

# What Caused the Differences in Opinion in *CLS Bank Int'l v. Alice Corp.* CAFC En Banc Decision?

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## I. INTRODUCTION

Since the United States Supreme Court (hereinafter “the Supreme Court”) held in *Bilski v. Kappos*<sup>(1)</sup> “[t]he machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process,’” how to analyze patent eligibility especially for computer implemented claims has remained unsettled<sup>(2)</sup>. Since then, several United States Court of Appeal for the Federal Circuit (hereinafter “CAFC”) decisions have been issued based on the *Bilski* decision. While some decisions found patent eligibility, some did not<sup>(3)</sup>. En banc decision of *CLS Bank Int'l v. Alice Corp.*<sup>(4)</sup> issued on May 10, 2013 revealed that, even among CAFC judges, there is no settled guideline regarding how to approach the patent eligibility issue concerning computer implemented claims. Indeed, the *CLS Bank Int'l v. Alice Corp.* revealed a new issue with respect to computer implemented claims; whether a system or apparatus claim may fall into one of exceptions to patent eligibility under 35 U.S.C. § 101, *i.e.*, “abstract idea,” when the system or apparatus claim recites features similar to those of the method claim.

Because the Supreme Court granted certiorari, the purpose of this paper is not to discuss settled law regarding patent eligibility, but to discuss the key question in determining patent eligibility of computer implemented claims. Further, this paper will analyze how the key question affects the differences in

opinions of Circuit judges in *CLS Bank Int'l v. Alice Corp.*

## II. OVERVIEW

When it comes to drafting a system or apparatus claim, components included in the system or apparatus are recited instead of the functions implemented by the components. It is generally unacceptable to draft a claim that recites functional steps implemented by the system or apparatus without reciting components. For example, when a camera is claimed, each component included in the camera, such as a housing, optical lens, a shutter, and a sensor is recited, instead of functions of camera, such as capturing an object image and recording the object image onto a film.

Advent of separating software from computer hardware changed the traditional claim drafting. In order for a general purpose computer to perform various functions, mere replacement of software, *i.e.*, computer implementing machine-readable instructions, is required. In other words, a general purpose computer having one or more processors and one or more memories storing computer-executable instructions can implement variety of functions without replacing any of its physical components. The functions implemented by the computer could depend only on the computer-executable instructions stored in memory. Each specific function is not implemented by a specific component, but by the general processors.

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(1) *Bilski v. Kappos*, 130 S.Ct. 3218 at 3227 (2010)

(2) *Myspace, Inc. v. GraphOn Corporation*, 672 F.3d 1250 (Fed. Cir.2012) indicates the current chaotic situation with respect to determination of abstract idea. The opinion states at 1259 as follows: “When it comes to explaining what is to be understood by ‘abstract ideas’ in terms that are something less than abstract, courts have been less successful.” “in an attempt to explain what an abstract idea is (or is not) we tried the ‘machine or transformation’ formula - the Supreme Court was not impressed. ... We have since acknowledged that the concept lacks of a concrete definition: ‘this court also will not presume to define ‘abstract’ beyond the recognition that this disqualifying characteristic should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter ....”

(3) For example, *Research Corp. Technologies, Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir.2010) found that claims are patent eligible. *Dealertrack, Inc. v. Huber*, 674 F.3d 1315 (Fed. Cir.2012) found that claims are not patent eligible.

(4) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d 1269 (Fed.Cir.2013)

Thus, it becomes possible to draft an apparatus claim comprising one or more processors and one or more memories having computer-executable instructions, wherein the apparatus implements recited functional steps. This type of apparatus claims can be easily searched through USPTO patent search website.

For instance, US Patent 8,595,640 owned by Microsoft recites as follows:

A computing device for displaying a user interface, the computing device comprising:

- a memory configured to store instructions; and
- a processor configured to execute the stored instructions, wherein execution of the stored instructions causes the computing device to:

- receive layout information for a user interface to be at least partially displayed by the computing device, wherein ...;

- render, based at least in part on the received layout information, the user interface before receipt of the at least one user interface item ...;

- display a first portion of the rendered user interface, the first portion being within an area of the user interface defined by a surface;

- receive a request to display a second portion of the rendered user interface; and

- in response to the received request, display the second portion of the rendered user interface, including: perform a move transform to the surface.

In this example, the components of the computing device are a memory and a processor only. All functions are recited in a similar manner to the functional steps recited in the method claim of the same patent, as stated below.

A computing device-implemented method for displaying a user interface on the computing device, the method comprising:

- receiving layout information for a user interface to be at least partially displayed by the computing device, wherein ...;

- rendering, based at least in part on the received layout information, the user interface before receipt of the at least one user interface item ...;

- displaying, by the computing device, a first portion of the rendered user interface, the first portion being within an area of the user interface defined by a surface;

- receiving a request to display a second portion of the rendered user interface; and

- in response to the received request, displaying, by the computing device, the second portion of the rendered user interface, including: performing a move transform to the surface.

As shown above, it is possible to recite functional steps implemented by an apparatus without claiming any component except for general components such as a processor and a memory. Some patents include method claims, computer readable medium claims, and system or apparatus claims; and all of these claims recite similar functional steps regardless of their categorical difference.

In analyzing patentability of method claims, the Supreme Court has been developed a judicially created exception to patent eligible subject matter under 35 U.S.C. § 101; laws of nature, physical phenomena, and abstract idea.<sup>(5)</sup> The new type of claim drafting, explained above, that brings a new issue to the exception, which is whether a claim may be considered as outside of patent eligible subject matter; regardless of category of the claim, such as method, system and apparatus claim.

Functional steps implemented by a general purpose computer are often embodiments of a fundamental inventive concept, in other words, abstract idea. As CAFC Chief Judge Rader stated in his concurring-in-part and dissenting-in-part opinion of *CLS Bank Int'l v. Alice Corp.* en banc decision, “[a]ny claim can be stripped down, simplified generalized or paraphrased to remove all of its concrete limitations, until at its core, something that could be characterized as an abstract idea is revealed.”<sup>(6)</sup> A core function of an apparatus or system claim is often a conceptual abstract idea. Thus, an apparatus or system claim seems to claim only an abstract idea, when the claim recites functional steps with general components

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(5) *Parker v. Flook*, 437 U.S. 584, 588-589 (1978) and *Diamond v. Chakrabarty*, 447 U.S. 303 at 309 (1980)

(6) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1298, Concurring-in-part and dissenting-in-part opinion filed by Chief Judge Rader.

included in a general purpose computer. Accordingly, the possibility that the claim is considered as patent ineligible is high.

Above explained functional claim drafting is new trend, however, as to functional claiming, 35 U.S.C. § 112(f) or § 112, sixth paragraph (pre-AIA) allows means-plus-function claims before the advent of this type of claim drafting, in which one or more functions performed by means are recited without any structural recitation.

When a claim is construed as a means-plus-function claim, functions and structures, which perform the functions and are disclosed in specification, are construed. The scope of the claim is limited to the disclosed structure and equivalents thereof.

As explained *infra*, because of the similarity in claim drafting, laws regarding computer implemented means-plus-function claims give us a tool how to analyze patent eligibility of computer implemented claims.

This paper will first explain patent eligibility issues related to computer implemented claims. After explaining issues regarding computer implemented means-plus-function claims, common issues between patent eligibility and means-plus-function claim, with respect to computer related claims, will be discussed.

### III. COMPUTER IMPLEMENTED CLAIMS AND PATENT ELIGIBILITY (35 U.S.C § 101)

#### A. Overview

With respect to patent eligibility, 35 U.S.C. § 101 broadly states, “[w]hoever 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 therefore,

subject to the conditions and requirements of this title.” The provision repeats the term, “any,” which shows that Congress intended statutory subject matter “include[s] anything under the sun that is made by man.”<sup>(7)</sup>

As explained in detailed below, however, several Supreme Court decisions have developed judicially created exceptions to § 101, which is laws of nature, physical phenomena, and abstract idea.<sup>(8)</sup>

After briefly explaining recent Supreme Court cases, *Bilski v. Kappos* and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*; *CLS Bank Int’l v. Alice Corp.* (en banc) will be discussed.

#### B. *Bilski v. Kappos*

*Bilski v. Kappos* decision was issued by the Supreme Court on June 28, 2010.<sup>(9)</sup>

Claims concerned in *Bilski v. Kappos* are directed to processes for hedging risk of price change in energy commodities market.

The patent examiner rejected the application, reasoning that it is not implemented on a specific apparatus and merely manipulates an abstract idea.<sup>(10)</sup> Eventually, CAFC heard the case en banc and affirmed the decision. In determining patent eligibility, CAFC indicated that machine-or-transformation test is the sole test. According to the machine-or-transformation test, an invention is considered as a “process” under § 101 only if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.<sup>(11)</sup> Applying machine-or-transformation test, CAFC held that the application was not patent eligible.<sup>(12)</sup>

After confirming that there are three exceptions to § 101, laws of nature, physical phenomena, and abstract ideas,<sup>(13)</sup> the Supreme Court affirmed the CAFC en banc decision that the claims in issue were

(7) See, *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980), quoting S.Rep.No.1979, 82d Cong., 2d Sess., 5 (1952); H.R.Rep.No.1923, 82d Cong., 2d Sess., 6 (1952),

(8) *Parker v. Flook*, 437 U.S. 584, 588-589 (1978) and *Diamond v. Chakrabarty*, 447 U.S. at 309

(9) *Bilski v. Kappos*, 130 S.Ct. 3218

(10) *Id.* at 3224 citing App.to Pet. For Cert. 148a

(11) *Bilski v. Kappos*, 130 S.Ct. at 3225

(12) *In re Bilski*, 545 F.3d 943 at 966 (Fed.Cir.2008) (en banc)

(13) *Bilski v. Kappos*, 130 S.Ct. at 3226

not patent eligible. However, the Supreme Court held “[t]he machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process.’”<sup>(14)</sup> As reasons for the decision, the Supreme Court states, “[i]n the course of applying the machine-or-transformation test to emerging technologies, courts may pose questions of such intricacy and refinement that they risk obscuring the larger object of securing patents for valuable inventions without transgressing the public domain.” “As a result, in deciding whether previously unforeseen inventions qualify as patentable ‘process[es],’ it may not make sense to require courts to confine themselves to asking the questions posed by the machine-or-transformation test.”<sup>(15)</sup>

Further, the Supreme Court rejected the conclusion that business methods are categorically outside of § 101’s scope.<sup>(16)</sup>

After rejecting the rigid test, i.e., machine-or-transformation test, for determining patent eligibility and the categorical determination, the Supreme Court held “[r]ather than adopting categorical rules that might have wide-ranging and unforeseen impacts, the Court resolves this case narrowly on the basis of this Court’s decisions in *Benson*, *Flook*, and *Diehr*, which show that petitioners’ claims are not patentable processes because they are attempts to patent abstract ideas.”<sup>(17)</sup> Each *Benson*<sup>(18)</sup>, *Flook*<sup>(19)</sup>, and *Diehr*<sup>(20)</sup> were evaluated and the CAFC decision that the claims were not patent eligible was affirmed.

### C. *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*

The Supreme Court’s most recent case regarding patent eligibility under § 101 is *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*<sup>(21)</sup> The patent in issue here is directed to methods used to determine a dosage of thiopurine compound. The methods are not related to any computer or machine. The Supreme Court held that the claims are not patent eligible. The Supreme Courts concluded that “Prometheus’ patent set forth laws of nature - namely, relationship between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thiopurine drug will prove ineffective or cause harm.” Thus, the question brought by the Supreme Court is “whether the claims do significantly more than simply describe these natural relations,” or whether they “add enough” to the natural law to render the claims patent eligible.<sup>(22)</sup> The Supreme Court analyzed that addition of the recited administering and determining steps are not sufficient.<sup>(23)</sup> “Indeed, scientists routinely measured metabolites as part of their investigations into the relationship between metabolite levels and efficacy and toxicity of thiopurine compounds.” “[T]his step tells doctors to engage in will-understood, routine, conventional activity previously engaged in by scientists who work in the field.”<sup>(24)</sup> Thus, the Supreme Court concluded that the reciting steps do not transform an unpatentable law of nature into a patent eligible application of such a law.<sup>(25)</sup>

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(14) *Id.* at 3227

(15) *Id.* 3227-3228

(16) *Id.* at 3228

(17) *Id.* at 3229

(18) *Gottschalk v. Benson*, 409 U.S. 63 (1972)

(19) *Parker v. Flook*, 437 U.S. 584

(20) *Diamond v. Diehr*, 450 U.S. 175 (1981)

(21) *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012)

(22) See, *Id.* 1296-1297

(23) See, *id.* 1297-1298

(24) See, *Id.* at 1298

(25) See, *Id.* at 1298

## D. *CLS Bank Int'l v. Alice Corp.*

### 1. Background

In *CLS Bank Int'l v. Alice Corp.*, noninfringement, invalidity, and unenforceability as to Alice's U.S. Patents 5,970,479 (hereinafter "the '479 patent"), U.S. Patent 6,912,510 (hereinafter "the '510 patent"), U.S. Patent 7,149,720 (hereinafter "the '720 patent"), U.S. Patent 7,725,375 (hereinafter "the '375 patent") are in issue.

United States District Court for the District of Columbia (hereinafter "District Court") held that certain claims of Alice's patents were invalid under 35 U.S.C § 101<sup>(26)</sup>. In particular, the District Court concluded that Alice's method claims "are directed to an abstract idea of employing an intermediary to facilitate simultaneous exchange of obligations in order to minimize risk."<sup>(27)</sup> The District Court further concluded that system claims are similarly ineligible, as those claims "would preempt the use of the abstract concept of employing a neutral intermediary to facilitate simultaneous exchange of obligations in order to minimize risk on any computer, which is, as a practical matter, how these processes are likely to be applied."<sup>(28)</sup> In addition, the media claims were held invalid on the same ground as "directed to the same abstract concept despite the face they nominally recite a different category of invention."<sup>(29)</sup>

On July 9, 2012, a panel of CAFC reversed the District Court decision holding that the claims at issue, including claims drawn to methods, computer-readable media, and systems, were all patent eligible under 35 U.S.C § 101<sup>(30)</sup>.

CLS's petition for rehearing en banc was granted on October 9, 2012.<sup>(31)</sup> CAFC en banc decision affirmed the District Court's judgment in its entirety. CAFC held that the method, computer-readable medium, and corresponding system claims in issue recited patent-ineligible subject matter under 35 U.S.C § 101<sup>(32)</sup>. The petition of writ of certiorari was filed. The United States Supreme Court granted certiorari on December 6, 2013.

### 2. Claim in Issue

The relevant claims of the '479 and '510 patent are directed to methods, while the claims of the '720 and '375 patents are directed to systems or products. "These patents cover a computerized trading platform for exchanging obligations in which a trusted third party settles obligations between a first and second party so as to eliminate 'settlement risk,' which is a "risk that only one party's obligation will be paid, leaving the other party without its principal."<sup>(33)</sup> "The trusted third party eliminates this risk by either (a) exchanging both parties' obligations or (b) exchanging neither obligation."<sup>(34)</sup>

A key issue in *CLS Bank Int'l v. Alice Corp.*, which has been mentioned in Supreme Court precedent, is whether a system claim comprising a tangible elements may be patent ineligible under § 101 when the claim recites limitations similar to a method claim.

Representative claims will be stated below in order to show the similarity in claim drafting among method, system, and product claims.

The claims in issues here include not only method claims, but also computer readable medium claims and

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(26) *CLS Bank Int'l v. Alice Corp.*, 768 F.Supp.2d 221 (D.D.C.2011)

(27) *Id.* at 243

(28) *Id.* at 252

(29) *Id.* at 255

(30) *CLS Bank Int'l v. Alice Corp.*, 685 F.3d 1341 (Fed.Cir.2012)

(31) *CLS Bank Int'l v. Alice Corp.*, 484 Fed.Appx. 559 (Fed.Cir.2012)

(32) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d 1269

(33) *CLS Bank Int'l v. Alice Corp.*, 685 F.3d at 1343

(34) *Id.* at 1343

system claims comprising tangle structural components, such as a computer<sup>(35)</sup>. However, the computer readable medium claims having computer readable program codes which execute, together with a computer, to perform functional steps similar to the method claims. Further, the computer included in the system is configured to perform functions similar to the steps recited in the method claims, rather than comprises structural components. Thus, the ways of reciting the limitations look similar.

### 3. Majority Opinion

The majority opinion is filed by Circuit Judge Lourie and concurred with four other Circuit judges. The majority rejected the patent eligibility of method claims, computer-readable medium claims, and system claims.

Importantly, the majority opined that “at least in this case, the method, medium, and system claims

should be considered together for purpose of § 101.”<sup>(36)</sup>

According to the majority opinion, claim 33 of ‘479 recites, “a method for facilitating a previously arranged exchange between two parties requiring the use of ‘shadow’ records maintained by a third-party ‘supervisory institution.’”<sup>(37)</sup> The majority opinion determined that “[t]he methods claimed here draw on the abstract idea of reducing settlement risk by effecting trades through a third-party intermediary ... empowered to verify that both parties can fulfill their obligations before allowing the exchange.” As to the added limitations, the majority opinion held, “the claim’s substantive limitations require creating shadow records, using a computer to adjust and maintain those shadow records, and reconciling shadow records and corresponding exchange institution accounts through end-of-day transaction,” and “[n]one of those limitations adds anything of substance to the claim.”<sup>(38)</sup> With respect to the requirement for

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(35) Claim 33 of the ‘479 patent recites as follows:

A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:

- (a) creating a shadow credit record and a shadow debit record for each stakeholder party ...;
- (b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;
- (c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, ...; and
- (d) at the end-of-day, the supervisory institution instructing ones of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties ....

Claim 1 of the ‘720 patent recites as follows:

A data processing system to enable the exchange of an obligation between parties, the system comprising: a data storage unit having stored therein information about a shadow credit record and shadow debit record for a party, independent from a credit record and debit record maintained by an exchange institution; and a computer, coupled to said data storage unit, that is configured to

- (a) receive a transaction;
- (b) electronically adjust said shadow credit record and/or said shadow debit record ..., allowing only those transactions that do not result in a value of said shadow debit record being less than a value of said shadow credit record; and
- (c) generate an instruction to said exchange institution at the end of a period of time to adjust said credit record and/or said debit record ...

Claim 39 of the ‘375 patent recites as follows:

A computer program product comprising a computer readable storage medium having computer readable program code embodied in the medium for use by a party to exchange an obligation between a first party and a second party, the computer program product comprising: program code for causing a computer to send a transaction from said first party relating to an exchange obligation arising from a currency exchange transaction between said first party and said second party; and program code for causing a computer to allow viewing of information relating to processing, by a supervisory institution, of said exchange obligation, wherein said processing includes

- (1) maintaining information about a first account for the first party, independent from a second account maintained by a first exchange institution, and information about a third account for the second party, independent from a fourth account maintained by a second exchange institution;
- (2) electronically adjusting said first account and said third account, ..., after ensuring that said first party and/or said second party have adequate value in said first account and/or said third account, respectively; and
- (3) generating an instruction to said first exchange institution and/or said second exchange institution to adjust said second account and/or said fourth account....

(36) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1289

(37) *See, Id.* at 1285

(38) *Id.* at 1286

computer implementation, the majority opinion held that there is “no reason to view the computer limitation as anything but ‘insignificant postsolution activity’ relative to the abstract idea.”<sup>(39)</sup> “[S]imply appending generic computer functionality to lend speed or efficiency to the performance of an otherwise abstract concept does not meaningfully limit claim scope for purpose of patent eligibility.”<sup>(40)</sup> The majority opinion further held, with respect to adding a computer implementation limitation as follows:<sup>(41)</sup>

Because of the efficiency and ubiquity of computers, essentially all practical, real-world applications of the abstract idea implicated here would rely, at some level, on basic computer functions - for example, to quickly and reliably calculate balances or exchange data among financial institution. At its most basic, a computer is just a calculator capable of performing mental steps faster than a human could. Unless the claims require a computer to perform operations that are not merely accelerated calculations, a computer does not itself confer patent eligibility.

Next, the majority opinion analyzed computer-readable medium claim and acknowledged that the claim’s preamble includes a physical object and computer readable storage medium would fall into a §101 category separate from the method claims. However, the majority opinion held, “the claim term ‘computer readable storage medium’ is stated in broad and functional terms - incidental to the claim - and every substantive limitation presented in the body of the claim ... pertains to the method steps of the program code ‘embodied in the medium.’”<sup>(42)</sup> Then, the majority opinion concluded that Alice’s computer readable medium claims “are merely method claims in the guise of a device and thus do not overcome the

Supreme Court’s warning to avoid permitting a ‘competent draftsman’ to endow abstract claim with patent-eligible status.”<sup>(43)</sup>

Finally, the majority opinion analyzed the system claims by acknowledging that the system claims recite tangible devices as system components, including at least “a computer” and “a data storage unit.”<sup>(44)</sup> However, because “Alice’s method and system claims use similar and often identical language to describe those actions,” a question here is whether the system claims “deserve to be evaluated differently under the abstract idea exception from the accompanying method claims.”<sup>(45)</sup> Answering this question, the majority held, “when §101 issues arise, the same analysis should apply regardless of claim format,” because “it is often a straightforward exercise to translate a method claim into system form, and vice versa.”<sup>(46)</sup> “The computer-based limitations recited in the system claims here,” according to the majority, “cannot support any meaningful distinction from the computer-based limitations that failed to supply an ‘inventive concept’ to the related method claims.” “The shadow record and transaction limitation in Alice’s method claims require ‘a computer,’ evidently capable of calculation, storage, and data exchange.” “The system claims are little different.”<sup>(47)</sup> “Despite minor difference in terminology, the asserted method and system claims require performance of the same basic process.” “[N]one of the recited hardware offers a meaningful limitation beyond generally linking ‘the use of the [method] to a particular technological environment,’ that is, implementation via computer.” “[E]very general-purpose computer will include ‘a computer,’ ‘a data storage unit,’ and ‘a communications controller’ that would be capable of performing the same generalized functions required of the claimed systems to carry out the otherwise

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(39) *Id.* at 1286, quoting *Fort Props., Inc. v. Am. Master lease LLC*, 671 F.3d 1323-1324 (Fed.Cir.2012)

(40) *Id.* at 1286

(41) *Id.* at 1286

(42) *Id.* at 1288

(43) *Id.* at 1288

(44) *Id.* at 1289

(45) *Id.* at 1289

(46) *Id.* 1289-1290

(47) *Id.* at 1290

abstract methods recited therein.”<sup>(48)</sup> Based on the foregoing, the majority opinion concluded that “as with the asserted method claims, such limitations are not actually limiting in the sense required under § 101.”<sup>(49)</sup>

Accordingly, the majority opinion affirmed the District Court’s determination that the method, computer-readable medium, and corresponding system claims recited patent-ineligible subject matter under § 101.

#### 4. Other Opinions

Opinions filed by other judges can be categorized into two types; one is that in determining patent eligibility, method, medium, and system claims need to be considered together, i.e., determined patent eligibility all together, and the other is that system claims could be patent eligible, even when method claims are patent ineligible. Thus, although all judges agreed with the patent eligibility of the system claims, Chief Judge Rader and Circuit Judge Moore affirmed the District Court’s conclusion regarding method and media claims.<sup>(50)</sup>

In Circuit Judge Moore’s Dissenting-in-part opinion, in which Chief Judge Rader and Circuit Judges Linn and O’Malley join, *In re Alappat*<sup>(51)</sup> which analyzed both § 101 issue and means-plus-function claim issue, is discussed.

Judge Moore’s opinion states, with respect to *In re Alappat*, “[o]ur court, sitting en banc, applied these principles to hold patent-eligible a claim that would read on a general purpose computer programmed to carry out the operations recited in the claim.”<sup>(52)</sup> “We nonetheless held that the claim was patent-eligible under § 101, explaining 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’” (emphasis added by Judge Moore).<sup>(53)</sup> After analyzing the system claims in issue, the opinion stated as follows<sup>(54)</sup>:

Every software patent makes a computer perform different functions - that is the purpose of software. Each software program creates a special purpose machines, a machine which did not previously exist (assuming the software is novel). The machine ceases to be a general purpose computer when it is running the software. It does not, however, by virtue of the software it is running, become an abstract idea.

Based on *In re Alappat*’s decision holding that a general purpose computer may be programmed to be a special purpose computer, Judge Moore concluded that the Alice’s system claims are patent eligible under § 101.

Judges Linn and O’Malley criticized the inconsistency of Judge Rader’s and Moore’s opinion with regard to the different conclusion in different form of claims. For example, Judges Linn and O’Malley opinion stated “when analyzing the system claims, we note that ‘[t]he specification also includes numerous flowcharts, that provide algorithm support for the functions recited in the claims’ Rader/Linn/Moore/O’Malley Op. at 1307,” “[w]e also note that ‘the ‘375 Patent discloses at least thirty-two figures which provide detailed algorithms for the software with which this hardware is to be programmed’ *Id.* at 1307,” and “[w]e do not see how Chief Judge Rader and Judge Moore, when analyzing the method claims, can ignore the fact that the specific functionality described in the figures applies just as much to them as to the system claims.”<sup>(55)</sup>

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(48) *Id.* at 1291

(49) *Id.* at 1291

(50) *Id.* at 1313, Concurring-in-part and dissenting-in-part opinion filed by Rader, Chief Judge, Linn, Moore, and O’Malley, Circuit Judges as to all but part VI of the opinion

(51) *In re Alappat*, 33 F.3d 1526 (Fed.Cir.1994) (en banc)

(52) *CLS Bank Int’l v. Alice Corp.*, 717 F.3d at 1316 dissenting-in-part opinion by Moore, in which Chief Judge Rader and Circuit Judges Linn and O’Malley join, also cites *In re Alappat*, 33 F.3d at 1545

(53) *CLS Bank Int’l v. Alice Corp.*, 717 F.3d at 1316 dissenting-in-part opinion by Moore, also cites *In re Alappat*, 33 F.3d at 1545

(54) *CLS Bank Int’l v. Alice Corp.*, 717 F.3d at 1320

(55) *CLS Bank Int’l v. Alice Corp.*, 717 F.3d at 1330, Dissenting Opinion filed by Linn and O’Malley Circuit Judges



## E. Other CAFC Decisions regarding § 101 Abstract Idea after *Bilski v. Kappos* Supreme Court Decision

### 1. *CyberSource Corp. v. Retail Decisions, Inc*

After *Bilski v. Kappos* case was decided by the Supreme Court, many cases regarding patent eligibility, especially abstract ideas exception, have been decided.

As explained before, because of the recent trend of functional steps claiming for apparatus, system, computer medium claims, patent eligibility of not only method claims but also other form of claims have been challenged in courts.

In *CyberSource Corp. v. Retail Decisions, Inc.*<sup>(56)</sup>, patent eligibility of computer readable medium claims in addition to method claims was challenged.

Since *In re Beauregard*,<sup>(57)</sup> computer programs embodied in a tangible medium are considered as patentable subject matter under § 101. Even though CAFC acknowledged that computer readable medium claims was different from method claims, it held, “[r]egardless of what statutory category (“process, machine, manufacture, or composition of matter,” 35 U.S.C. § 101) a claim’s language is crafted to literally invoke, we look to the underlying invention for patent-eligibility purposes.”<sup>(58)</sup> CAFC cited *In re Alappat*,<sup>(59)</sup> explained *infra*, stating that “as a general matter, programming a general purpose computer to perform an algorithm ‘creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to performed particular functions pursuant to instructions from program software.’”<sup>(60)</sup> However, CAFC concluded that despite its *Beauregard* claim format, the claim was not patent eligible, because

“simply reciting the use of a computer to execute an algorithm that can be performed entirely in human mind does not fall within the *Alappat* rule.

### 2. *Ultramercial, Inc. v. Hulu, LLC,*

*Ultramercial, LLC v. Hulu,, LLC*<sup>(61)</sup> is a recent CAFC opinion decided by a panel constituted by Chief Judge Rader, Circuit Judges Lourie and O’Malley; and all of them filed separate opinions in the *CLS Bank Int’l v. Alice Corp.* en banc. This CAFC opinion gives us insight into detecting the key question that affects the difference in opinions of Circuit judges in *CLS Bank Int’l v. Alice Corp.*

After the Supreme Court vacated<sup>(62)</sup> the CAFC decision of *Ultramercial, LLC v. Hulu,, LLC*,<sup>(63)</sup> which was issued before the *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, CAFC again reversed the district court decision denying the patent eligibility and remanded.<sup>(64)</sup>

The patent in issue was directed to a method for distributing copyrighted products over the Internet where a consumer receives a copyrighted product for free in exchange for viewing the advertisement, and an advertiser providing the advertisement pays for the copyrighted content.

The opinion filed by Chief Judge Rader stated, after explaining *Bilski* case, “the question for patent eligibility is whether the claim contains limitations that meaningfully tie that abstract idea to an actual application of that idea through meaningful limitations.”<sup>(65)</sup> Acknowledging that the patent is related to computer-implemented invention, the opinion further stated, “[w]hen assessing computer implemented claims, while the mere reference to a general purpose computer will not save a method

(56) *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed.Cir.2011)

(57) *In re Beauregard*, 53 F.3d 1583 (Fed.Cir.1995) held “[t]he Commissioner now states ‘that computer programs embodied in tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101 and must be examined under 35 U.S.C. §§ 102 and 103. The Commissioner states that he agrees with *Beauregard*’s position on appeal that the printed matter doctrine is not applicable. Thus, the parties are in agreement that no case or controversy exists.”

(58) *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d at 1374

(59) *In re Alappat*, 33 F.3d 1526

(60) *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d at 1375, quoting *In re Alappat*, 33 F.3d at 1545

(61) *Ultramercial LLC v. Hulu, LLC*, 722 F.3d 1335 (Fed.Cir.2013)

(62) *WildTangent, Inc. v. Ultramercial LLC*, 132 S.Ct. 2431 (2012)

(63) *Ultramercial LLC v. Hulu, LLC*, 657 F.3d 1323, in which CAFC reversed and remanded.

(64) *Id.*

(65) *Id.* at 1344

claim from being deemed too abstract to be patent eligible, the fact that a claim is limited by a tie to a computer is an important indication of patent eligibility,” and “[t]his inquiry focuses on whether the claims tie the otherwise abstract idea to a *specific way* of doing something with a computer, or a *specific computer* for doing something; if so, they likely will be patent eligible.”<sup>(66)</sup> Citing *In re Alappat*,<sup>(67)</sup> explained *infra*, the opinion stated “a special purpose computer, *i.e.*, a new machine, specially designed to implement a process may be sufficient” and quoted *In re Alappat* in order to explain how to create new machines as follows. “[T]his court observed that ‘programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular function pursuant to instructions from program software.’”<sup>(68)</sup> The opinion concludes that “[t]hat ‘new machine’ could be claimed in terms of a complex array of hardware circuits, or more efficiently, in terms of the programming that facilitates a unique function.”<sup>(69)</sup>

## IV. COMPUTER IMPLEMENTED MEANS-PLUS-FUNCTION CLAIMS

### A. Overview

Patent law allows a claim drafter to recite functions performed by means without reciting structures which actually perform the functions under 35 U.S.C. § 112 (f) and § 112, sixth paragraph (pre-AIA). § 112 (f) or § 112 ¶ 6 states as follows:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

When a certain claim term invokes § 112 (f) or § 112 ¶ 6 (pre-AIA), claimed function must be determined and a structure, which performs the function and is disclosed in the specification, is determined. The scope of the means-plus-function is limited to the disclosed structure and its equivalent. If the specification does not disclose a structure which perform the recited function, the claim would be invalid as being indefinite under § 112 (b) or § 112 ¶ 2 (pre-AIA). In other words, while § 112 (f) or § 112 ¶ 6 (pre-AIA) allows functional claiming, purely functional claiming, which preempts all other same functional innovation, are prohibited.

When it comes to computer related invention, software separated from hardware becomes more important. Because of the advent of a general purpose computer which perform wide variety of functions depending on software installed, inventors focus more on programming code which does not have physical structure. This trend requires new interpretation of § 112 (f) or § 112 ¶ 6.

From the above view point, important cases regarding means-plus-function claims implemented by a general purpose computer will be explained.

### B. Judgment Opinions regarding Computer Implemented Means-plus-function Claims

#### 1. *In re Alappat*

One of the most important case laws regarding computer implemented means-plus-function claim is *In re Alappat* (en banc),<sup>(70)</sup> which is also cited in dissenting-in-part opinion filed by Circuit Judge Moore in the *CLS Bank Int'l v. Alice Corp.*<sup>(71)</sup> and *Ultramericial LLC v. Hulu.*<sup>(72)</sup>

Analysis of the issues in this case include patent eligibility and the meaning of structures under § 112 ¶ 6.

*Alappat*'s invention is directed generally to a means for creating a smooth waveform display in a digital

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(66) *Id.* at 1348

(67) *In re Alappat*, 33 F.3d 1526

(68) *Ultramericial LLC v. Hulu, LLC*, 722 F.3d at 1353

(69) *Id.* at 1353

(70) *In re Alappat*, 33 F.3d 1526

(71) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1316 dissenting-in-part opinion by Moore

(72) *Ultramericial LLC v. Hulu, LLC*, 722 F.3d at 1353

oscilloscope. The Examiner finally rejected claims 15-19 of application Serial No. 07/149,792 (hereinafter “the ‘792 application”) under 35 U.S.C. § 101 as being directed to non-statutory subject matter. A three-member panel board reversed the Examiner’s non-statutory subject matter rejection. However, an expanded eight-member panel board reviewed the initial board decision and affirmed the Examiner’s § 101 rejection.

*Alappat*’s invention was directed to an anti-aliasing system. This anti-aliasing technique eliminates any apparent discontinuity visual appearance of a smooth continuous waveform. Claim 15 of *Alappat*’s patent recites several means for performing functions.<sup>(73)</sup>

The three-member panel held that, although claim 15 recites a mathematical algorithm, the claim as a whole is directed to a machine and thus to statutory subject matter named in § 101, by construing the means clause in claim 15 pursuant to § 112 ¶ 6. The majority of eight-member panel held that the PTO need not apply § 112 ¶ 6 in rendering patentability determinations.<sup>(74)</sup>

CAFC held, “the PTO is not exempt from following the statutory mandate of § 112 ¶ 6,” and “[t]he Board majority therefore erred as a matter of law in refusing to apply § 112 ¶ 6 in rendering its § 101 patentable subject matter determination.”<sup>(75)</sup> CAFC further criticized the board majority by saying, “it was error for the Board majority to interpret each of the means clauses in claim 15 **so broadly as to ‘read on any and every means for performing the functions’ recited, ..., and then to conclude that claim 15 is nothing more than a process claim wherein each**

means clause represents a step in that process” (emphasis added).<sup>(76)</sup> CAFC held “[w]hen independent claim 15 is construed in accordance with § 112 ¶ 6,” “claim 15 unquestionably recites a machine, or apparatus, made up of a combination of known electronic circuitry elements<sup>(77)</sup>” Board majority further erred in deciding that the claimed subject matter falls within a judicially created exception to § 101. CAFC analyzed three Supreme Court cases, *Gottschalk v. Benson*<sup>(78)</sup>, *Parker v. Flook*<sup>(79)</sup>, and *Diamond v. Diehr*<sup>(80)</sup>, and “at the core of the Court’s analysis in each of these cases lies an attempt by the Court to explain a rather straightforward concept, namely, that certain type of mathematical subject matter standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not in and of itself, entitled to patent protection.<sup>(81)</sup>” “Because the dispositive inquiry is whether the claim as a whole is directed to statutory subject matter, it is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself.”<sup>(82)</sup> “Although many, or arguably even all, of the means elements recited in claim 15 represent circuitry elements that perform mathematical calculations, which is essentially true of all digital electrical circuits, the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to displayed on a display means.”<sup>(83)</sup>

CAFC further criticized the eight-member panel by

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(73) Claim 15 of the ‘792 application recites as follows:

A rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising:

- (a) means for determining the vertical distance between the endpoints of each of the vectors in the data list;
- (b) means for determining the elevation of a row of pixels that is spanned by the vector;
- (c) means for normalizing the vertical distance and elevation; and
- (d) means for outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

(74) *In re Alappat*, 33 F.3d at 1539

(75) *Id.* at 1540

(76) *Id.* at 1540

(77) *Id.* at 1541

(78) *Gottschalk v. Benson*, 409 U.S. 63

(79) *Parker v. Flook*, 437 U.S. 584

(80) *Diamond v. Diehr*, 450 U.S. 175

(81) *In re Alappat*, 33 F.3d at 1543

(82) *Id.* at 1543

(83) *Id.* at 1544

stating, “Board majority also erred in its reasoning that claim 15 is unpatentable merely because it ‘read on a general purpose digital computer ‘means’ to perform the various steps under program control,’”<sup>(84)</sup> and held “[w]e 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>(85)</sup> Then, CAFC admitted the patent eligibility of the claimed rasterizer.

## 2. *WMS Gaming, Inc. v. International Game Technology*

In *WMS Gaming, Inc. v. International Game Technology*<sup>(86)</sup>, claim construction of means-plus-function claims was in issue in order to decide infringement.

The patent in issue included a gaming apparatus claim (slot machine) reciting several means for performing functions, such as means to start rotation, means for assigning a plurality of numbers, means for randomly selecting one of said plurality of assigned numbers, and means for stopping reel. The specification disclosed a microprocessor, or computer, to control the operation of the slot machine. CAFC held “[a] general purpose computer, or microprocessor, programmed to carry out an algorithm 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 instruction from program software,’”<sup>(87)</sup> by citing *In re Alappat*.<sup>(88)</sup> CAFC further stated “[t]he instructions of the software program that carry out the algorithm electrically change the general purpose computer by creating electrical paths within the device. These electrical paths create a special purpose machine for carrying out the particular algorithm.”<sup>(89)</sup>

## 3. *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*

In *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*,<sup>(90)</sup> US patent 6,093,102 (hereinafter “the ‘102 patent”) was in issue. The ‘102 patent is directed to a gaming machine (slot machine), and purportedly increases player interest in the slot machine by providing the player with greater control over the definition of winning opportunities. The claimed gaming machine recites “game control means” or “control means” which is a means-plus-function term that invokes § 112 ¶ 6. With respect to the structure disclosed in the specification, CAFC stated “[i]n cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.”<sup>(91)</sup>

With respect to the reason why disclosure of a general purpose computer only does not suffice, CAFC stated that reciting a means for performing a particular function and reciting only a general purpose computer as a structure designed to perform the function is the same as pure functional claiming. “Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to ‘the corresponding structure, material, or act’ that perform the function, as required by section 112 paragraph 6.”<sup>(92)</sup> CAFC cited *WMS Gaming Inc. v. International Game Technology* and held “a general purpose computer programmed to carry out a particular algorithm creates a ‘new machine’ because a general purpose computer ‘in effect programmed to

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(84) *Id.* 1544-1545

(85) *Id.* at 1545

(86) *WMS Gaming, Inc. v. Int'l Game Technology*, 184 F.3d 1339 (Fed.Cir.1999)

(87) *Id.* at 1348

(88) *In re Alappat*, 33 F.3d at 1545

(89) *WMS Gaming, Inc. v. Int'l Game Technology*, 184 F.3d at 1348

(90) *Aristocrat Technologies Australia Pty Ltd. v. Int'l Game Technology*, 521 F.3d 1328 (Fed.Cir.2008)

(91) *Id.* at 1333

(92) *Id.* at 1333

perform particular functions pursuant to instructions from program software.’” “The instructions of the software program in effect ‘create a special purpose machine for carrying out the particular algorithm.’” “Thus, in a means-plus-function claim ‘in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to performed the disclose algorithm.’”<sup>(93)</sup> In this case, CAFC decided that the specification did not disclose enough structure under § 112 ¶ 6, therefore the claim was indefinite under § 112 ¶ 2.<sup>(94)</sup>

### C. Other CAFC Decisions

The above three cases are often cited in recent cases in which computer implemented means-plus-function claims are in issue. Especially, *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology* is cited in many cases to lead a conclusion that claims are indefinite under § 112 ¶ 2.<sup>(95)</sup> Mere disclosure of a general purpose computer having a processor and a memory does not actually limit the scope of recited means-plus-function claims, because “general purpose computers can be programmed to perform very different tasks in very different ways,” as stated in *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*.<sup>(96)</sup> In other words, the core idea of requiring algorithm as structure of means-plus-function claim is not allowing pure functional claiming.

## V. COMMON ISSUE BETWEEN PATENT ELIGIBILITY AND MEANS-PLUS-FUNCTION CLAIM COMPUTER RELATED CLAIMS

As well described in *In re Alappat*, the patent eligibility issue and means-plus-function claim issue concerning computer implemented patent may intertwine with each other. As explained in detailed below, these two issues contain a common underlying problem.

### A. Underlying Problem regarding Patent Eligibility

Principle reasons why the Supreme Court has developed the judicially created exceptions to § 101 (laws of nature, physical phenomena, and abstract ideas) are that they should be “free to all men and reserved exclusively to none.”<sup>(97)</sup> Further, if a patent is granted, the patent would wholly preempt use of laws of nature, physical phenomena, or abstract ideas.<sup>(98)</sup> However, “too broad an interpretation of this exclusionary principle could eviscerate patent law,” because “[f]or all inventions at some level embody, use, reflect, rest upon or apply laws of nature, natural phenomena, or abstract ideas.”<sup>(99)</sup> In *Parker v. Flook*, the Supreme Court “stated that a process is **not unpatentable** simply because it contains a law of nature or mathematical algorithm.” (emphasis added)<sup>(100)</sup> Thus, “an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”<sup>(101)</sup>

When it comes to a computer-implemented method claim, this application requirement would be a question whether abstract idea ties to a certain machine or structure so that the claim does not

(93) *Id.* at 1333 quoting *WMS Gaming, Inc. v. Int'l Game Technology*, 184 F.3d at 1348-1349

(94) *Aristocrat Technologies Australia Pty Ltd. v. Int'l Game Technology*, 521 F.3d, 1337-1338.

(95) For example, *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371 (Fed.Cir.2009), and *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303 (Fed.Cir.2011)

(96) See, *Aristocrat Technologies Australia Pty Ltd. v. Int'l Game Technology*, 521 F.3d at 1333

(97) See, *Diamond v. Chakrabarty*, 447 U.S. at 309, quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 33 U.S. 127, at 130 (1948). *Diamond v. Chakrabarty* further stated at 309 “[A] new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that  $E = mc^2$ ; nor could Newton have patented the law of gravity.”

(98) See, *Gottschalk v. Benson*, 409 U.S. 71-72, *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. at 1294

(99) *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. at 1293

(100) See, *Diamond v. Diehr*, 450 U.S. at 187, quoting *Parker v. Flook*, 437 U.S. at 590

(101) *Diamond v. Diehr*, 450 U.S. at 187

preempt the use of the abstract idea. In answering the question, the connection between an abstract idea, often similar to functions, and physical structure, which implement the abstract idea, is analyzed.

## B. Underlying Problem regarding Means-Plus-Function Claim

§ 112(f) or § 112 ¶ 6 (pre-AIA) acknowledges a claim reciting functions performed by means without reciting a structure which actually performs the functions. The scope of the means-plus-function claim is limited to a structure for performing the recited function, disclosed in the specification, and equivalents of the structure. Thus, the structure disclosed in the specification is crucial to delineate the scope of the claim. If the structure for performing the recited functions is not sufficiently disclosed in the specification, the claim would be invalid under § 112 (b) or § 112 ¶ 2 in order not to allow a pure functional claim. When specification only discloses a general purpose computer, as explained above, several CAFC cases concluded that no sufficient structure was disclosed. If we consider that mere disclosure of a general purpose computer is sufficient, it would be the same as allowing a pure functional claim.

Generally, functions recited in a system or apparatus claim are often similar to a core abstract conceptual idea of the invention. Thus, it is safe to say that the requirement of structure under § 112(f) or § 112 ¶ 6 (pre-AIA) eliminates recitation of abstract functional claim and prevents from preempting all components performing the function, by tying the structure disclosed in the specification to the recited function.

## C. Common Problem

As explained above, both patent eligibility issue and means-plus-function claim issue concerning computer implemented patent have a common underlying problem, namely preemption caused by a claim with no tie between functional or abstract idea and physical structure.

Accordingly, as explain in the next section, the same or similar approach may be taken to solve both patent eligibility issue and means-plus-function claim issue.

## VI. CONCLUSION

In determining the patent eligibility of claims drafted in various forms, such as method, computer readable medium, system, and apparatus claims, two major approaches could be considered.<sup>(102)</sup>

Starting point of the first approach is analyzing abstractness of a method claim implemented by a computer. Since method, medium, system, and apparatus claims should be considered together for purpose of patent eligibility; when the analyzed method claim is determined not patent eligible, medium, system, and apparatus claims should be determined not patent eligible.<sup>(103)</sup> Basis of this approach is “to avoid permitting a ‘competent draftsman’ to endow abstract claims with patent-eligible status.”<sup>(104)</sup>

Starting point of the second approach is construing recited components implementing recited functions in system claims. This approach adopts a claim construction methodology used to construe means-plus-function claims.

As stated *supra*, when a certain term is determined as means-plus-function claim; a function recited in the

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(102) In order to simplify the discussion, this paper does not explain in detail third approach in which patent eligibility issue could be considered category by category basis. According to the third approach, while a method claim is not patent eligible, a system claim may be patent eligible.

(103) The majority opinion of *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1288 indicates that it took this approach, for example, at 1288, it stated, “[o]f course, all claims are normally to be considered separately, but discrete claims reciting subject matter only nominally from different statutory classes may warrant similar substantive treatment under § 101 when, in practical effect, they cover the same invention.” At 1289-1299, it stated “[a]s illustrated by the obvious parallels between the method and system claims now before us, it is often straightforward exercise to translate a method claim into system form, and vice versa” and it concluded that “when § 101 issues arise, the same analysis should apply regardless of claim format.”

(104) *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1288

claim and a structure, disclosed in specification, performing the function are construed. If a system claim only recites a general purpose computer, a question would be whether algorithms together with the general purpose computer create a new machine, *i.e.*, a special purpose computer.<sup>(105)</sup> If the special purpose computer sufficiently limits the scope of the system claim, the claim would be patent eligible. The same approach is true for analyzing a method claim. If the recited general purpose computer is construed as a special purpose computer together with algorithm disclosed in the specification and the special purpose computer ties to functional steps of the method claim, the method claim is also patent eligible.<sup>(106)</sup>

The above two different approaches share the same underlying idea. Namely, all of the claims regardless of the format of the claims, method, medium, system, and apparatus should be considered together. In addition, these two approaches also share the common rule that tying to a general purpose computer itself does not change an abstract idea into a patent eligible claim.

The key difference between the two approaches is an answer to a question whether algorithm disclosed in the specification together with a general purpose computer can be considered as a special purpose computer which ties to functional steps of a method or system claim, for considering patent eligibility.

Using the first approach, the answer to the question would be “no,”<sup>(107)</sup> while using the second approach the answer to the question would be “yes.”<sup>(108)</sup>

The majority opinion of *CLS Bank Int'l v. Alice Corp.* answered “no” to the question by reasoning that “[n]ot

only has the world of technology changed, but the legal world has changed.” In other words, “[t]he Supreme Court has spoken since *Alappat* on the question of patent eligibility.”<sup>(109)</sup>

However, neither *Bilski v. Kappos* nor *Mayo Collaborative Services v. Prometheus Laboratories, Inc.* held any finding or dicta inconsistent to the en banc decision of *In re Alappat*.<sup>(110)</sup> In fact, *In re WMS Gaming, Inc. v. Int'l Game Technology*, in which *Alappat* is a basis of the decision, is repeatedly cited in district court cases and CAFC cases, even after the recent Supreme Court decisions.<sup>(111)</sup>

Thus, this paper concludes that in determining patent eligibility regarding various formats of claims implemented by a general purpose computer, *In re Alappat's* rule should be adopted or at least considered. This conclusion does not necessarily mean, however, that the determination regarding the patent eligibility of each of method, medium, system, and apparatus claims should be the same. As restated in many cases, although claimed language should be construed in light of the specification, specific embodiments disclosed in the specification do not confine the scope of claims.<sup>(112)</sup>

Accordingly, even if the specification and figures disclose a specific embodiment implemented by disclosed algorithms, whether the embodiments limit the scope of the claim need to be determined by other factors, such as prosecution history.

Therefore, this paper does not exclude a situation where a method claim is not patent eligible, but a system claim may be patent eligible.

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(105) See, *In re Alappat*, 33 F.3d 1526, *WMS Gaming, Inc. v. Int'l Game Technology*, 184 F.3d 1339, *Aristocrat Technologies Australia Pty Ltd. v. Int'l Game Technology*, 521 F.3d 1328

(106) Dissenting opinion filed by Circuit Judges Linn and O'Malley in *CLS Bank Int'l v. Alice Corp.*, 717 F.3d 1269 at 1330 stated, “[o]nce the trial court chose to proceed on the assumption that computer implementation is required for the method claims, it is the written description - the same written description that informs the system claims - which tells us just what the nature of that computer implementation is.” The dissenting opinion also criticize Chief Judge Rader and Judge Moore's approach by stating that, at 1330, “[w]e do not see how Chief Judge Rader and Judge Moore, when analyzing the method claims, can ignore the fact that the specific functionality described in the figures applies just as much to them as to the system claims,” and concluded, at 1331, that “we see no intellectually sound way to distinguish the method claims as construed by the district court from the system claims.”

(107) Majority opinion of *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1292 stated, “that is the fallacy of relying on *Alappat*.”

(108) See, Dissenting-in-part opinion filed by Circuit Judge Moore of *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1316

(109) See, the Majority opinion of *CLS Bank Int'l v. Alice Corp.*, 717 F.3d at 1292

(110) *In re Alappat*, 33 F.3d 1526

(111) See, *Noah Systems, Inc. v. Intuit Inc.*, 675 F.3d 1302 (Fed.Cir.2012) *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509 at 518 (Fed.Cir.2012)

(112) *Phillips v. AWH Corp.*, 415 F.3d 1303 at 1323 (Fed.Cir.2005) (en banc)