Patentability of Computer Implemented Inventions in the US

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AIPLA Mid-Winter Institute

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Overview

- Threshold for Software Patent Eligibility
- USPTO Examination Guidelines
- Claim Formats for Computer Implemented Inventions

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Threshold for Software Patent Eligibility

35 USC §101 Inventions Patentable

"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."

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USPTO Examination Guidelines

The guidelines developed by the USPTO to assist examiners in determining whether the claimed invention complies with 35 USC §101 include four steps:

1. Identify whether the claim falls within at least one of the four statutory categories of patentable subject matter recited in 35 USC §101 (i.e., process, machine, manufacture, or composition of matter)

2. Determine whether the claim falls within one of the judicial exceptions (i.e., laws of nature, natural phenomena, and abstract ideas)

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USPTO Examination Guidelines

Steps from the USPTO Guidelines (cont.):

3. If the claim is within a judicial exception, does it have a practical application (i.e., does it result in a physical transformation or produce a useful, concrete and tangible result?)

4. If the invention is within a judicial exception, does it wholly preempt all substantial applications of the judicial exception?

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Updates to the 2005 Interim Guidelines

Subsequent Internal USPTO Memos to the Examining Corp Clarifying aspects of the Interim Guidelines are available at:

http://www.uspto.gov/web/patents/memorandum.htm

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Updates to the 2005 Interim Guidelines

- April 12, 2007 Clarification Memo
  - Clarification regarding how to determine if a claim has a practical application

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Updates to the 2005 Interim Guidelines

- May 15, 2008 Clarification Memo
  - Clarification of "Processes" under 35 USC 101
  - The office's guidance to examiners is that a § 101 process must:
    (1) be tied to another statutory class (such as a particular apparatus) or
    (2) transform underlying subject matter (such as an article or materials) to a different state or thing.

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Updates to the 2005 Interim Guidelines

- January 7, 2009 Clarification Memo
  - Clarification of the Guidelines for Examining Process Claims in view of *In re Bilski*
  - The guidelines are being redrafted in view of *Bilski.*
  - "Until the guidelines are completed, examiners should continue to follow the current patent subject matter eligibility guidelines appearing in MPEP 2106, with the following modification. . ."

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Updates to the 2005 Interim Guidelines

- January 7, 2009 Clarification Memo (cont.)
  - The modification is outlined in the memo is the "machine-or-transformation test" from *Bilski* which is slightly different than the test explained in the May 15 Clarification Memo.
    - "As clarified in *Bilski*, the test for a method claim is whether the claimed method is (1) tied to a particular machine or apparatus, <u>or</u> (2) transforms a particular article to a different state or thing."

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Updates to the 2005 Interim Guidelines

- January 7, 2009 Clarification Memo (cont.)
  - Two corollaries to the machine-or-transformation test in the Jan. 7 memo
  - 1. A field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent-eligible.
    - ". . .the machine or transformation must impose **meaningful limitations** on the method claim's scope to pass the test." (emphasis added)

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Updates to the 2005 Interim Guidelines

- January 7, 2009 Clarification Memo (cont.)
  - Two corollaries to the machine-or-transformation test in the Jan. 7 memo (cont.)
  - 2. Insignificant extra-solution activity will not transform an unpatentable principle into a patentable process.
    - ". . .reciting a specific machine or a particular transformation of a specific article in an insignificant step, such as a data gathering or outputting, is not sufficient to pass the test."

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Claiming Computer Implemented Inventions -- *In re Bilski*

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

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Claiming Computer Implemented Inventions

- Method Claims
  - *In re Bilski* (Fed. Cir., Oct. 30, 2008) defines the governing test for patentable subject matter of method claims
  - Method claims must meet the machine-or-transformation test of *In re Bilski* in order to be patentable subject matter.
  - In addition, according to the Jan. 7, 2009 PTO memo, examiners will be looking to see if the machine or transformation must impose a <u>meaningful limit</u> on the method's scope.

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Claiming Computer Implemented Inventions

- Computer Readable Claims
  - Example claim format:
    - "A computer readable medium having instructions for causing a computer to execute a method comprising:. . ."
  - *In re Beauregard*, 53 F.3d 1583 (1995) established patentability of this type of claim.

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Claiming Computer Implemented Inventions

- Computer Readable Claims (cont.)
  - Question: Has anything changed with respect to computer readable medium claims in view of *Bilski*?
    - *Ex parte Bo Li* (BPAI decided November 6, 2008)
    - *Ex parte Cornea-Hasegan* (BPAI January 13, 2009)

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Claiming Computer Implemented Inventions

- *Ex parte Bo Li* (BPAI decided November 6, 2008)
  - Invention relates to a method and system for generating a report using software modules adapted for easy modification and updating.
  - Both a method claim and a computer readable medium claim are rejected under 35 USC 101.

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Claiming Computer Implemented Inventions -- *Ex parte Bo Li*

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

providing. . .;

parsing. . .;

extracting. . .;

receiving. . .; and

organizing. . .

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Claiming Computer Implemented Inventions

- *Ex parte Bo Li* (BPAI decided November 6, 2008)
  - Examiner's rejection of the computer readable medium claim under 35 USC 101 is reversed.
    - "It has been the practice for a number of years that a "Beauregard Claim" of this nature be considered statutory at the USPTO as a product claim."

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Claiming Computer Implemented Inventions

- *Ex parte Cornea-Hasegan* (BPAI January 13, 2009)
  - Invention relates to a method of predicting results of floating point mathematical operations and calculating the results.
  - Both a method claim and a computer readable medium claim are rejected under 35 USC 101.

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Claiming Computer Implemented Inventions -- *Ex parte Cornea-Hasegan*

•18. A computer readable media including program instructions which when executed by a processor cause the processor to perform the following:

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

utilizing the results of a hardware prediction unit predicting whether result d of said floating-point operation on said a, b, c might be tiny;

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

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

determining whether said d is tiny based upon said result d';

if so, then calculating said d using software; and

if not, then calculating said d using floating-point hardware.

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Claiming Computer Implemented Inventions

- *Ex parte Cornea-Hasegan* (BPAI January 13, 2009)
  - Examiner's rejection of the computer readable medium claim under 35 USC 101 is affirmed.
  - BPAI applied *Bilski* to the computer readable medium claims
    - "Limiting the claim to computer readable media does not add any practical limitation to the scope of the claim. Such a field-of-use limitation is insufficient to render an otherwise ineligible claim patent eligible."

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Claiming Computer Implemented Inventions

- Signal Claims
  - Not patentable subject matter
  - *In re Nuijten*, 500 F.3d 1346 (Fed. Cir., 2007)
  - Example claim format:
    - 14. A signal with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected samples is different from the sample corresponding to the given encoding process.

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Claiming Computer Implemented Inventions

- Data Structure Claims
  - Example Claim Format:
    - "A computer-readable medium having stored thereon a data structure comprising:. . ."
  - *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994) established patentability of this type of claim.

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