United States Court of Appeals for the Federal Circuit

No. 2011-1301

CLS BANK INTERNATIONAL,

Plaintiff-Appellee,

AND

CLS SERVICES LTD.,

Counterclaim-Defendant-Appellee,

v.

ALICE CORPORATION PTY. LTD.,

Defendant-Appellant.

Appeal from the United States District Court for the District of Columbia in case no. 07-cv-0974, Judge Rosemary M. Collyer

BRIEF OF AMICUS CURIAE INTERNATIONAL BUSINESS MACHINES CORPORATION ON REHEARING EN BANC IN SUPPORT OF NEITHER PARTY

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December 7, 2012

FORM 9. Certificate of Interest

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

CLS Bank Int'l & CLS Servs. LTD. v. Alice Corp. PTY. LTD.

No. 2011-1301

CERTIFICATE OF INTEREST

Counsel for the (petitioner) (appellant) (respondent) (appellee) (amicus) (name of party) Amicus International Business Machines Corp. certifies the following (use "None" if applicable; use extra sheets if necessary):

1. The full name of every party or amicus represented by me is:

International Business Machines Corporation

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

International Business Machines Corporation

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

None

4. ☑ The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

Bancroft PLLC: Paul D. Clement; D. Zachary Hudson
International Business Machines Corporation: Manny W. Schecter; Kenneth R. Corsello

12/7/2012
Date

/s/Paul D. Clement
Signature of counsel

Paul D. Clement
Printed name of counsel

Please Note: All questions must be answered
cc: All Counsel

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STATEMENT OF INTEREST OF AMICUS CURIAE[1]

International Business Machines Corporation (IBM) is a globally recognized leader in the field of information technology research, development, design, manufacturing, and related services. During IBM's 100-year history, its employees have included five Nobel laureates, five National Medal of Science recipients, and ten winners of the National Medal of Technology. The United States Patent and Trademark Office (PTO) has granted IBM tens of thousands of United States patents and IBM has long served as a leading advocate for sound patent policy.

In light of its sizeable patent portfolio and diverse business interests, IBM can provide a balanced view of the patent eligibility standards set forth by 35 U.S.C. § 101—particularly as they relate to the patenting of computer-implemented inventions such as those implemented in software. As a leading recipient, licensee, and licensor of patents, IBM has a compelling interest in the development of clear and consistent rules governing patent eligibility and is committed to maintaining both the integrity of the United States patent laws and

[1] Pursuant to Federal Rule of Appellate Procedure 29(c)(5), counsel for amicus curiae represent that no counsel for a party authored this brief in whole or in part and that no person or entity, other than amicus or its counsel, made a monetary contribution to the preparation or submission of this brief. This brief is filed pursuant to this Court's October 9, 2012 Order inviting the views of amicus curiae. *See* Order Granting Rehearing En Banc, *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 2011-1301 (Fed. Cir. October 9, 2012).

the quality of patents themselves. IBM has frequently been involved in patent litigation, both as a patentee seeking to enforce its patent rights and as an accused infringer defending itself against others' claims. As a major force in the information technology industry, IBM has firsthand knowledge of the critical role the patent laws have played over the last few decades in software and information technology research and development.

PRELIMINARY STATEMENT

That the vast majority of computer-implemented inventions are patent eligible is beyond debate. Computer-implemented inventions are the lifeblood of the innovations that created the Information Age and are on par with the most ingenious inventive acts that mankind has ever known. As this Court has recognized, "[m]odern computer technology offers immense capabilities and a broad range of utilities, much of which embodies significant advances that reside firmly in the category of patent-eligible subject matter." *Bancorp Services, L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266, 1277 (Fed. Cir. 2012). Indeed, "both this court and the Patent Office have long acknowledged that . . . advances in computer technology—both hardware and software—drive innovation in every area of scientific and technical endeavor" and "deserve patent protection." *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323, 1329 (Fed. Cir. 2011) *cert.*

granted, judgment vacated sub nom. WildTangent, Inc. v. Ultramercial, LLC, 132 S. Ct. 2431 (2012).

Since the Supreme Court's decision in *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), this Court has repeatedly grappled with challenges to computer-implemented invention patents on § 101 patent-eligibility grounds.[2] Many of those challenges dealt with claims that bore some similarity to the claims held patent ineligible in *Bilski*. Despite the Court's best efforts, its recent attempts to explain why some computer-implemented inventions involving *Bilski*-like claims are patent eligible and others are not has left the law unsettled. The confluence of post-*Bilski* cases such as *Bancorp*, *Fort Properties*, and *Dealertrack* has left patentees, courts, and the PTO unsure about how to approach close questions regarding the patent eligibility of computer-implemented inventions that appear to involve, at least at some level, an abstract idea.

IBM appreciates the Court's desire to provide greater clarity on this score by granting en banc review in this case. Clarity and predictability in the patent law

[2] *See generally Bancorp Services, L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266 (Fed. Cir. 2012); *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250 (Fed. Cir. 2012); *Fort Props., Inc. v. Am. Master Lease LLC*, 671 F.3d 1317 (Fed. Cir. 2012); *Dealertrack, Inc. v. Huber*, 674 F.3d 1315 (Fed. Cir. 2012); *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323 (Fed. Cir. 2011) *cert. granted, judgment vacated sub nom. WildTangent, Inc. v. Ultramercial, LLC*, 132 S. Ct. 2431 (2012); *CyberSource Corp. v. Retail Decisions Inc.*, 654 F.3d 1366 (Fed. Cir. 2011); *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011); *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010).

are imperative. *See Bilski*, 130 S. Ct. at 3231 (Stevens, J., concurring) ("In the area of patents, it is especially important that the law remain stable and clear."). That is because ambiguity in the rules governing patents breeds "uncertainty" that discourages investment in the research and development necessary to create new and useful technologies, "stifles innovation," and deprives society of the fruits of invention. David J. Kappos, Under Sec'y of Commerce for Intellectual Prop., Speech at the Ctr. for Am. Progress: An Examination of Software Patents, at 2 (Nov. 20, 2012), http://www.uspto.gov/news/speeches/2012/kappos_CAP.jsp ("Kappos Nov. 2012 Speech").

Certainty is especially critical in the information technology sector where computer-implemented inventions are commonplace. Firms operating in that sector spend billions of dollars on research and development aimed at bringing new products to market. And "in order to invest the necessary resources," companies "need some assurance that they will benefit from and recover the costs of the creation of intellectual property." Econ. & Statistics Admin. & U.S. Patent & Trademark Office, *Intellectual Property and the U.S. Economy: Industries In Focus*, at 55 (2012) ("2012 PTO Report"), http://www.uspto.gov/news/publications/IP_Report_March_2012.pdf. Clear rules governing patent eligibility and patentability thus yield real and tangible benefits, not just to innovative firms,

but to the consumers that ultimately benefit from the creation of innovative products.

In attempting to create certainty in dealing with the boundaries of patent-eligible computer-implemented inventions involving *Bilski*-like claims, this Court must be careful to avoid jeopardizing those computer-implemented inventions that fall squarely within the confines of § 101. Any substantial (or even modest) departure from existing precedent, though well-intentioned, could result in an unjustified narrowing of what constitutes patent-eligible subject matter in the information technology sector. Certain areas of the information technology sector seem particularly vulnerable to a well-meaning but insufficiently-limited rule attempting to address the issues presented by *Bilski*-like computer-implemented inventions. For example, though the vast majority of software patents fall comfortably within the core of § 101 patent eligibility, software patents as a class are under attack and have been ever since the software industry began to rely on patent protection as a rule rather than an exception.

In other words, the Court must be careful in this case not to throw the proverbial baby out with the bath water. The majority of computer-implemented inventions—including software inventions—will readily meet § 101's requirements for patent eligibility, and no more than a brief consideration of § 101's text and judicially created exceptions will be required to conclude as much.

In attempting to develop a more refined approach to § 101 issues in close cases involving abstract ideas of the sort at issue in *Bilski*, this Court must take care not to adopt a rule that will render patent ineligible those computer-implemented inventions that are the product of the innovative activity that the Patent Act aims to protect.

SUMMARY OF ARGUMENT

I. Software inventions play an important role in countless products and systems, and many of those inventions would likely not have been developed without the protections the patent system provides. Patent protection allows firms to invest the substantial resources needed to develop innovative software products without fear that competitors will be able to copy with impunity once the product is brought to market. A rule placing the patent-eligibility of software inventions in doubt would chill innovation in the software industry, stifle product development in the broader information technology sector, and threaten the host of economic benefits that flow from software-driven innovation.

II. This Court should not adopt a field-specific test for whether a computer-implemented invention is a patent-ineligible abstract idea. The text of § 101 and precedents addressing the narrow judicially-created exceptions to that text are all that is required, and in most circumstances—as in any other technical area—no more than a quick pass through the computer-implemented invention's claims will

be necessary to deem the invention patent eligible. In addition to being unnecessary, adopting a computer-implemented invention field-specific test for patent eligibility is ill advised. That course of action would be in direct contravention of Supreme Court precedent, threaten the certainty that is critical to progress in the technology sector, and be the first step towards the development of a patchwork of field-specific patent eligibility tests that would not only lack any mooring in the statutory text but could undermine innovation.

III. Software inventions will rarely require any serious scrutiny under § 101. Software that plays an indispensable part in the operation of computer systems—such as that related to a computer's BIOS operations—is no different in character from the chips and other components that make up a computer's hardware in terms of patent eligibility. The same is true of most software-driven computer applications involving computer-specific processes. In the rare case where it is not readily apparent that a computer-implemented invention is patent eligible, such as when it involves a *Bilski*-like claim, if that invention's functionality requires computer implementation, this would counsel in favor of patent eligibility. While the mere incidental recitation of a computer is not enough, inventions that actually rely on a computer to enable claimed functionality represent a concrete application of the underlying idea and are deserving of patent protection.

IV. It is hornbook law that a patent claim must be considered as a whole. That principle is doubly relevant here. The use of different claim terms—such as whether the claim involves a method or system—must be taken into account when evaluating the claim as a whole. Furthermore, when analyzing computer-implemented inventions involving *Bilski*-like claims, it is inappropriate to rewrite the claims to separate out the computer-related portions of the claim from the remainder and evaluate the two parts separately. The claim must be evaluated in its entirety, or the true nature of the invention will be distorted.

ARGUMENT

I. Innovation In the Software Industry And The Economic Benefits That Innovation Creates Critically Depend On The Intellectual Property Protections The U.S. Patent System Provides.

The adoption of any test meant to address claims implementing *Bilski*-like methods with a computer that either advertently or inadvertently called the patent-eligibility of all software inventions into question would be a grave mistake. Software—the computer-readable code embodying functionality in virtually every modern information technology system or device—plays a vital role in our everyday lives. It provides the means by which computers run word processing programs, enables e-mail communication and Web browsing, allows cellphones to connect to wireless networks, aids air traffic controllers in safely scheduling the arrival and departure of flights, and permits physicians to diagnose and treat

illnesses. "[S]oftware implemented innovations power our modern world, at levels of efficiency and performance unthinkable even just a few years ago," and "patent protection is every bit as well deserved for software-implemented innovation as for the innovations that enabled man to fly, and before that for the innovations that enabled man to light the dark with electricity, and before that for the innovations that enabled the industrial revolution." Kappos Nov. 2012 Speech at 2.

Patent protection is integral to innovation in the U.S. software industry. *See* U.S. Cong., Office of Tech. Assessment, *Finding a Balance: Computer Software, Intellectual Prop., & the Challenge of Technological Change*, OTA-TCT-527, 23 (1992). In the absence of a regime providing such protections, a software firm would face the all but intolerable risk that one of its competitors would simply copy its product or poach the product's essential functional elements. *See, e.g.*, Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 Tex. L. Rev. 961 (2005). And without patent protection, "the inventor who had invested time and money in developing the new product . . . would always be at a disadvantage to the new firm that could just copy and market the product without having to recoup any sunk costs or pay the higher salaries required by those with the creative talents and skills." 2012 PTO Report at v.

A lack of robust patent protection for software inventions would also stifle innovation in a different way. Without such protection, software developers would

have every incentive to keep their source code under lock and key. That might protect the developer's invention—at least to some extent—but it would critically undermine innovation in the software industry. The disclosure associated with obtaining a patent ensures that "the knowledge of the invention enures to the people" and "stimulate[s] ideas and the eventual development of further significant advances in the art." *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481 (1974).[3] Moreover, in the absence of such protections firms will find it more difficult to develop interoperable software products that readily connect to third party products, thereby undermining an essential component of the utility of modern software and the success of the information technology business sector.

Any threat to software patent eligibility would ripple throughout the broader economy. In 2009, the software industry added over $276 billion to the economy. OECD STAN Database for Structural Analysis, http://stats.oecd.org/

[3] Despite claims to the contrary, software innovations are not adequately protected by copyright law, which only protects the specific "expression" of a software program—not the high level functionality implemented in software products. This is true as both a matter of text and precedent. The Copyright Act provides that "copyright protection" does not "extend to an idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b). And courts have long recognized that copyright law cannot be invoked to protect the functional aspects of software. *See, e.g.*, *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995) (holding that the menu command hierarchy of a computer spreadsheet program was "uncopyrigthable"), *aff'd per curiam by an equally divided Court*, 516 U.S. 233 (1996).

Index.aspx?DatasetCode=STAN08BIS&lang=en. In 2010, consumers and businesses in the United States invested over $257 billion in new or replacement software. Bureau of Econ. Analysis, *Private Fixed Investment in Equipment & Software*, at 7, http://www.bea.gov/national/FA2004/E&S_type.pdf. United States software exports generate more than $20 billion in revenue annually. 2012 PTO Report at 55. And the software industry's innovative impact is multiplied by the fact that downstream businesses benefit from and capitalize on software innovation. *Id.* at ii (describing the "domino effect" of innovation in the software industry).

What is more, the software and information technology industries are a bright spot in an economy that is struggling to create jobs. In 2006, the industries employed more than 2.7 million Americans, adding 400,000 jobs between 1997 and 2006. Software & Info. Indus. Ass'n, *Software & Info. Driving the Global Knowledge Econ.* 8 (2008). That marked growth is in sharp contrast to other industries' declines—job creation in the transportation equipment manufacturing and chemical manufacturing sectors, for example, declined by 13% during this time period. *Id.* And the U.S. Department of Labor projects that the software labor market will continue to be among the fastest growing through at least 2016. Dep't of Labor, *Occupational Outlook Handbook* 9 (2008). Any rule calling the patent eligibility of software inventions into question puts all this at risk.

II. This Court Should Not Adopt A Field-Specific Test For Whether A Computer-Implemented Invention Is A Patent-Ineligible Abstract Idea.

A. A Field-Specific Test Is Contrary To The Patent Act's Text And Precedent Construing That Text.

Section 101 provides that "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." 35 U.S.C. § 101. On more than one occasion, the Supreme Court has noted the "expansive" coverage that § 101 provides and the fact that its text clearly evinces Congress' intent "that the patent laws should be given a wide scope." *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). As the Court noted in *Bilski*, "Congress took this permissive approach to patent eligibility to ensure that ingenuity should receive a liberal encouragement." *Bilski*, 130 S. Ct. at 3225.

While § 101's scope is expansive, it is not unlimited. Supreme Court precedent carves out three specific exceptions to § 101's broad patent-eligibility principles—"laws of nature, natural phenomena, and abstract ideas" are not patentable. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). The Court has recognized, however, that "too broad an interpretation of" these exceptions "could eviscerate the patent law. For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*

Collaborative Servs. v. Prometheus Labs, 132 S. Ct. 1289, 1293 (2012). Accordingly—and because the § 101 carve outs are judicial creations—the exceptions to patent eligibility should be narrowly construed.

Against this backdrop, there is no justification or need for a special test for determining whether a "computer-implemented invention" is a patent-ineligible abstract idea as a general matter. Section 101 and the limited exceptions to patent eligibility established by Supreme Court precedent provide the appropriate framework within which to analyze issues pertaining to patent-eligible subject matter. Pursuant to this text and precedent, the question is not whether an invention satisfies certain criteria placing it within § 101's scope, but whether the invention falls within one of the narrow judicially-crafted exceptions to patent eligibility. *See Bilski*, 130 S. Ct. at 3225-36.

The existing framework suffices in the bulk of § 101 cases: "inventions 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." *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010). Computer-implemented inventions will in the great majority of cases entail such applications and improvements, placing their patent eligibility beyond question. Computer-implemented inventions "offer[] immense capabilities and a broad range of utilities, much of which embodies significant advances that

reside firmly in the category of patent-eligible subject matter." *Bancorp*, 687 F.3d at 1277; *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1331 (Fed. Cir. 2012) (the "vast number of claims" comport with § 101).

B. Section 101's Status As A "Coarse Filter" Bolsters The Conclusion That A Field-Specific Test Is Unnecessary.

That no special test for computer-implemented inventions is necessary as a general matter is underscored by the fact that § 101 is only a "threshold test." *Bilski*, 130 S. Ct. at 3225. Section 101 serves as a "coarse" filter; in fact, § 101 "itself directs primary attention to 'the conditions and requirements of '" of Title 35 more broadly. *Research Corp. Techs.*, 627 F.3d at 868. Thus even if an invention comports with § 101, "in order to receive the Patent Act's protection the claimed invention must also . . . be novel, see § 102, nonobvious, see § 103, and fully and particularly described, see § 112." *Bilski*, 130 S. Ct. at 3225; *see* David Kappos, Some Thoughts on Patentability (July 27, 2012, 2:09 PM) ("Kappos July 2012") ("Sections 102, 103 and 112 do the substantive work of disqualifying those patent eligible inventions that are 'not worthy of a patent', while § 101 is a general statement of the type of subject matter eligible for patenting."). Conversely, "when claims are refined to distinguish over the prior art, recite definite boundaries, and [are] fully enabled based on a complete written description, they do not usually encounter issues of eligibility based on reciting mere abstract ideas or broad fundamental concepts." *Id.*

Some of the desire for a more refined statement about what § 101 requires when computer-implemented inventions dealing with *Bilski*-like claims are involved may stem from an overreading of what § 101 mandates and an unwarranted failure to distinguish the patent-eligibility inquiry from the Patent Act's other requirements. This Court should resist invitations to adopt a computer-implemented invention patent-eligibility test that attempts to pack in and conflate the considerations required by §§ 101, 102, 103 and 112. Doing so would be in direct conflict with the admonition that § 101 patent eligibility "should not become a substitute for a patentability analysis related to prior art, adequate disclosure, or the other conditions and requirements of Title 35." *Research Corp. Techs.*, 627 F.3d at 868; *see id.* ("section 101 does not permit a court to reject subject matter categorically because it finds that a claim is not worthy of a patent"); *Bilski*, 130 S. Ct. at 3238 (Stevens, J., concurring) ("Given the many moving parts at work in the Patent Act, there is a risk of merely confirming our preconceived notions of what should be patentable or of seeing common attributes that track 'the familiar issues of novelty and obviousness' that arise under other sections of the statute but are not relevant to § 101." (quoting *Parker v. Flook*, 437 U.S. 584, 588 (1978))). Moreover, permitting a § 101 "shortcut" undermines the Patent Act's other requirements—which mandate a careful examination of the claimed invention and

prior art—and risks not only the invalidation of meritorious patents, but the prejudicing of §§ 102, 103, and 112 analyses.

C. Adopting A Field-Specific Test For Patent Eligibility Pertaining To Computer-Implemented Inventions Is Ill-Advised.

Adopting a field-specific test for whether a computer-implemented invention is a patent-ineligible abstract idea is unwise for at least three additional reasons. First, the Supreme Court has long recognized the three categorical exceptions to § 101 patent eligibility "as a matter of statutory *stare decisis*." *Bilski*, 130 S. Ct. at 3225. As the Supreme Court has made clear, however, the "existence of these well-established exceptions" does not give "the Judiciary *carte blanche* to impose other limitations that are inconsistent with the text . . . purpose and design" of the Patent Act. *Id.* at 3226. It is one thing to respect these long-existing, generally applicable exceptions to patent eligibility. It is quite another to craft a specific field-dependent test for patent eligibility that is unmoored from the statutory text and that has not been acquiesced to by Congress. The former is consistent with the precedents of the Supreme Court and this Court; the latter is not.

Second, as already mentioned, adopting a field-specific test for assessing the patent-eligibility of computer-implemented inventions that differs from the test applied to inventions more broadly could be detrimental to one of the economy's most innovative sectors. Such a test would surely be used as a tool to attempt to pare back on the patent-eligibility of computer-implemented inventions—such as

those embodied in software products—that play a vital role in our daily lives and the Nation's economy.[4] It would threaten what limited certainty exists in the market regarding the scope of § 101 and upset the settled expectations of those firms and individuals who have already made investment decisions relying on the status quo.

Third, and relatedly, adopting a computer-implemented invention test would be a harbinger of things to come: every time a new technology emerges the Court will be asked to adopt a patent-eligibility test for that technology specifically. There is no evidence in the Patent Act, however, that Congress had this sort of ad hoc approach to patent-eligibility standards in mind. Indeed, there is ample evidence to the contrary—the patent regime is meant to be "a unitary system with few a priori exclusions." Stephen A. Merrill, et al., eds., Comm. on IP Rights in the Knowledge-Based Econ., Nat'l Research Council, A Patent System for the 21st Century 57 (2004). Adopting a hodgepodge of § 101 patent-eligibility tests applicable to each emergent technology would unnecessarily eliminate broad swaths of subject matter areas from patent protection.[5] And the resulting problems

[4] The specially-crafted machine-or-transformation test was wrongly employed to declare clearly technical inventions patent ineligible. *See, e.g.*, *Ex Parte Petculescu*, No. 2008-2859, 2009 WL 1718896 (BPAI June 4, 2009); *Ex Parte Altman*, No. 2008-2386, 2009 WL 1709111 (BPAI May 29, 2009).

[5] Justice Kennedy recognized this concern in *Bilski*, noting the problems with applying patent-eligibility tests to emerging technologies. 130 S. Ct. at 3227. That

would be exacerbated by the fact that development of these emerging technologies requires innovators to take substantial financial and technological risks, making the certainty of patent eligibility in such technologies all the more imperative.

Section 101 is a generically worded and "dynamic provision designed to encompass new and unforeseen inventions." *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 135 (2001). Given its breadth and dynamism, an industry-specific rule would be misplaced. The reality is that § 101 issues have and will continue to arise whenever new technologies emerge, and encouraging the creation of new innovative technologies is exactly what the Patent Act seeks to accomplish. Thus, in a patent system that functions as Congress intended, courts have and will be faced with new technologies and the question whether those technologies meet the patent eligibility requirements of § 101. This desirable outcome does not call for the development of new field-specific patent-eligibility rules to address whether each new technology writ large is patent eligible. In general, courts have shown deference to developed precedent and established rules when addressing new technologies, as opposed to developing new tests when confronted with each generation's groundbreaking technological advances. *See Chakrabarty*, 447 U.S. at 315-316. The broad text that Congress adopted and the

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concern appears to be responsible, at least in part, for the Court's rejection of exclusive reliance on the machine-or-transformation test.

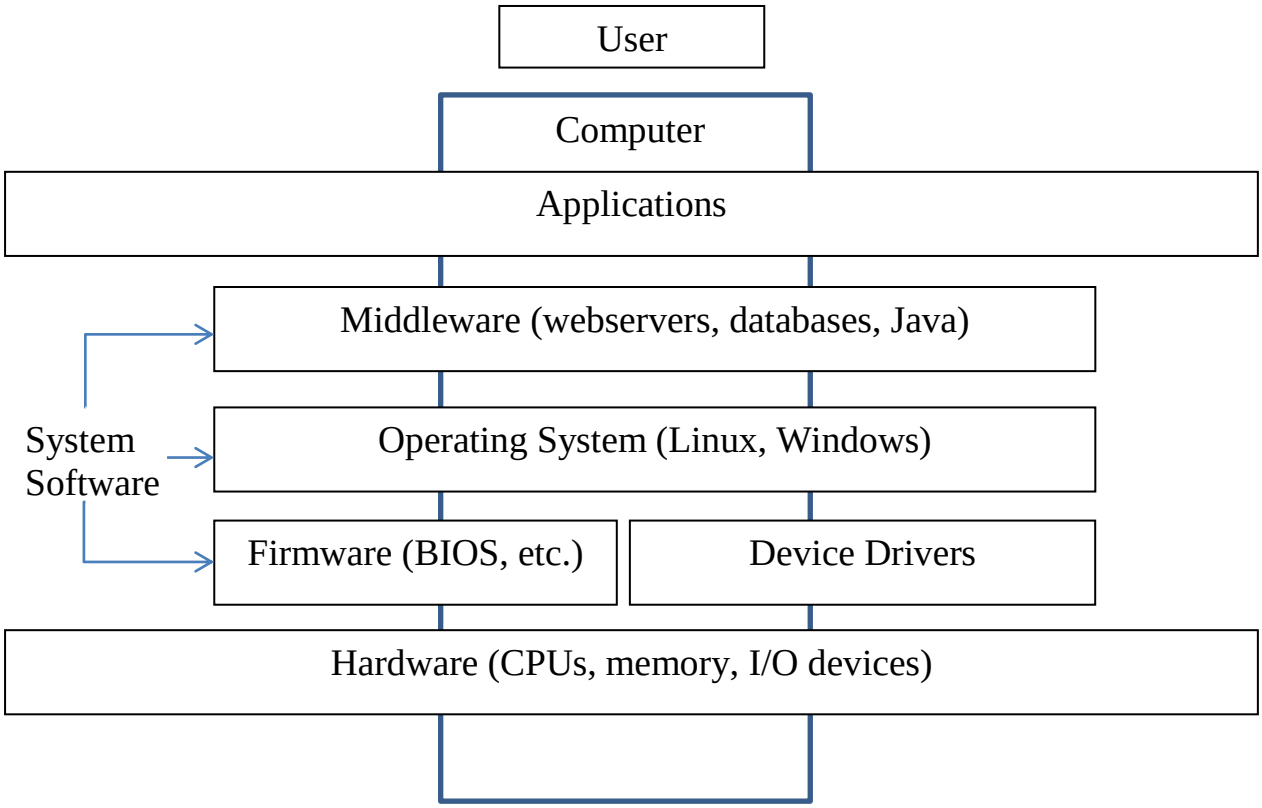
limited judicial exceptions that already exist are all that is needed in the vast majority of cases.

III. In The Exceptional Case When The Patent Eligibility Of A Computer-Implemented Invention Is Not Readily Apparent, The Functional Requirement Of A Computer Counsels In Favor Of Patent Eligibility.

In some limited instances, the general standards of patent eligibility may fail to provide the guidance necessary to determine predictably whether a computer-implemented invention is a patent-ineligible abstract idea. As many of this Court's recent § 101 precedents demonstrate, further granularity may be required when assessing computer-implemented inventions involving claims to methods, processes, and systems resembling the invention at issue in *Bilski v. Kappos*. For the reasons already stated, IBM believes that a field-specific rule regarding whether computer-implemented inventions are patent-ineligible abstract ideas is unwarranted, unwise, and, indeed, impermissible under the Patent Act and prevailing precedent. IBM agrees, however, that in certain close cases involving computer-implemented inventions with *Bilski*-like claims—claims where non-computer related aspects form a significant part of the claimed invention—tools augmenting the generally applicable rules of patent eligibility are likely useful.

These close cases will be rare in the computer-implemented software invention context—only the very tip of the iceberg of integrated software-dependent systems will require any substantial § 101 evaluation. Software

technology that makes up a typical general purpose computer system is often described as comprising several layers of code that extends the function of the computing hardware to the user. The software-constructed bridge between hardware and user is depicted below.



The system software layer includes BIOS and related code, which resides just above the computer system hardware. BIOS code enables low-level hardware functions permitting computers to read a keystroke or mouse click or write data to a memory device. The BIOS code layer provides this functionality to enable the operation of the next level of system software—the Operating System. Operating Systems manage the hardware and provide support for the use of application

software. Just above the Operating System, system software layers often include a stratum of middleware, which includes web servers, databases, virtual machines, JAVA, and other programs that extend the base functions provided by the Operating System. The layer of software closest to the user and most familiar is application software. This software includes, for example, word processors, spreadsheets, email programs, web browsers, and computer games.

Inventions residing in system software layers or throughout most of the application layer should not be susceptible to patent eligibility issues. These inventions are no different in character from the inventions in chips and other components that make up the computer hardware. It is only within a narrow subset of the application software layer where courts might properly encounter inventions with *Bilski*-like claims. In IBM's view, close questions of patent-eligibility in this context should focus on whether the invention at issue substantially depends on the functionality a computer provides; whether the method or process claimed is "dependent upon the computer components required to perform it." *Bancorp*, 687 F.3d at 1279.[6]

For instance, a computer-implemented invention requiring numerous simultaneous operations would clearly meet this criterion and thus be patent

[6] While this tool need only be applied in the narrow circumstances discussed, system software would clearly be patent eligible under the application of this framework—the computer and the invention are inextricably intertwined.

eligible. So would a computer-implemented invention that depends on a computer to conduct a multitude of highly-accurate and complex calculations in milliseconds—a feat beyond human accomplishment, and more than simply "doing it faster."[7] The functionality simply could not be achieved without the computer.

This is not a special subject-matter exception for computer-related technology. Rather, it is a framework for applying the generally applicable exceptions to § 101 to *Bilski*-like claims where distinguishing between inventions that gratuitously involve a computer-application and those that depend on the computer's functionality to be innovative is imperative.[8]

A. Focusing On Whether An Invention Requires Computer Functionality Is Consistent With The Precedents Of The U.S. Supreme Court And This Court.

Pinning the patent-eligibility of computer-implemented inventions involving *Bilski*-like claims to the extent to which the invention depends on the functionality a computer provides is consistent with Supreme Court precedent. Requiring such functionality ensures that the invention "amounts to significantly more than a patent upon" the abstract idea itself, and is not a mere "drafting effort designed to

[7] Even if a task can be performed without a computer, the object of the invention may not be practicably achievable because an unaided human is too slow.

[8] In this regard, focusing on the computer functionality in a claim is not unlike the Supreme Court's consideration of post-solution activity. *See Diehr*, 450 U.S. at 191-92 ("[I]nsignificant post-solution activity will not transform an unpatentable principle into a patentable process.").

monopolize" the abstract idea. *Mayo*, 132 S. Ct. at 1294, 1297; *see Flook*, 437 U.S. at 594. The necessity of the functionality a computer provides is indicative of the fact the invention is an "application" of the abstract idea "deserving of patent protection." *Diehr*, 450 U.S. at 187; *see, e.g.*, *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) ("If there is to be invention from [a discovery of a law of nature], it must come from the application of the law of nature to a new and useful end.").

Tethering whether a *Bilski*-related computer-implemented invention is a patent-ineligible abstract idea to its dependence on a computer's functionality is also consistent with the post-*Bilski* decisions of this Court. In *Bancorp*, this Court recognized that "an otherwise patent-ineligible process" may be "salvage[d]" when a computer is "integral to the claimed invention, facilitating the process in a way that a person making calculations and computations could not." 687 F.3d at 1278; *see CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1376 (Fed. Cir. 2011) (that "the use of a computer is required to perform the claimed method" counsels in favor of patent eligibility). And in *Research Corporation Technologies*, this Court concluded that an invention that "presents functional and palpable applications in the field of computer technology" is clearly patent eligible. 627 F.3d at 868.

B. The Mere Recitation Of A Computer Does Not Render A Computer-Implemented Invention Patent Eligible.

To be sure, merely mentioning a computer in a claim will not transform the claim from patent ineligible to patent eligible. A clearly ancillary recitation of a computer—"a method for X comprising the computer implemented steps of Y"—is not enough. "[T]o transform an unpatentable law of nature into a patent-eligible *application* of such a law, one must do more than simply state the law of nature while adding the words 'apply it.'" *Mayo*, 132 S. Ct. at 1294; *see Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972). Simply adding the words "apply it using a computer" should fare no better. As the Supreme Court has instructed, the "prohibition against patenting abstract ideas 'cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.'" *Bilski*, 130 S. Ct., at 3230 (quoting *Diehr*, 450 U.S., at 191–192); *Dealertrack*, 674 F.3d at 1333 ("Simply adding a 'computer aided' limitation to a claim covering an abstract concept, without more, is insufficient to render the claim patent eligible.").

C. A Framework For Ascertaining The Patent Eligibility Of Computer-Implemented Inventions That Focuses On The Computer Functionality Required Is Easily Applied.

An opinion from this Court making clear that computer-implemented inventions that substantially depend on computer functionality are patent eligible will provide much-needed guidance to current and potential patentees, licensees,

the PTO, and district courts. A review of some examples of patent claims that require the functionality of a computer and claims that do no more than utilize a computer incidentally helps demonstrate how a focus on functionality plays out in practice. The following examples build off of the patent claims at issue in *Bilski* (as seems appropriate).

Example 1

A computer usable medium having computer readable program code embodied in said medium, said computer readable program code adapted to be executed to implement a method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
(b) identifying market participants for said commodity having a counter-risk position to said consumers; and
(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

But for the underlined language, Example 1 tracks the claim at issue in *Bilski* word-for-word. The language Example 1 adds to the *Bilski* claim preamble—"computer usable medium having computer readable program code embodied in said medium, said computer readable program code adapted to be executed to implement a"—does nothing to render the claim patent eligible. This

language amounts to no more than the incidental recitation of a computer; no computer-provided functionality is required. *See Bilski*, 130 S. Ct., at 3230; *Diehr*, 450 U.S., at 191–192; *Dealertrack*, 674 F.3d at 1333.

Example 2

A system ~~method~~ for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) a first transaction initiator for initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) digital storage containing information identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) a second transaction initiator for initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Example 2 tracks the *Bilski* claim language with the exception of the underlined and stricken text. But, again, the alterations, which provide for an automated system that initiates the risk-hedging operation that is the subject of the invention, do not render the *Bilski* claim patent eligible. Nothing in the altered claim substantially depends on the functionality a computer provides.

Example 3

A system ~~method~~ for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) a plurality of first transaction initiators for initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer; wherein said first transaction initiators are configured to operate simultaneously;

(b) digital storage containing information identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) a plurality of second transaction initiators for initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions; wherein said second transaction initiators are configured to operate simultaneously.

Like the first two examples, Example 3 parrots the language of the *Bilski* claim with the exception of the underlined and stricken language. This time, however, the alterations make a difference. The functionality of a computer is required in order to allow "a plurality of first transaction initiators" and "a plurality of second transaction initiators" "to operate simultaneously." In the absence of the functionality a computer provides, the specific application of the *Bilski* method

disclosed in this claim would be unachievable.[9] Here, it is important to note that just as saying "a method for X comprising the computer implemented steps of Y" will not save an invention from patent ineligibility, failing to overtly reference a computer does not doom the claim when the required computer functionality is inherent. If the claims read in light of their meaning to a person of ordinary skill in the art and with reference to the specification reveal that the invention substantially depends on computer functionality, then § 101 is satisfied.

IV. Whether An Invention Is Claimed As A Method, System, Or Storage Medium May Be Relevant To Patent Eligibility If The Claims, When Viewed As A Whole, Are Substantively Different.

It is well-established that "a patent claim must be considered as a whole." *Flook*, 437 U.S. at 594; *see Diehr*, 450 U.S. at 188 ("in determining the eligibility of [a] claimed process for patent protection under § 101, the[] claims must be considered as a whole); *Research Corp. Techs.*, 627 F.3d at 869 (same). This maxim is directly applicable to the Court's questions in this case in two respects.

First, whether an invention "is claimed as a method, system, or storage medium" matters to the extent that such distinctions are made relevant through the process of assessing the claim as a whole. Order Granting Rehearing En Banc, *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 2011-1301, 2 (Fed. Cir. October 9, 2012).

[9] This example assumes there is support for the claimed functionality in the specification.

In instances where the only difference between various claims is that the term "system" or "storage medium" is substituted in for the term "method"—or a similar substitution of one of these terms for another—it may be that the patent eligibility of the invention is not dictated by the term used. These different types of claims will likely all fail or pass muster under § 101 in instances where the substance of the claims is clearly the same and any differing claim elements are ancillary. The claims discussed in Examples 1 and 2, see *supra* at pp. 25-26, would not be salvaged by simply substituting in the term "system" for "method," and vice versa. But when these different types of claims add significant claim elements, that fact must be taken into account when assessing the claim as a whole. For example, claim drafters use different claim formats to protect different products or uses. There are thus often very concrete reasons for choosing claim formats which may be reflected in substantive changes to the claimed invention.

Second, when considering whether an invention requires computer functionality, courts should refrain from pulling out the computer-related portion of the claims and then conducting a two part analysis. In many cases, this sort of divide-and-conquer approach would lead to an under appreciation of the importance of the functionality a computer provides and result in unwarranted findings of patent ineligibility. This parsing also creates a slippery slope allowing the undisciplined rewriting of claims. Claims must be assessed as a whole, and

that whole accounts for how the computer provides functionality in the context of the invention in its entirety. *See supra* at p. 28. In other words, for the inclusion of a computer or computer-related functionality not to counsel in favor of patent eligibility, it must be clear that the invention—as a whole—incorporates no more than an insignificant recitation of a computer.

CONCLUSION

For all these reasons, this Court should not only refrain from adopting an all-encompassing test for whether any computer-implemented invention is a patent-ineligible abstract idea, it should also make clear that when a computer-implemented invention substantially depends on the functionality a computer provides that invention is likely patent eligible. Moreover, this Court should reaffirm that separating out the computer-related portions of a claim or failing to account for the use of specific claim terms is fundamentally inconsistent with the basic principle that a patent claim must be considered as a whole.

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CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rules of Appellate Procedure 29(c)(7) and 32(a)(7)(C), the undersigned certifies that, as counted by Microsoft Word 2010, this brief complies with Federal Rule of Appellate Procedure 32(a)(7)(B) in that it contains 6,971 words.

The undersigned further certifies that this brief, which was prepared in the 14-point Times New Roman font of Microsoft Word 2003, complies with the typeface and type style requirements of Federal Rule of Appellate Procedure 32(a)(5) and (a)(6).

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CERTIFICATE OF SERVICE

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