuation-in-part of the '310 patent.

The appealed claims of the '310 and '228 patent do not tie the claims to a machine and arguably do not satisfy the transformation prong of the machine-or-transformation test. Claim 1 of the '310 patent recites:

"A method for the halftoning of gray scale images by utilizing a pixel-by-pixel comparison of the image against a blue noise mask in which the blue noise mask is comprised of a random nondeterministic, non-white-noise single valued function which is designed to produce visually pleasing dot profiles when thresholded at any level of said gray scale images."

Claim 2 of the 310 patent recites: "The method of claim 1, wherein said blue noise mask is used to halftone a color image."

Claim 11 of the '228 patent recites:

"A method for the halftoning of color images, comprising the steps of utilizing, in turn, a pixel-by-pixel comparison of each of a plurality of color planes of said color image against a blue noise mask in which the blue noise mask is comprised of a random nondeterministic, non-white-noise single valued function which is designed to provide visually pleasing dot

profiles when thresholded at any level of said color images, wherein a plurality of blue noise masks are separately utilized to perform said pixel-by-pixel comparison and in which at least one of said blue noise masks is independent and uncorrelated with the other blue noise masks."

The Federal Circuit reversed the district court's ruling that the '310 and '228 patents are invalid and stated that it "perceive[d] nothing abstract in the subject matter of the processes claimed in the '310 and '228 patents." While the Federal Circuit did not articulate a specific test for abstractness, it provided the guidance that for a process claim to be found invalid as an abstract idea: "this disqualifying characteristic should exhibit itself so manifestly as to override the broad categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act."

The Federal Circuit did not provide any specific multifactor test. Instead, the court provided a series of observations to explain its holding that the appealed claims were not abstract ideas:

1. "The invention presents functional and palpable applications in the field of computer technology."
2. "[S]ome claims" require physical components, with the court noting that some of the claims require a high contrast film, a film printer, a memory, and printer and display devices, which "also confirm this court's holding that the invention is not abstract."
3. "[I]nventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act."
4. While the claimed inventions incorporated algorithms and formulas that were "a significant part of the claimed combination" this did not prevent patent eligibility.

What is astonishing about the decision in RCT v. Microsoft is how the appealed claims appear to have benefited from being viewed in the context of physical components in claims that are not closely related to the appealed claims. The '310 patent and the '228 patent each claim several different embodiments. In particular, the summary of the invention of each patent clearly teaches that there are two fundamentally different embodiments of the halftoning process, an electronic implementation and an optical implementation. Additionally, the summary of the invention describes the generation of the blue noise mask itself, which is a third embodiment.

The '310 patent has a total of 15 issued claims of which only claims 1 and 2 were appealed. The claims break down as follows: Claims 1-7 and 13-15 are related to a method for halftoning using a pixel-by-pixel comparison that the specification indicates are related to an electronic embodiment using either a digital or an analog hardware circuit to perform the halftoning.

None of the physical components listed by the court are found in the same claim family (claims 1-7) as the appealed claims. A memory is included in claim 13, but this is a different claim family from the appealed claims. Claims 8-9 are for a "method of constructing a blue noise mask."

Claims 10-12 are for an optical method of halftoning "utilizing an optical blue noise mask in which said gray scale image is photographed through said blue noise mask." It is only the optical embodiment of claims 10-12 that recites a high-contrast film and a film printer. The high-contrast film and film printer noted by the court are thus not related to the electrical embodiment of appealed claims 1-2.

The '228 patent has a total of 11 claims. Claim 11 was appealed. Claims 1-2, 3-6 and 11

are three different claim families related to the electronic embodiment of halftoning using a pixel-by-pixel comparison. Claim 3 includes memory limitations. However, again this is for a completely different claim family than the appealed claim 11. The "printer and display devices" limitation only occurs once in a dependent claim in a claim family directed to the method of generating the blue mask.

Claims 7-10 are directed to a "method of generating a modified blue noise mask array in which said blue noise mask array may be used to generate a more pleasing halftoned image. It is only dependent claim 10 in this claim set for generating the blue noise mask that has the "printer and display devices" limitation. Thus, for the '228 patent the "printer and display devices" noted by the court are for a different embodiment and not directly related to the halftoning embodiment of appealed claim 11.

In RCT v. Microsoft the factual situation is thus one in which there is only a weak nexus between the claims on appeal and other claims reciting the physical components that the court indicated were relevant. RCT v. Microsoft thus suggests that one useful strategy in prosecuting patents is to draft at least a fraction of the claims to have physical components.

For example, if broad coverage is required, a fraction of the process claims could be drafted in a manner intentionally broader than permitted by the machine-or-transformation test. The other fraction of the process claims could be drafted specifying additional physical components and (if possible) one or more claims intended to satisfy the machine-or-transformation test as a fallback.

In the context of reexamination or reissue proceedings there may be a concern that the issued claims might not satisfy the machine-or-transformation test. In both reissue and reexamination proceedings the patentee is permitted to add narrower dependent claims as long as the claims are supported by the technical description of the patent.

In some situations there may be insufficient support in the patent for dependent claims that would satisfy the machine-or-transformation test. RCT v. Microsoft suggests that there still may be a benefit to adding dependent claims that recite physical components but that are below the requirements for the machine-or-transformation test.

Another possibility during reissue or reexamination proceedings would be to consider adding dependent claims based on the other observations made by the Federal Circuit, such as adding dependent claims to clarify that the invention is a specific application or improvement of technologies in the marketplace.

RCT v. Microsoft also suggests that in some situations it may be a useful strategy to consider including contextual information within a patent specification to show that the claimed invention is directed to a functional and palpable application in computer technology or an improvement over the prior art in a technological area. The Federal Circuit provides a fairly detailed description of the benefits of the invention over the prior art described in the patents.

The RCT v. Microsoft decision is intriguing because immediately after describing how the invention presents functional and palpable applications in the field of computer technology, the court quotes the portion of the summary of the invention stating that "[t]hese inventions address 'a need in the art for a method and apparatus for the halftone rendering of gray scale images in which a digital data processor is utilized in a simple and precise manner to accomplish the halftone rendering.'"

But note that none of the claims in the '310 and '228 patents recite a "digital data processor" and none of the claims are drafted as Jepson-style two-part claims claiming an improvement over the prior art. That is, the Federal Circuit may have given the issued claims the benefit of viewing the issued claims in light of contextual information within the

patent that is not explicitly claimed.

RCT v. Microsoft thus suggests that in some situations a patentee may benefit from including additional contextual information in the specification to demonstrate “functional and palpable” applications in the field of computer technology and the improvement over the prior art in a technological area. In the case of a new patent application this is one strategy that can be considered. The patent office also has some limited procedures to correct pending and issued patents that might also be considered to correct the specification.

However, great care has to be taken in the correction process to not add any new matter that is unsupported by the original patent application and any materials incorporated by reference.

It remains to be seen whether the Federal Circuit will in the future distinguish RCT v. Microsoft on its particular facts. The Federal Circuit has refused to define a specific alternate test for patentable subject matter of process claims besides the machine-or-transformation test. The Federal Circuit has carefully explained its holding with a set of observations but has not framed them as specific factors of a new test.

Nevertheless, RCT v. Microsoft is of interest because of the liberal manner with which process claims related to computer-related technologies were found to be patentable under 35 U.S.C. § 101 on an alternate basis other than the machine-or-transformation test. Additionally, RCT v. Microsoft is of interest because it is the first Federal Circuit decision after the Supreme Court decision in Bilski providing guidance on potential strategies to pursue process claims related to computer technology.

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