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No. 08-0964

IN THE

Supreme Court of the United States

BERNARD L. BILSKI AND RAND A. WARSAW,
Petitioners,

v.

JOHN J. DOLL, ACTING UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND ACTING DIRECTOR, PATENT AND TRADEMARK OFFICE,
Respondent,

On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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BRIEF OF *AMICUS CURIAE* BORLAND SOFTWARE CORPORATION IN SUPPORT OF PETITIONER

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INTEREST OF THE *AMICUS CURIAE*

The *Amicus Curiae*, Borland Software Corporation of Austin, Texas ("Borland") is one of the world's oldest and enduring software companies having introduced numerous innovative products. Borland produces enterprise software development applications and platforms for Application Lifecycle Management. Founded in 1981, Borland has made substantial global investments in the development of products for the software industry, and pioneered the emergence of new technologies that have enabled software products ranging from compilers, object-oriented programming languages, graphical user interfaces, web services, enterprise integrated development solutions, and development software for use across a wide variety of industries.[1]

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[1] The parties have consented to the filing of this brief. No counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than amicus curiae, its members, or its counsel made a monetary contribution the preparation and submission of this brief. Counsel of record for the parties received notice of the *Amicus Curiae*'s intent to file this brief and written consent was granted in accordance with Supreme Court Rule 37.2(a).

QUESTIONS PRESENTED

Whether the Court of Appeals for the Federal Circuit erred by holding that a process-related invention, in order to be patent-eligible under 35 U.S.C. §101, must be tied to a particular machine or apparatus or transform an article, which is representative of a physical object or substance, to a different state or thing.

Whether the Court of Appeals for the Federal Circuit has narrowed the scope of patent-eligible subject matter in process-related inventions by holding that the method of doing business is unpatentable, despite 35 U.S.C. §273 and Congress' intent to create a category of process-related patent eligible subject matter under the Patent Act of 1952.

SUMMARY OF THE ARGUMENT

The determination of patent-eligible subject matter for process-related inventions has been brought before this Court in the present case, *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008). Under 35 U.S.C. 101, the determination of patent-eligible subject matter in process-related inventions is subject to the purported "machine-or-transformation" test, as last discussed by this Court in *Diamond v. Diehr*, 450 U.S. 175 (1981). However, the Federal Circuit's adoption of the "machine-or-transformation" test is erroneous because this Court has set forth factors beyond merely the test that may be used to determine patent eligibility under 35 U.S.C. §101.

The Federal Circuit has adopted a test for determining patent eligibility for process claims, misinterpreting rationale set forth in *Diehr* that is not supported by this Court's precedents. The interpretation of the cases upon which the test has been developed is inconsistent with this Court's opinions. In particular, the Federal Circuit's machine-or-transformation test is incongruent with *Diehr*. The vagueness of the machine-or-transformation test requires this Court to clarify the standards by which to determine patent eligibility. The Federal Circuit must adopt standards for determining patent-eligible subject matter without disregarding precedent established by this Court.

The present case is an opportunity for the Court to establish clearly the test or manner in which patent-eligibility is determined for process-related inventions. Industries dependent upon the

use of the Internet, enterprise software, user-generated content, massively multi-player online virtual games, data network, network security software, or other software-related technologies may be jeopardized if the Federal Circuit's opinion is permitted to persist. The restrictive nature of the "machine-or-transformation" test, as set forth by the Federal Circuit improperly suggests that statutory categories of patent-eligible subject matter are implicated when attempting to patent a process-related claim, thus running afoul of Congress' intent to establish four distinct classes of patentable subject matter. The standard for determining patentability under 35 U.S.C. §101 should not restrict incentives to research, develop, or invest in software or emerging technologies, which are an increasingly larger part of our society and economy. However, if global economic and political policy considerations are ignored, in addition to this Court's precedents, the present Amicus Curiae, other software, and information technology-based organizations will face increased costs, barriers to investment, reduced incentives to innovation, and competitive setbacks resulting from a weakened patent system. Congress' intent in enacting the Patent Act and this Court's prior case law must be followed when conducting an inquiry into the patent-eligibility of a process-related claim.

INTRODUCTION

The current state of Federal Circuit case law is confusing, at best, when attempting to determine how and whether a given process is patentable. More specifically, determining the proper tests or factors for establishing patent-eligible subject matter is difficult given the Federal Circuit's recent discarding of previous tests in its discussion of the present case. The need is apparent for this Court to define the proper standard for determining patent-eligible subject matter in process-related inventions, regardless of whether typified as a "business method" or software.

While Supreme Court precedent clearly establishes that the intent of the "machine or transformation" test is to avoid pre-emption of a fundamental principle such as a mathematical algorithm, the Federal Circuit's approach as to the precise contours of how to apply the "machine-or-transformation" test is vague and non-committal, creating uncertainty. This is evident given the broken landscape of discarded precedent from the last 28 years and the Federal Circuit's seeming inability to establish a consistent approach for determining patent-eligible subject matter in process-related inventions. The Federal Circuit is struggling with providing definition to the public as to how it should interpret the "particular machine" portion of the "machine-or-transformation" test in an age of information technology, software, and networked communications.

This Court must clarify the "machine-or-transformation" test to curtail the seemingly

perpetual inconsistencies in the jurisprudence of patent eligibility. As articulated by the Federal Circuit, a process claim need only recite a machine for patent eligibility, regardless of whether the machine performs any function. In some situations, the machine is no more than a boat anchor obscuring the recitation of innovative features.

Inventors in the electrical arts are not required to recite another statutory class (e.g., the composition of matter) in apparatus claims, unless the innovation relates to the statutory class. For example, a claim to an inventive semiconductor device need not be required to recite the semiconductor material of which it is composed if the innovation is unrelated to the material. Likewise, inventors in the mechanical arts are not required to recite another statutory class (e.g., the composition of matter) in apparatus claims, unless the innovation relates to the statutory class. For example, a claim to an inventive motor need not be required to recite the metal composition of which it is composed if the innovation is unrelated to the metal. It is time that inventors in the computer arts are unshackled from tying a machine to process claims when the machine contributes nothing to the inventive features or novelty. The present Amicus Curiae urges the Court to establish a reliable approach for determining patent-eligible process-related inventions.

ARGUMENT

1. THE FEDERAL CIRCUIT HAS ADOPTED A TEST FOR DETERMINING PATENT ELIGIBILITY FOR PROCESSES NOT ARTICULATED BY THIS COURT

A. Supreme Court Precedent for Determining Eligibility under § 101.

An invention is eligible for patent if the subject matter is "any new and useful process, machine, manufacture, or composition of matter," 35 U.S.C. § 101 (1952), each of which is a distinct and independent statutory class. In one of the last two cases in which this Court addressed patentability under § 101, it noted that "Congress plainly contemplated that the patent laws would be given wide scope." *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). And it recognized that Congress intended that the classifications of statutory subject matter to 'include *anything* under the sun that is *made by man*.'" (emphasis added) *Id.* at 309 (citations omitted). Congress instructs us further that when determining whether an invention is patentable, § 101 should be read expansively so as not to impair or exclude the development and protection of emerging and unforeseen technologies. *Id.* at 316 ("Congress employed broad general language in drafting § 101 precisely because such inventions are often unforeseeable."). While the gamut of eligible subject matter is extensive, there are exceptions under which certain subject matter is ineligible for

patent. *Id.* at 309 ("The laws of nature, physical phenomena, and abstract ideas have been held not patentable." (citations omitted)).

Following *Chakrabarty*, *Diehr* articulated a schema by which process claims using an algorithm are evaluated to determine eligibility under § 101. In *Diehr*, the Court found patentable a process using a software algorithm to cure rubber. First, the Court reiterated that statutory subject matter includes "*anything* under the sun that is *made by man*," 450 U.S. at 182 (emphasis added). In *Diehr*, there was no argument that the claimed process was not man-made. Second, the Court scrutinized the claimed process to determine whether the process included "laws of nature, natural phenomena, [or] abstract ideas," which are excluded from patent protection. *Id.* at 185. "[W]hen a claim recites a mathematical formula (or scientific principle or phenomenon of nature), *an inquiry must be made* into whether the claim is seeking patent protection for that formula in the abstract. A mathematical formula as such is not accorded the protection of our patent laws[.]" (emphasis added) *Id.* at 191. The Court concluded in *Diehr* that the application or use of "a mathematical formula, computer program, or digital computer" does not convert an otherwise statutory claim into a nonstatutory claim, *See id.* at 187, so long as such a mathematical formula, computer program, or digital computer does not "pre-empt the use of" an equation or abstract idea. *See generally id.* For nearly thirty years, *Diehr* has guided patent eligibility jurisprudence, which the Federal Circuit has abandoned abruptly in favor of its "machine-or-transformation" test.

B. The Foundation of the Machine-or-Transformation Test May Be Suspect.

1. The Machine-or-Transformation Test is Not Well Supported by Case Law.

The Federal Circuit has crafted a new test: "[a] claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." *In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008) (en banc). The kernel of the machine-or-transformation test is rooted in *Gottschalk v. Benson*, 409 U.S. 63 (1972). After summarizing prior precedents involving processes for 19th century technologies, this Court stated that "[i]t is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a 'different state or thing.'" *Id.* at 71. The majority of the Federal Circuit seized this statement for use as its machine-or-transformation test. Attribution for the source of this statement is absent in Benson, and while it originates partially from *Cochrane v. Deener*, 94 U.S. 780 (1877), the associated language in *Cochrane* recites a definition of "a process . . . as an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing," *Id.* at 787-788, rather than the language that now constitutes the machine-or-transformation test. The Court in *Benson* rejected that statement: "*We do not hold* that no process patent could ever qualify if it did

not meet the requirements of our prior precedents." (emphasis added) 409 U.S. at 71. The Court again rejected this statement in *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978) ("As in *Benson*, we assume that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents").

The Federal Circuit misconstrues the absence of an explicit repudiation for the statement made in *Benson* and *Flook* as somehow "reaffirm[ing] machine-or-transformation test," *In re Bilski*, 545 F.3d at 956. Further, the Federal Circuit incorrectly reads that *Diehr* recites the "transformation and reduction" passage as an endorsement of the machine-or-transformation test. *See Diehr*, 450 U.S. at 184 ("Transformation and reduction . . . is the clue to the patentability of a process claim that does not include particular machines."). Rather, *Diehr* recites the passage as a "clue" or a "factor" for an "analysis of the eligibility of a claim of patent protection for a 'process' . . . ." *Id.*

2. The Machine-or-Transformation Test is Incongruent with Patent Eligibility set forth in Diehr.

The machine-or-transformation test omits analysis necessary to determine whether a process claim forecloses the application or use of a law of nature, physical phenomena, or abstract idea by others. In *Diehr*, the Court examined whether the use of an equation would pre-empt its use by others and reasoned that the equation did not "foreclose from others the use of that equation in

conjunction with all of the other steps . . . ." *Diehr*, 450 U.S. at 187. The pre-emption analysis in *Diehr* explored whether the claims were otherwise limited by the other steps. *See generally id.* By contrast, the machine-or-transformation test does not require a pre-emption analysis, but rather it presumes an abstract idea is ineligible if the test fails. Thus, a process claim that fails the test is deemed—by the mere fact the test failed—to pre-empt and foreclose the application or use of the law of nature, physical phenomena, or abstract idea recited therein. The Federal Circuit acknowledged the pre-emption analysis in *Diehr* but did not include it in its test.

> *Diehr* can be understood to suggest that whether a claim is drawn only to a fundamental principle is essentially an inquiry into the scope of that exclusion; i.e., whether the effect of allowing the claim would be to allow the patentee to pre-empt substantially all uses of that fundamental principle. If so, the claim is not drawn to patent-eligible subject matter.

In re Bilski, 545 F.3d at 956.

In *In re Bilski*, the Federal Circuit evaluated the transformation prong and held that the claimed process "does not transform any article to a different state or thing." *In re Bilski*, 545 F.3d at 963. The Federal Circuit performed no noticeable pre-emption analysis when concluding that "[p]urported transformations or

manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances." *Id.* The test ends here.

The inquiry is different under the guidance of *Diehr*. A court following *Diehr* would first inquire as to whether legal obligations are man-made constructs, followed by examining whether the legal obligations are laws of nature, physical phenomena, or abstract ideas. As these are man-made constructs, they are governed by the laws of man and are not natural phenomena. The court would likely find that legal obligations are abstract ideas. Next, the court ought to determine whether the recited legal obligations would foreclose others from using them. Note that the claim is limited to commodities sold at "a fixed rate," rates based on "historical averages," and legal obligations for options on energy. These do not foreclose the use of "a variable rate," rates based on other than historical averages, and specialized legal obligations that are markedly different than other legal obligations, such as obligations under a mortgage, under an employment agreement, etc. Thus, not *all* uses of the legal obligations of *In re Bilski* appear to be foreclosed. Given the differences between *Diehr* and *In re Bilski*, it is unlikely that the Court in *Diehr* "reaffirmed" the machine-or-transformation test. See *In re Bilski*, 545 F.3d at 956.

2. THE FEDERAL CIRCUIT MUST EMPLOY TESTS TO DETERMINE PATENT-ELIGIBLE SUBJECT MATTER WITHOUT RUNNING AFOUL OF PRECEDENT ESTABLISHED BY THIS COURT

A. *Bilski* is an Opportunity for the Court to Address Whether a Process-Related Invention Seeks to Pre-Empt the Use of a Fundamental Principle Or to Patent an Application Thereof

This Court last addressed the issue of patent eligible subject matter under 35 U.S.C. §101 in *Diehr*, discussing the patentability of a method for curing synthetic rubber including several steps that involved the use of a mathematical formula and a digital computer for determining the length of time needed to cure the rubber. In 1981, the software industries were entering a nascent stage of commercialization and this Court interpreted the Patent Act of 1952 in order to further define patent-eligibility for processes, providing guidance and analysis of its line of cases in *Benson*, *Flook*, *Chakrabarty*, and *Diehr* to these industries.

However, the expansive reading of *Chakrabarty* that patent-eligible subject matter includes "…anything under the sun that is made by man," has limits and this Court has set forth several in various opinions, including those precedents cited herein. Laws of nature, physical phenomena, mental processes, and abstract ideas have been found to be outside the scope of patent-eligible subject matter in order to prevent the pre-

emption of a fundamental principle such as a mathematical equation to cure rubber or conversion of binary-coded decimal numerals to binary numerals.

Conversely, the practical application of fundamental principles may be eligible for patent protection, but the mere addition of post-solution activity or field of use restrictions are not sufficient to gain patentability. *See Flook*, 437 U.S. at 589. In general, software does not seek to pre-empt the use of a fundamental principle. Computer programs are often developed to perform logical groupings of minute tasks or operations into "objects," relying upon the use of higher-level programming languages known as object-oriented languages. Often, computer programs developed using higher generation programming and formatting languages typically do not have the physicality aspects as required by the Federal Circuit in its erroneous opinion. Software has become ubiquitous in society, used in many applications that involve no physical object or substance. Security software may be used in network security to prevent computer programs from causing damage to other computer programs. Telecommunications networking software may be used to manage the distribution of data over a data or voice communication network, routing telephone calls or electronic mail messages that are encoded in digital data. Software development tools, such as those made by the present Amicus Curiae, are used to develop other software, often without anticipation of a specific use case, context, or scenario in mind.

The present case represents an opportunity for the Court to clearly set forth the proper standard for determining patent-eligible subject matter in the category of process or method-related inventions under 35 U.S.C. §101, particularly in light of emerging technologies and the growing industries of software and information technology. Although the Federal Circuit did not provide guidance as to the applicability of its interpretation of the "machine-or-transformation" test to software, *In re Bilski* has had a substantial impact upon these industries. In February of 2009 alone, the Board of Patent Appeals and Interferences applied *In re Bilski* to nine cases, all of which involved software or electronics-related inventions.[2] Despite its distinguishing of software from the method claims in the present case, the Federal Circuit's opinion is being erroneously followed by the Patent and Trademark Office.

Subsequently, the opinion of the Federal Circuit has improperly narrowed the application of the precedent established by this Court in *Diehr*:

> "…even a claim that recites "physical steps" but neither recites a particular machine or apparatus, nor transforms any article into a different state or thing, is not drawn to patent-eligible subject matter. Conversely, a claim that purportedly lacks any "physical steps" but is still tied to a machine or achieves an eligible transformation passes muster under §101."

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[2] Professor Dennis Crouch, *Patentable Subject Matter Redux: Bilski 2009* (March 1, 2009)
<http://www.patentlyo.com/patent/2009/03/patentable-subject-matter-redux-bilski-2009.html>.

See In re Bilski, 545 F.3d at 961.

Under its interpretation of *Diehr* as the predominant test for determining patent-eligible subject matter, the Federal Circuit has reintroduced the requirement for physicality into patentable subject matter in discord with Supreme Court precedent, thus jeopardizing innovation in fields such as financial services, semiconductor manufacturing, software, and information technology, all of which have created substantial value and economic advantage for the United States. The Court must clarify its previous precedent to avoid damaging industries with interests crucial to the American economy.

B. The Federal Circuit's Recitation of the "Machine-or-Transformation" Test is Incomplete and Guidance from the Court is Sought as to the Interpretation and Scope of the "Machine-or-Transformation" Test

As stated in the majority opinion by the Federal Circuit, "[W]e 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." *See In re Bilski*, 545 F.3d at 962. With only partial application of the "machine-or-transformation" test in *In re Bilski* and no illuminating case law precedent from this Court, guidance is required in order to better clarify the full nature of the "machine-or-transformation" test or a new test altogether.

There is a need for full and proper interpretation of what constitutes a patentable process-related invention.

1. The Restrictive Nature of the "Machine-or-Transformation" Test as Set Forth by the Federal Circuit Improperly Suggests that the Path to Patentability is Achieved by Tying Together Statutory Categories of Subject Matter

In 1793, the first Patent Act was enacted several statutory categories of patent-eligible subject matter were set forth, including "…any new and useful art, machine, manufacture, or composition of matter…." Act of Feb. 21, 1793, ch. 11, §1, 1 Stat. 318. With the adoption of the Patent Act of 1952, "any new and useful art" was amended to "any new and useful process," thus identifying processes or methods as a category of patent-eligible subject matter. This Court's precedents do not provide that the adoption of physical elements into a process-related claim is required for patent-eligibility. Instead a determination of patent-eligibility is based upon whether a patentee seeks to pre-empt the use of a fundamental principle. *See Diehr*, 450 U.S. at 191-192. However, if a claim seeks to patent the application of a fundamental principle, then patentability under, at least, 35 U.S.C. §101, is proper.

As noted in *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948), "[H]e who discovers a hitherto unknown phenomenon of

nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end." Also, the Court later cited *Benson* to reinforce its point that "[A]lthough we were dealing with a "product" claim in *Funk Bros.*, the same principle applies to a process claim. *See Gottschalk v. Benson*, 409 U.S. 63, 68 (1972). Further, in *Diehr*, this Court reinforced the proposition that "[I]t is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." *See Diamond v. Diehr*, 450 U.S. 175, 187 (1981). In other words, this Court clearly established that mathematical formula used in process-based applications, without the need for physical structures or elements, were anticipated under the Patent Acts of 1793 and 1952. Still further, under 355 U.S.C. §§273(a)(3) and 273(b)(1), Congress intended that business methods fall under the scope of process-related, patent-eligible subject matter. Neither Congress nor this Court intended that the Patent Act should be interpreted such that patent-eligible processes should require physicality by tying together categories of patent-eligible subject matter, specifically processes to apparatus-type claim limitations.

2. The Test Adopted By the Federal Circuit Does Not Accommodate New or Emerging Technologies

Writing for the majority opinion in *Bilski*, the Federal Circuit invited this Court to address how to determine patent-eligible subject matter for process-related inventions in the context of advance and emerging technologies such as software:

> "Nevertheless, we agree that future developments in technology and the sciences may present difficult challenges to the machine-or-transformation test, just as the widespread use of computers and the advent of the Internet has begun to challenge it in the past decade. Thus, we recognize that the Supreme Court may ultimately decide to alter or perhaps even set aside this test to accommodate emerging technologies. And we certainly do not rule out the possibility that this court may in the future refine or augment the test or how it is applied." *See In re Bilski*, 545 F.3d at 956.

The Federal Circuit reasons that the "machine-or-transformation" test is the definitive test for determining whether a process-related invention is patent-eligible, but then extends its reasoning to suggest that a process must be a physical object or substance or a representative thereof, again implying that physicality is a requirement to fulfilling the test. *See In re Bilski*, 545 F.3d 943, 963-964 (Fed. Cir. 2008). This reasoning appears to preclude technologies such as software. If, as the Federal Circuit stated, the "machine-or-transformation" test is the definitive test for determining patent-eligibility in process-related

inventions, then this Court's precedents have been ignored. *See id.* This Court has established that the "transformation" portion of the test is but a "clue" and not the only means for determining patent-eligibility. *See Benson*, 409 U.S. at 69; *See also Diehr*, 450 U.S. at 184. Other considerations and factors must be taken into account. The proper inquiry to be made is that set forth by Justice Rehnquist for the majority in *Diehr*, that "…when a claim recites a mathematical formula (or scientific principle or phenomenon of nature), an inquiry must be made into whether the claim is seeking patent protection for that formula in the abstract." *See Diehr*, 450 U.S. at 191. Technologies such as software suggest that the Court return the jurisprudence governing patent-eligibility to the precedents previously established.

C. Case Law Clearly Signals that Clarification of the Standard Set Forth in *Diehr* 28 Years Ago is Needed

The current state of Federal Circuit case law is confusing, at best, when attempting to determine how and whether a given process is patentable, particularly as related to software. Specifically, determining the proper tests or factors for establishing patent-eligible subject matter is difficult given the Federal Circuit's recent discarding of previous tests in the present case. Numerous previous opinions previously relied upon by the software industry were discarded, including the "Freeman-Walter-Abele" test (i.e., 1) determining whether an algorithm within the meaning set forth in *Benson* was present in the

claim and 2) if so, determining whether that algorithm is applied to any manner to physical elements or process steps") and a "useful concrete, and tangible" result is produced. *See In re Bilski*, 545 F.3d at 959-961; *In re Freeman*, 573 F.2d 1237 (CCPA 1978); *In re Walter*, 618 F.2d 758 (CCPA 1980); *In re Abele*, 684 F.2d 902 (CCPA 1982); *AT&T Corp. v. Excel Communications, Inc.* 172 F.3d 1352 (Fed. Cir. 1998); *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007)[3]; *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998); *In re Alappat*, 33 F.3d 1526, 1543-154 (Fed. Cir. 1994). The Federal Circuit also declined to adopt either a "technological arts" test or a categorical exclusion to software patents, thus implying the patent-eligibility of software and computer programs. *See In re Bilski*, 545 F.3d at 959-961. The lower court's opinion is a call upon this Court to provide clarification on how the "machine or transformation" is to be applied to determine patent-eligible software claims. Further, the Federal Circuit stated that "[W]e also note that the process claim at issue in this appeal is not, in any event, a software claim. Thus, the facts here would be largely unhelpful in illuminating the distinctions between those software claims that are patent-eligible and those that are not." *See In re Bilski*, 545 F. 3d at 961. Despite this statement, the Patent and Trademark

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[3] The Federal Circuit on January 13, 2009, *en banc*, affirmed in part, vacated in part, and remanded the subject patent application in *In re Comiskey* to the U.S. Patent and Trademark Office for further examination as to whether patent eligible subject matter was present in claims 17 and 46 and dependent claims 15, 30, 44, and 58 in U.S. Patent Application No. 09/461,742.

has proceeded to mistakenly apply this case to its examination efforts in an apparent effort to stifle the growing backlog of pending patent applications at the Office.[4] The need for this Court to define the proper standard for determining patent-eligible subject matter in process-related inventions is urgent and has been called for over the last four decades. *See In re Bilski*, 545 F. 3d at 956; *see also In the Matter of the Application of Glen F. Chatfield*, 545 F. 2d 152, 161 (CCPA 1976) (Rich, J., dissenting).

While Supreme Court precedent clearly establishes that the intent of the "machine-or-transformation" test is to avoid pre-emption of a fundamental principle, the Federal Circuit's application of these precedents is unclear as to the precise contours of how to apply the test to software-related processes. This is evident given the broken landscape of discarded precedent from the last 28 years and the Federal Circuit's seeming inability to establish a consistent approach for determining patent-eligible subject matter in process-related inventions. The Federal Circuit today is struggling with providing definition to the public as to how it should interpret the "particular machine" portion of the "machine-or-transformation" test in an age of information technology, software, and networked communication: "[W]e leave to future cases the elaboration of the precise contours of machine implementation, as well as the answers to

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[4] Dennis Crouch, *Patentable Subject Matter Redux: Bilski 2009* (March 1, 2009)
<http://www.patentlyo.com/patent/2009/03/patentable-subject-matter-redux-bilski-2009.html>.

particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine." *See In re Bilski*, 545 F.3d 943, 962. A reliable approach for determining patent-eligible process-related inventions is required.

3. THE STANDARD FOR DETERMINING PATENTABILITY UNDER 35 U.S.C. §101 SHOULD NOT RESTRICT INCENTIVES TO RESEARCH, DEVELOP, OR INVEST IN SOFTWARE OR EMERGING TECHNOLOGY

The United States exists in a highly competitive global environment in many industries, including software in which it leads the world in terms of market revenues, but also losses due to expropriation and piracy.[5] Under the current interpretation of the "machine-or-transformation" test, the potential for gaining competitive advantage within the software industry is lessened as weakened patent protection for process-related software inventions will deter private and public investment in innovation.

A. Global Economic and Political Policy Considerations are Important Factors that Must be Considered

In 2007, the United States was the largest software market in the world by revenues, but also incurred the largest national losses, totaling over $8 billion in personal computer software, a sub-sector of the overall software industry.[6] It is vital to the national economy that significant

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[5] *See* "Fifth Annual BSA and IDC Global Software Piracy Study," Business Software Alliance, p.5, February 25, 2009.

[6] *See* id.

incentives, such as strong, predictable patent system are provided to encourage investment in innovation, startup companies and established firms alike.

From a global competition perspective, other nations and regions are evaluating the patentability of software, which places the United States in the spotlight in terms of its efforts to recognize and award innovation in a rapidly growing industry. For example, in March of 2008, the president of the European Patent Office forwarded a series of questions regarding patentability of software-related inventions to the Enlarged Board of Appeal for the European Patent Office for reconsideration.[7] Given the significant investment that Europe has made in the global software industry, second only to the United States, it is likely that Europe will be affected by the United States' actions with regard to the patent eligibility of software (i.e., process-related inventions). With rapidly growing economies such as China and India, both of which have access to many of the same resources (e.g., highly-educated population, domestic and foreign investment, institutional and governmental support of entrepreneurship, developing intellectual property regimes, among others) that led to the predominant success of the U.S. software industry, patent protection for software-related companies

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[7] *See* Letter from Alison Brimelow, President, *European Patent Office*, to Peter Messerli, Chairman of the Enlarged Board of Appeal, European Patent Office (October 22, 2008) <http://documents.epo.org/projects/babylon/eponet.nsf/0/B89D95BB305AAA8DC12574EC002C7CF6/$File/G3-08_en.pdf>.

is imperative to maintaining our leadership role in the global software industry.

As process-related inventions are used in a wide range of industries such as manufacturing, automotive, electronics, computers, software development, retail, financial, entertainment, media, and many others that must make, use, sell, offer to sell, or import software, this Court must, in granting the present petition, refine the test for determining patent-eligible subject matter so as to avoid damaging industries and technologies that are becoming increasingly relevant to the United States and its leadership role in a global economy.

B. Software and Information Technology Industries are Critical to the US Economy and a More Flexible Interpretation of the Standard for Patentability of Process-Related Inventions such as Software is Required

Software development has advanced technologically to the point where programming and formatting languages today are used due to the increasing complexity of applications and computer programs. It is not uncommon for software programs that are developed for desktop or server (i.e., larger, more power computers used within an enterprise, such as a larger company or government agency) applications to take months or years to develop with the use of skilled software programmers, developers, and architects. The Federal Circuit's rigid interpretation of *Benson*, *Diehr*, and the "machine-or-transformation" test insufficiently addresses advance technologies in

areas such as distributed computer architecture, cloud computing, search engines, podcasting, telecommunications network routing and security, entertaining computer games configured for gameplay with millions of users interacting within virtual worlds, software development tools, and many others. These technologies are not reliant upon a "particular machine," the requirement of a transformation of an underlying physical article, or manipulating data that is an electronic signal representative of a physical object or substance, both of which are not necessary to software. In many cases, software may not require the use of a display or interface, which suggests that patent protection would be eligible at only particular stages in the development lifecycle of software.

Many aspects of these innovations are intangible in nature and process data that is not representative of a physical article or thing. Transformations occur as data is often converted from one format to another by various modules of source code, the keel of all software. The development of source code for computer programs today often relies upon the use of "object-oriented" languages that are used to represent several logically grouped operations (i.e., objects), thus saving a software developer from having to spend hours, if not days, on low-level programming tasks. Software does not necessarily require or involve a particular machine or transformation of an article to a different state or thing, as required by the Federal Circuit, but also represents neither a collection of "mental steps" nor a pre-emption of fundamental principles.

The present case provides the Court with an opportunity to clarify the extent to which patent-eligible subject matter may be found in process-related inventions. Software requires substantial investment to develop innovative applications, using different types of programming languages so as to enable simple and complex development efforts, saving time, money, and labor. However, competition is global in scale and a weakened patent system for the protection of software-related inventions may cause offshore development of emerging technologies, eviscerate the American software and information technology industries, reduce incentives to invest in software-based or software-dependent companies, eliminate incentives to innovate due to a weakened ability to stave off competitive threats such as infringement, expropriation, or piracy, and encourage reliance upon weaker forms of protection for software, notably copyright.[8]

[8] JOSH LERNER & FENG ZHU, WHAT IS THE IMPACT OF SOFTWARE PATENT SHIFTS? EVIDENCE FROM LOTUS V. BORLAND, INT'L J. INDUS. ORG. 25, 511 (2007)

CONCLUSION

Based on the foregoing reasons, Borland respectfully requests that the Court grant the writ of certiorari to establish the standard for determining patentability of process-related inventions that is consistent with its previous decisions, but contemporaneously adapted to address software-related inventions and other emerging technologies.

Very respectfully,

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