

# ***IN RE BILSKI* AND THE FUTURE OF BUSINESS METHOD AND SOFTWARE PATENTS**

ELIZABETH RUZICH\*

## **ABSTRACT**

The Federal Circuit's en banc decision in *In re Bilski*<sup>1</sup> has further muddled the standard for determining patentable subject matter. A review of post-*Bilski* cases from the Board of Patent Appeals and Interferences (BPAI) reveals that the courts cannot apply a consistent standard for the machine-or-transformation test. The Supreme Court will soon decide whether to affirm *Bilski*. In the meantime, patent practitioners must adapt to the changes by amending claims in pending applications and drafting applications to include sufficient references to computer hardware to overcome, or avoid, any rejections for lack of statutory subject matter.

---

\* Elizabeth Ruzich is an associate at Patent Law Works in Salt Lake City, UT.

<sup>1</sup> *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc), cert. granted sub nom. *Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009).

I.	INTRODUCTION.....	104
II.	BPAI CASES— <i>LI, HALLIGAN, KOO, CORNEA-HASEGAN, BARNES, AND BECKER</i> .....	107
III.	RECOMMENDATIONS.....	117
IV.	SUPREME COURT RULING .....	119

## I. INTRODUCTION

Section 101 of the Patent Act states: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”<sup>2</sup> The first test to come out of this statute is that of utility: all inventions must be useful. The next test is whether the invention fits into one of the statutory categories of patentable subject matter: process, machine, manufacture, or composition of matter. Unfortunately, the hurdles for satisfying the statute have been increased in an effort to prevent inventors from patenting inventions that the Patent and Trademark Office (PTO) and, ultimately, the courts believe are unworthy of patent protection, such as software and business method patents.<sup>3</sup> As the Federal Circuit recently stated: “But even if a claim may be deemed to fit literally within one or more of the statutory categories, it may not be patent eligible.”<sup>4</sup> It is necessary to pause for a minute to consider that statement. Even if a claim fits within one of the statutory categories, the courts feel that they have the authority to create additional standards because they know better than Congress which inventions deserve patent protection.

Before *Bilski*, subject matter was considered patentable if the invention produced “a useful, concrete, and tangible result.”<sup>5</sup> Because of the tangible result requirement, the PTO began requiring that any reference to signals be removed from patent applications.<sup>6</sup> The PTO also began characterizing certain

<sup>2</sup> 35 U.S.C. § 101 (2006).

<sup>3</sup> Brief Amici Curiae of 20 Law and Business Professors in Support of Neither Party at 14, *Bilski v. Doll*, No. 08-964 (U.S. Aug. 6, 2009) (“The Federal Circuit Has Improperly Converted a Flexible, Adaptable Approach Into a Hard-and-Fast Rule”).

<sup>4</sup> *In re Ferguson*, 558 F.3d 1359, 1363 (Fed. Cir. 2009).

<sup>5</sup> *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc).

<sup>6</sup> U.S. PAT. & TRADEMARK OFFICE, DEP’T OF COM., MANUAL OF PATENT EXAMINING PROCEDURE § 2106.01 (8th ed., 7th rev. 2008) (“When nonfunctional descriptive material is

claims as being directed to software per se, instead of the tangible medium.<sup>7</sup> In addition, mere algorithms were not patentable.<sup>8</sup> This resulted in the need for patent practitioners to claim computer software in the form of modules and components that apply the algorithms to achieve a practical result.<sup>9</sup>

On October 30, 2008, the Federal Circuit decided *Bilski*.<sup>10</sup> *Bilski*, an en banc decision, held that a process claim is only patent eligible subject matter under 35 U.S.C. § 101 if the process is “(1) tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.”<sup>11</sup> As a result, the “useful, concrete and tangible result” test is no longer valid.<sup>12</sup> For the machine-or-transformation test, an unpatentable claim cannot be made into a patentable process by adding a limitation for “insignificant postsolution activity.”<sup>13</sup> The Court declined to describe specific examples of machines that would satisfy the first part of the machine-or-transformation test.<sup>14</sup> One great relief in the midst of some alarming precedent was a reaffirmation of the portion of *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*<sup>15</sup> that rejected a categorical exclusion of all business method claims.<sup>16</sup>

Patent practitioners might think that the test enumerated in *Bilski* is fairly easy to satisfy for software and business method patents. As long as the process is tied to a computer-readable medium for significant practice of the invention or the data is transformed into a different state or thing, the process claims contain patentable subject matter.<sup>17</sup> However, the Federal Circuit came

---

recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement.”) [hereinafter M.P.E.P.].

<sup>7</sup> M.P.E.P. § 2106.01 (“Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer.”).

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> *In re Bilski*, 545 F.3d 943, 943 (Fed. Cir. 2008) (en banc), *cert. granted sub nom. Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009).

<sup>11</sup> *Id.* at 954.

<sup>12</sup> *Id.* at 959–60.

<sup>13</sup> *Id.* at 957 (quoting *Diamond v. Diehr*, 450 U.S. 175, 191 (1981)).

<sup>14</sup> *Id.* at 962 (“We leave to future cases the elaboration of the precise contours of machine implementation, as well as the answers to particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine.”).

<sup>15</sup> 149 F.3d 1368 (Fed. Cir. 1998), *abrogated on other grounds by Bilski*, 545 F.3d at 959–60.

<sup>16</sup> *See In re Bilski*, 545 F.3d 943, 959–60 (Fed. Cir. 2008) (en banc), *cert. granted sub nom. Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009).

<sup>17</sup> *Id.* at 962–63.

to this holding by trying to reconcile contradictory Supreme Court cases into a single rule.<sup>18</sup> As a result, the PTO and the BPAI are using *Bilski* as the primary authority for rejecting any claims that they feel are unworthy of patent protection. This leaves business method patents in a particularly vulnerable position because the claims in these issued patents are typically tied to a computer in an allegedly superficial way, such as using a computer to receive input, produce output, or save information in a database. Now the computer must be an integral part of the invention. Furthermore, there is usually no basis for claiming a transformation of matter in business method inventions.

Patent practitioners might also think that apparatus claims are safe because in *Bilski* the court declined to overrule *State Street*, and specifically pointed out that *State Street* involved an apparatus when, in fact, it was discussing a method claim.<sup>19</sup> As will be discussed below, however, some members of the BPAI believe that *Bilski* applies to apparatus claims, especially when the claims use means-plus-function language. As a result, thousands of software and business method patents are at risk of being declared invalid for lacking statutory subject matter.

On June 1, 2009, the Supreme Court granted certiorari in *Bilski*.<sup>20</sup> The two questions for review are:

[1] Whether the Federal Circuit erred by holding that a “process” must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing (“machine-or-transformation” test), to be eligible for patenting under 35 U.S.C. § 101, despite this Court’s precedent declining to limit the broad statutory grant of patent eligibility for “any” new and useful process beyond excluding patents for “laws of nature, physical phenomena, and abstract ideas.”<sup>21</sup> [and]

[2] Whether the Federal Circuit’s “machine-or-transformation” test for patent eligibility, which effectively forecloses meaningful patent protection to many business methods, contradicts the clear Congressional intent that patents protect “method[s] of doing or conducting business.” 35 U.S.C. § 273.<sup>22</sup>

Thus, one hope is that the Supreme Court will clarify the law so that it can no longer be misinterpreted by the BPAI. Ideally, the Supreme Court will overrule

---

<sup>18</sup> See *Bilski*, 545 F.3d at 983 (“The Court’s decisions of an earlier age do not support this court’s restrictions of Section 101.”).

<sup>19</sup> *Id.* at 960 n.18.

<sup>20</sup> *Bilski v. Doll*, 129 S. Ct. 2735 (U.S. 2009).

<sup>21</sup> Petition for a Writ of Certiorari at i, *Bilski v. Doll*, No. 08-964 (U.S. Jan. 28, 2009), 2009 WL 226501.

<sup>22</sup> *Id.*

the cases that contradict the newer rules by doing away with the narrow test altogether.

This article discusses post-*Bilski* decisions from the BPAI that address 35 U.S.C. § 101 rejections and the practical conclusions that patent practitioners can draw from these decisions. In addition to the problems associated with *Bilski*, many of these decisions are so poorly reasoned that even if *Bilski* used the appropriate test, the PTO and the BPAI lack the technical ability necessary for determining whether claims satisfy the machine-or-transformation test. This article concludes with a section that provides practical advice on how patent practitioners can use *Bilski* to their advantage to overcome these rejections. If the claims are carefully crafted, Examiners may once again agree that patentable subject matter should “include anything under the sun that is made by man.”<sup>23</sup>

## II. BPAI CASES—*LI*, *HALLIGAN*, *KOO*, *CORNEA-HASEGAN*, *BARNES*, AND *BECKER*

*Ex parte Li*<sup>24</sup> was decided a mere week after *Bilski*.<sup>25</sup> Only one claim was rejected under 35 U.S.C. § 101.<sup>26</sup> The claim language follows:

42. A computer program product, comprising a computer usable medium having a computer readable program code embodied therein, said computer readable program code adapted to be executed to implement a method for generating a report, said method comprising:

providing a system, wherein the system comprises distinct software modules, and wherein the distinct software modules comprise a logic processing module, a configuration file processing module, a data organization module, and a data display organization module;

parsing a configuration file into definition data that specifies: a data organization of the report, a display organization of the report, and at least one data source comprising report data to be used for generating the report, and wherein said parsing is performed by the configuration file processing module in response to being called by the logic processing module;

extracting the report data from the at least one data source, wherein said extracting is performed by the data organization module in response to being called by the logic processing module;

---

<sup>23</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (quoting S. REP. NO. 82-1979, at 5 (1952); H.R. REP. NO. 82-1923, at 6 (1952)).

<sup>24</sup> 88 U.S.P.Q.2d 1695 (B.P.A.I. 2008).

<sup>25</sup> *Id.* at 1695.

<sup>26</sup> *Id.* at 1697.

receiving, by the logic processing module, the definition data from the configuration file processing module and the extracted report data from the data organization module; and

organizing, by the data display organization module in response to being called by the logic processing module, a data display organization of the report, wherein said organizing comprises utilizing the definition data received by the logic processing module and the extracted report data received by the logic processing module.<sup>27</sup>

The invention in *Li* is a system and method for generating a report using software modules.<sup>28</sup>

The BPAI began its analysis by rejecting the Examiner's reasoning, which relied upon the portions of *State Street* that were overruled by *Bilski*.<sup>29</sup> Namely, the "useful, concrete and tangible result" test is no longer an accepted test for determining whether a claim is statutory subject matter.<sup>30</sup> The BPAI reversed the Examiner because this type of "Beauregard Claim" fits within the statutory category of a product claim.<sup>31</sup> The BPAI concluded that because the claim includes software components, specifically, "the claimed logic processing module, configuration file processing module, data organization module, and data display organization module," the claim is statutory under *In re Lowry*.<sup>32</sup>

The patent application also contained a method claim, which was not rejected by the Examiner under 35 U.S.C. § 101.<sup>33</sup> Because the BPAI did not raise a new ground of rejection for the method claim, they implicitly accepted the claim as satisfying 35 U.S.C. § 101. The method claim recites "distinct software modules embodied on a computer-readable medium, and wherein the distinct software modules comprise a logic processing module."<sup>34</sup> As a result, this provides guidance for what certain members of the BPAI consider to be a method claim that is sufficiently tied to a machine.

The next post-*Bilski* BPAI case to address statutory subject matter is an example where the Board did not think the invention was worthy of being patented. *Ex parte Halligan*<sup>35</sup> was decided almost a month after *Bilski*. Both the

---

<sup>27</sup> *Id.* at 1696–97.

<sup>28</sup> *Id.* at 1696.

<sup>29</sup> *Id.* at 1698.

<sup>30</sup> *Ex parte Li*, 88 U.S.P.Q.2d 1695, 1698 (B.P.A.I. 2008).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 1699 (citing *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994)).

<sup>33</sup> *See id.* at 1696, 1699 (affirming the rejection of method claim 32 under § 103).

<sup>34</sup> *Id.* at 1696.

<sup>35</sup> 89 U.S.P.Q.2d 1355 (B.P.A.I. 2008).

apparatus claims and process claims were rejected under 35 U.S.C. § 101.<sup>36</sup> The claim language for the apparatus follows:

1. A programmed computer based upon the six factors of a trade secret from the First Restatement of Torts for identifying trade secrets within a plurality of potential trade secrets of a business, where each of the plurality of potential trade secrets comprises information, said programmed computer comprising:

a) means within the programmed computer for providing a predetermined criteria for evaluating a potential trade secret of the plurality of potential trade secrets under each of the six factors of a trade secret from the First Restatement of Torts, said six factors including (1) the extent to which the information is known outside of the business; (2) the extent to which it is known by employees and others involved in the business; (3) the extent of measures taken by the business to guard the secrecy of the information; (4) the value of the information to the business and its competitors; (5) the amount of time, effort or money expended by the business in developing the information and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others;

b) means within the programmed computer for receiving a numerical score value for the potential trade secret under the predetermined criteria for each of the six factors;

c) means within the programmed computer for calculating a metric from the received numerical score values under the six factors; and

d) means within the programmed computer for ranking the potential trade secret with regard to another potential trade secret found among the plurality of potential trade secrets based upon the calculated metric.<sup>37</sup>

With regard to claim 1, the BPAI demonstrated its aversion to claims deemed unworthy of patentability. Under *Bilski*, the BPAI would have to accept claim 1 under 35 U.S.C. § 101 because apparatus claims are statutory subject matter. *Bilski* made this clear by overruling only portions of *State Street* and by pointing out that *State Street* involved an apparatus.<sup>38</sup> Here, the BPAI reversed the rejection of claim 1 under 35 U.S.C. § 101 pro forma because an indefiniteness issue on the use of “means” in the claim was so severe that it prevented speculation of validity under 35 U.S.C. § 101.<sup>39</sup> This is intellectually dishonest. Analysis under 35 U.S.C. § 101 is separate from the other rejections.<sup>40</sup> In actu-

---

<sup>36</sup> *Id.* at 1357 (noting the Examiner’s rejection of claims 1 and 119).

<sup>37</sup> *Id.* at 1356–57.

<sup>38</sup> *See supra* note 19 and accompanying text.

<sup>39</sup> *See Halligan*, 89 U.S.P.Q.2d at 1365.

<sup>40</sup> *See In re Bilski*, 545 F.3d 943, 958 n.15 (Fed. Cir. 2008), *cert. granted sub nom. Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009) (“[C]onsiderations of ade-

ality, the Board does not deem a computer program that ranks trade secrets to be legitimate subject matter for patenting.

The claim language for the process claim follows:

119. A programmed computer method based upon the six factors of a trade secret from the First Restatement of Torts for identifying trade secrets within a plurality of potential trade secrets of a business, where each of the plurality of potential trade secrets comprise information, said method implemented by the programmed computer to effect the following steps:

- a) the programmed computer providing a predetermined criteria for evaluating a potential trade secret of the plurality of potential trade secrets under each of the six factors of a trade secret from the First Restatement of Torts, said six factors including (1) the extent to which the information is known outside of the business; (2) the extent to which it is known by employees and others involved in the business; (3) the extent of measures taken by the business to guard the secrecy of the information; (4) the value of the information to the business and its competitors; (5) the amount of time, effort or money expended by the business in developing the information and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others;
- b) the programmed computer receiving a numerical score value for the potential trade secret under the predetermined criteria for each of the six factors;
- c) the programmed computer calculating a metric from the received numerical score values under the six factors; and
- d) the programmed computer determining that the potential trade secret is a trade secret when the calculated metric exceeds a predetermined threshold value.<sup>41</sup>

The issue for the process claim was “whether recitation of a programmed computer suffices to tie the process claims to a particular machine.”<sup>42</sup> The claim was rejected because the recitation “adds nothing more than a general purpose computer that has been programmed in an unspecified manner to implement the functional steps recited in the claims.”<sup>43</sup> The BPAI reasoned that recitation of a programmed computer is a field-of-use limitation that, if accepted, “would allow pre-emption of the fundamental principle present in the non-machine implemented method.”<sup>44</sup>

---

quate written description, enablement, best mode, etc., are also irrelevant to the § 101 analysis because they, too, are governed by other provisions of the Patent Act.”)

<sup>41</sup> *Ex parte* Halligan, 89 U.S.P.Q.2d 1355, 1365 (B.P.A.I. 2008).

<sup>42</sup> *Id.* at 1357.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

A limitation is considered a mere field-of-use limitation when an Examiner or a court determines that the limitation superficially narrows the claim to a particular area.<sup>45</sup> For example, an algorithm can be practiced by either a human or a computer. A claim that recites a human applying an algorithm is not statutory subject matter because the human is applying an abstract idea. Limiting a process to being performed on a computer, i.e., limiting the claim to being practiced in the field of computer software or hardware does not make the claim patentable. This argument only underscores the subjectivity of the issue, however, because it is a rule that is only applied to software and business method patents. A method of a human using a medical device to perform a medical procedure, for example, would not be rejected as lacking statutory subject matter even though the claim is performed by a human.

*Ex parte Koo*<sup>46</sup> was decided on November 26, 2008.<sup>47</sup> In this case, the BPAI raised 35 U.S.C. § 101 sua sponte.<sup>48</sup> The process claim follows:

1. A method for optimizing a query in a relational database management system, the method comprising:

evaluating the query to determine whether a sub-expression of the query is being joined to itself and whether a predicate of the query comprises an equality test between a same column of the sub-expression;

determining whether a first row set producible from a first set of references of the query to the sub-expression is subsumed by a second row set producible from a second set of references of the query to the subexpression; and

reforming the query to eliminate the joining of the sub-expression to itself based on evaluation of the query and determination of whether the first row set is subsumed by the second row set.<sup>49</sup>

The BPAI stated that under the broadest reasonable interpretation, claim 1 does not require a computer or machine to practice the method steps.<sup>50</sup> Although the claim recites a “system,” the claim fails to recite “hardware or tangible structural elements.”<sup>51</sup> As a result, the system could be a software system, which is im-

---

<sup>45</sup> See *id.* (“[E]ligibility under § 101 ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.’”) (quoting *In re Bilski*, 545 F.3d 943, 957 (Fed. Cir. 2008) (en banc) (citing *Diamond v. Diehr*, 450 U.S. 175, 191–92 (1981))).

<sup>46</sup> 89 U.S.P.Q.2d 1297 (B.P.A.I. 2008).

<sup>47</sup> *Id.* at 1297.

<sup>48</sup> *Id.* at 1302.

<sup>49</sup> *Id.* at 1298.

<sup>50</sup> *Id.* at 1302.

<sup>51</sup> *Id.*

plemented solely in software or algorithms.<sup>52</sup> Therefore, the claim is not sufficiently tied to a machine or apparatus.<sup>53</sup>

The court then turned to the issue of whether any of the elements recited a transformation.<sup>54</sup> The BPAI held that the steps of evaluating, determining, and reforming all failed to recite a transformation of data.<sup>55</sup> As a result, the BPAI held that the claims were unpatentable under 35 U.S.C. § 101.<sup>56</sup>

*Ex parte Cornea-Hasegan*<sup>57</sup> was decided on January 13, 2009.<sup>58</sup> The invention is a method for predicting results of floating point mathematical operations and calculating the results.<sup>59</sup> The process claim follows:

1. A method, comprising:

normalizing by a processor operands a, b, and c for a floating-point operation;

predicting by the processor whether result d of said floating-point operation on said a, b, c might be tiny;

if so, then scaling by the processor said a, b, c, to form a', b', c';

calculating by the processor result d' of said floating-point operation on said a', b', c';

determining by the processor whether said d is tiny based upon said result d';

if so, then calculating by the processor said d using software; and

if not, then calculating by the processor said d using floating-point hardware.<sup>60</sup>

The BPAI held that the recitation of a processor in the claims was insufficient to “tie the process steps to a particular machine.”<sup>61</sup> The processor is considered “nothing more than a general purpose computer that has been programmed in an unspecified manner to implement the functional steps recited in the claims.”<sup>62</sup> This analysis, while consistent with *Bilski*, is still nonsensical. First, this is not a general purpose computer that has been programmed in an

---

<sup>52</sup> *Ex parte Koo*, 89 U.S.P.Q.2d 1297, 1302 (B.P.A.I. 2008).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 1303.

<sup>57</sup> 89 U.S.P.Q.2d 1557 (B.P.A.I. 2009).

<sup>58</sup> *Id.* at 1557.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 1558.

<sup>61</sup> *Id.* at 1560.

<sup>62</sup> *Id.*

unspecified manner because the instructions for programming the computer are contained in the elements.

Furthermore, the BPAI contradicts *Alappat*, which stated: “We have held that such programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.”<sup>63</sup> *Alappat* was not overruled by *Bilski*. In fact, *Alappat* was cited in *Bilski* as support for the proposition that it is irrelevant that one feature within the claim is unpatentable because the claim is analyzed as a whole.<sup>64</sup> As a result, *Alappat* is still good law and claims should not be rejected for reciting a general purpose computer.

The BPAI goes on to point out the real defect in claim 1: “The recitation of a processor in combination with purely functional recitations of method steps, where the functions are implemented using an unspecified algorithm, is insufficient to transform otherwise unpatentable method steps into a patent eligible process.”<sup>65</sup>

The problem with this claim is not that it fails to recite statutory subject matter, but rather that the claim is vague and difficult to understand. If the claim had included a real-world improvement that results from performing the method steps, such as decreasing the computational time required to process data, it might have been allowed.<sup>66</sup> Many of the problems associated with prosecuting software applications can be solved by explaining the relevancy of the invention. Examiners and judges are uncomfortable with software patents because they cannot see the results of the invention—unlike a mechanical patent, where the utility is readily ascertainable from the figures.

The BPAI also rejected the Applicant’s argument that the claims recite a transformation because any transformation is merely incidental to the invention.<sup>67</sup> The floating-point number is abstract information that cannot be transformed.<sup>68</sup> Furthermore, manipulating floating-point operands and determining

---

<sup>63</sup> *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (en banc), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc).

<sup>64</sup> *See Bilski*, 545 F.3d at 958 (citing *Alappat*, 33 F.3d at 1543–44).

<sup>65</sup> *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1560–61 (B.P.A.I. 2009).

<sup>66</sup> U.S. Patent No. 2004/0122885, at [0004] (filed Dec. 23, 2002).

<sup>67</sup> *Cornea-Hasegan*, 89 U.S.P.Q.2d at 1560.

<sup>68</sup> *Id.*

whether to calculate d, is considered insignificant post-solution activity.<sup>69</sup> As a result, there is no transformation.<sup>70</sup>

The most troubling aspect of *Cornea-Hasegan* is that the BPAI rejected Beauregard claims using *Bilski* as support, even though *Bilski* only addressed method claims. The BPAI made the broad statement that “analysis of a ‘manufacture’ claim and a ‘process’ claim is the same under § 101.”<sup>71</sup> This directly contradicts *Bilski*, which recognized that *State Street* involved an apparatus claim, and therefore requires a different analysis.<sup>72</sup>

Furthermore, *Bilski* states: “Therefore, although invited to do so by several amici, we decline to adopt a broad exclusion over software or any other such category of subject matter beyond the exclusion of claims drawn to fundamental principles set forth by the Supreme Court.”<sup>73</sup> The BPAI not only cited *Bilski* for this proposition, but the BPAI also included citations to the Supreme Court case *Diamond v. Diehr*.<sup>74</sup> But *Diehr* also only involved process claims.<sup>75</sup> Claims that recite an article of manufacture should be treated differently because they do not have to be tied to an apparatus, since article of manufacture claims cover the apparatus itself.

Claim 18 is a Beauregard claim that recites the same steps as claim 1.<sup>76</sup> The BPAI rejected the Beauregard claims for lacking a transformation and because they were not tied to a particular machine.<sup>77</sup> It did not matter to the BPAI that the claims were limited to “computer readable media,” which includes tangible media embodiments such as fixed magnetic disks, floppy disk drives, opti-

---

<sup>69</sup> *Id.* at 1561.

<sup>70</sup> *Id.*

<sup>71</sup> *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1561 (B.P.A.I. 2009).

<sup>72</sup> See *In re Bilski*, 545 F.3d 943, 960 (Fed. Cir. 2008) (en banc), *cert. granted sub nom. Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009) (quoting *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375–76 (Fed. Cir. 1998), *abrogated on other grounds by Bilski*, 545 F.3d at 959–60 (noting only that all *process* claims are “subject to the same legal requirements for patentability as applied to any other process or method.”)).

<sup>73</sup> *Id.* at 960 n.23.

<sup>74</sup> See *Cornea-Hasegan*, 89 U.S.P.Q.2d at 1559 (citing *Diamond v. Diehr*, 450 U.S. 175 (1981)).

<sup>75</sup> See *Diehr*, 450 U.S. at 177 (“We granted certiorari to determine whether a process for curing synthetic rubber which includes in several of its steps the use of a mathematical formula and a programmed digital computer is patentable subject matter under 35 U.S.C. § 101.”).

<sup>76</sup> Beauregard claims recite the computer-program product that stores the computer software. This format is based on a Federal Circuit case that held this claim format to comprise patentable subject matter. *In re Beauregard*, 53 F.3d 1583, 1584 (Fed. Cir. 1995).

<sup>77</sup> See *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1561 (B.P.A.I. 2009).

cal disk drives, etc., because the BPAI considered the “computer readable media” to be a mere field-of-use limitation.<sup>78</sup> However, this reasoning is clearly in error. *Bilski* said absolutely nothing about applying the “field-of-use” rationale to articles of manufacture, such as computer-readable media.<sup>79</sup> A physical object, such as a magnetic disk, is an article of manufacture.

This decision is deeply flawed and should have been reversed by the Federal Circuit. The Applicants, however, chose not to appeal. They could have reopened prosecution and made minor claim amendments to overcome the § 101 rejections, but instead they did nothing and the examiner cancelled the claims that were at issue in the appeal.<sup>80</sup>

*Ex parte Barnes*<sup>81</sup> is another BPAI case where the claims would have overcome the 35 USC § 101 rejection if they were drafted correctly. The process claim follows:

1. A fault identification method that comprises:
  - obtaining seismic data; and
  - for each of multiple positions of an analysis window in the seismic data, determining a planarity value for discontinuities in the analysis window.<sup>82</sup>

The method is not tied to a particular machine.<sup>83</sup> The method also does not describe transforming an article.<sup>84</sup> However, this claim could have been easily drafted to recite a transformation of data. For example: obtaining seismic data, the seismic data being displayed in an analysis window; determining a planarity value for discontinuities in the analysis window; and predicting a seismic fault based on the planarity value for discontinuities. This language includes transformation of data from seismic data gathered from a physical structure into a prediction of future activities in the physical structure.

In fact, the Applicant fixed the problems in the claims by reopening prosecution, amending the claim to describe the seismic data as based on a sur-

---

<sup>78</sup> *Id.*

<sup>79</sup> See *In re Bilski*, 545 F.3d 943, 957, 966 (Fed. Cir. 2008) (en banc), *cert. granted sub nom. Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009) (discussing the field-of-use limitation only in the context of fundamental principles).

<sup>80</sup> See Notice of Allowance for Application 10/328,572 (May 1, 2009), Examiner’s Amendment, at 2 (noting the appellant’s failure to take action and canceling claims 1–10, 18–27). No. 2007-4114, 2009 WL 164074 (B.P.A.I. Jan. 22, 2009).

<sup>81</sup> *Id.* at \*1.

<sup>82</sup> *Id.* at \*7.

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

vey, and adding an additional step of displaying the data.<sup>85</sup> The Examiner issued a Notice of Allowance once he received the amended claims.<sup>86</sup> If the attorney had taken the time to draft better process claims in the beginning, an appeal could have been avoided. These cases are especially frustrating for patent practitioners because they give opponents of the patent system ammunition for their arguments that the entire system is deeply flawed.

*Ex parte Becker*<sup>87</sup> is the most troubling post-*Bilski* case to come out of the BPAI so far. The problems with this case arose because of a poorly drafted specification and claims. The specification is only twenty eight paragraphs and contains no real explanation of the function of the invention except to say that it is directed to an automation system with modules.<sup>88</sup> The modules are not described in tangible terms so that a reader can understand the invention. In fact, most of the case actually focused on the claims being indefinite. The process claim follows:

7. A method for creating a hierarchically structured automation object and embedding said automation object into an engineering system, said method comprising:

creating a first component operable to generate system functionality of said automation object, wherein the general system functionality relates to an overall functionality of the engineering system;

creating a second component operable to generate generic base functionality of said automation object, wherein the generic base functionality is common to all other automation objects;

creating a third component with functionality that is operable to manage at least one module corresponding to said automation object;

creating a first module component corresponding to the at least one module, said first module component being operable to generate the system functionality;

creating a second module component corresponding to the one module, said second module component being operable to generate the base functionality;

creating a third module component corresponding to the at least one module, said third module component being operable to generate the technical functionality; and

---

<sup>85</sup> See Amendment After Decision on Appeal for Application 11/017,450 (Feb. 27, 2009), at 2 (adding the language: “and based on the determining displaying an indication of faults of the earth formation”).

<sup>86</sup> See Notice of Allowance for Application 11/017,450 (Nov. 4, 2009).

<sup>87</sup> No. 2008-2064, 2009 WL 191977 (B.P.A.I. January 26, 2009).

<sup>88</sup> See Specification for Application 09/948,563 (last amended Sept. 15, 2003).

inter-networking said first, second and third components, and said first, second and third module components,

wherein the first, second, and third components form a hierarchical structure.<sup>89</sup>

The BPAI rejected the process claims because they do not transform physical subject matter.<sup>90</sup> Even though the BPAI recognized that the proper test from *Bilski* is a machine-*or*-transformation test, the it stated: “To the extent that Appellants’ claims may transform data, we note that transformation of data, without a machine, is insufficient to establish patent-eligibility under § 101.”<sup>91</sup> This is blatantly wrong; only one of the two tests must be satisfied for a process claim to recite statutory subject matter. Even though the analysis was wrong, however, it is clear that the claim recites neither a transformation nor is it tied to an apparatus. As a result, the Applicant chose to cancel the process claims and the PTO issued a Notice of Allowance for the remaining system claims.<sup>92</sup>

### III. RECOMMENDATIONS

What can patent practitioners do to avoid having business method and software patent applications rejected under 35 U.S.C. § 101? First, draft all patent applications with at least one embodiment of the invention stored on a computer-readable medium, and include a broad and detailed definition for the medium. The application should include at least one figure that illustrates a computer containing a memory and a processor. Ideally, the figure should also include other hardware components, such as a display device, a bus, various interfaces for attaching hardware to the bus, etc. In addition, the specification can include support for an embodiment operating with a plurality of processors that are configured in series, in parallel, or some derivative thereof.

A broad disclosure provides support for process claims that are tied to a computer. Although a broad disclosure is not currently necessary, it may be in the future. There is typically at least a two year lag between filing software applications and having them examined by the PTO.<sup>93</sup> By the time the application is prosecuted, the law may have changed again. At the very least, the Su-

---

<sup>89</sup> See Claims for Application 09/948,563 (last amended Apr. 1, 2005), at 3–4.

<sup>90</sup> *Becker*, 2009 WL 191977, at \*5.

<sup>91</sup> *Id.*

<sup>92</sup> See Applicant Arguments/Remarks Made in an Amendment for Application 09/948,563 (Feb. 23, 2009); see also Notice of Allowance for Application 09/948,563 (June 6, 2009).

<sup>93</sup> Dennis Crouch, *How Long Do I Wait for a First Office Action [Updated Data]*, PATENTLY-O, Nov. 15, 2008, <http://www.patentlyo.com/patent/2008/11/how-long-do-i-w.html>.

preme Court will have decided *Bilski*. Having an application with figures that illustrate different types of computer components, a processor, and memory helps ensure that any future requirements will also find support in the specification and figures.

Next, describe the data in any way that suggests a transformation. For example, receiving one type of data and transforming it into another type of data. This is particularly important for any case where something in the physical world is displayed on a computer screen and analyzed by the software. *Bilski* placed particular emphasis on the transformation described in *In re Abele*,<sup>94</sup> where using “X-ray attenuation data produced in a two dimensional field by a computed tomography scanner” was a transformation because the “data clearly represented physical and tangible objects.”<sup>95</sup> The depiction was of three dimensional x-rays on a computer screen.<sup>96</sup> A transformation is particularly hard to describe with reference to business method patents because the data is typically intangible, for example, where the invention is a method of assessing the value of stocks at a particular point in time. This is why the second question for review in the Supreme Court case addresses the fact that Congress clearly meant for business method patents to be patentable, yet the Court has established tests that business method patents cannot satisfy because there is no transformation of matter and not all of the inventions involve a computer.<sup>97</sup>

With regard to drafting the claims, there should always be a set of computer program product claims and a set of system claims. Currently, and despite what some members of the BPAI believe, the machine-or-transformation test only applies to process claims.<sup>98</sup> Computer program product claims, e.g., Beauregard claims, have long been accepted as patentable subject matter.<sup>99</sup> Because the standards for patentable subject matter are much less strict for system claims, they are easier to prosecute and are more likely to survive litigation.

System and Beauregard claims are particularly useful for applications where more than one machine is involved. For example, in cases where there are multiple servers, datastores, etc., specifying that each step is performed by

---

<sup>94</sup> 684 F.2d 902 (C.C.P.A. 1982), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (en banc).

<sup>95</sup> *Bilski*, 545 F.3d at 962–63 (quoting *Abele*, 684 F.2d at 908).

<sup>96</sup> *Abele*, 545 F.3d at 903.

<sup>97</sup> See Petition for a Writ of Certiorari at i, 21, *Bilski v. Doll*, No. 08-964 (U.S. Jan. 28, 2009), 2009 WL 226501.

<sup>98</sup> See *Bilski*, 545 F.3d at 961 (“The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 . . .”).

<sup>99</sup> See, e.g., *Ex parte Li*, 88 U.S.P.Q.2d 1695, 1698–99 (B.P.A.I. 2008).

the same computer makes it easier for competitors to avoid infringement by designing around the patent. As a result, system and Beauregard claims are typically broader than process claims where multiple machines are involved.

In situations where prosecution has already begun, the process claims should be amended to recite a machine or transformation. Many examiners are satisfied by claims that merely describe a computer or a processor performing the method steps. As a result, the first thing a practitioner should do after receiving a § 101 rejection is to schedule an interview with the examiner to determine the specific language that will satisfy the examiner. Despite the fact that the “useful, concrete and tangible” test is no longer applicable, this practitioner is encountering examiners that still require that the claims recite a practical application or a tangible result. Of course, this is not a suggestion that the claims should be amended solely to satisfy the examiner. Rather, the easiest way to overcome § 101 rejections is to discuss language that satisfies both the examiner and the *Bilski* requirements.

If the application fails to contain any reference to computers or insufficient reference to computers and hardware, some examiners will allow practitioners to amend the specification to include descriptions of computer hardware. First, look to see if the specification mentions a computer, client, server, memory, processor, etc. If any of these terms are used, the practitioner can argue that the other components added to the specification are inherent. If none of these terms are used, the practitioner should argue that a person of ordinary skill in the art would recognize that the invention can only be performed on a computer and, therefore, that the amendment does not constitute new matter. This can be supported by submitting documents related to computer technology or an affidavit from an inventor stating that these terms are recognized by a person of ordinary skill in the art.

#### **IV. SUPREME COURT RULING**

Hopefully, the Supreme Court will recognize that enforcing only the machine-or-transformation test would effectively foreclose the patenting of business method inventions because tying the business method invention to a general purpose computer is a mere field-of-use limitation. The Court may avoid the real issue, however, because a review of the *Bilski* application reveals that the claims fail under either the “useful, concrete and tangible” or the machine-or-transformation test. The application claims a method for managing the consumption of risk of a commodity but fails to describe a machine for implementing the steps. As a result, the Court could simply affirm the Federal Circuit’s decision.

Furthermore, because the patent application filed by *Bilski* fails to even mention using a computer to perform the invention, the Supreme Court can easily avoid answering the question of what type of language is sufficient to tie the process to a machine because it is not an issue in *Bilski*.<sup>100</sup> Practitioners, however, would benefit greatly from this type of guidance.

The Supreme Court should either relax the standards for patentable subject matter by accepting both the machine-or-transformation test and the “useful, concrete, and tangible” test, or create a new test altogether that allows both business method and software patents to remain valid. Practitioners are eagerly awaiting the decision.

---

<sup>100</sup> In fact, the Federal Circuit avoided the issue by pointing out that:

Applicants themselves admit that the language of claim 1 does not limit any process step to any specific machine or apparatus . . . . We leave to future cases the elaboration of the precise contours of machine implementation, as well as the answers to particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine.

*In re Bilski*, 545 F.3d 943, 962 (Fed. Cir. 2008) (en banc), cert. granted sub nom. *Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964) (argued Nov. 9, 2009).