In re Bilski: What is Patentable Now?

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Overview

- Overview of the “Machine-or-Transformation” Test
  - Practical Implications
- Examples, panel discussion
  - What recitation of a computer is required to satisfy the machine prong?
  - What types of data transformation satisfy the transformation prong?

Patent-Eligibility vs. Novelty/Non-obviousness

- **Bilski** addresses a threshold requirement: patent eligibility
  - “Is this something that is even eligible for patent protection?”
- E.g., books and computer software
  - both are created by typing on a computer
  - Book content is not patent-eligible, regardless how new/creative
- Separate requirements: Novelty, Non-obviousness
35 U.S.C. 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.

- **Bilski test applies**
- 35 U.S.C 101 recites four categories of patent-eligible subject matter
- **Bilski** test governs whether claims that recite *processes* define patent-eligible subject matter

**Example: Software**
- Process: A method comprising steps A, B, and C
- Machine (moving parts): Computer programmed to perform steps A, B, and C
- Manufacture (no moving parts): Computer-readable medium (e.g., CD ROM, flash drive, etc) having instructions stored therein which, when executed, cause a computer to perform steps A, B, and C
The "Machine-or-Transformation" Test

The "Machine-or-Transformation" Test

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;

(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, the second fixed rate being determined by the pricing engine such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Not tied to a machine (e.g., no computer recited)

No transformation (e.g., no transformation of commodity)
The Bilski Claim

**Bilski Majority:** “Importantly, however, the claim is not limited to transactions involving actual commodities, and the application discloses that the recited transactions may simply involve options, i.e., rights to purchase or sell the commodity at a particular price within a particular timeframe.”

**Mayer dissent:** The majority’s proposed ‘machine-or-transformation test’ for patentability will do little to stem the growth of patents on non-technological methods and ideas.... Bilski, for example, could simply add a requirement that a commodity consumer install a meter to record commodity consumption. He could then argue that installation of this meter was a ‘physical transformation,’ sufficient to satisfy the majority’s proposed patentability test.

The Bilski Claim – Revised

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 via a user interface a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate, the fixed rate being determined by a pricing engine 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 via the user interface a series of transactions between said commodity provider and said market participants at a second fixed rate, the second fixed rate being determined by the pricing engine such that said series of market participant transactions balances the risk position of said series of consumer transactions; and

wherein the user interface and the pricing engine are implemented in a machine that comprises instructions stored in a machine-readable medium and a processor that executes the instructions.
Misperception: Scary software/business method patents are dead after Bilski
- Many well-known business method patents include claims defining the business method in terms of a computer (machine)
- Bilski rejected broad exclusions against business method and software patents
- “Scary patents” often caused by incorrect novelty/non-obviousness determination at PTO – a different issue
- Changes at PTO may be minimal
  - PTO advocated for machine-or-transformation test
  - PTO was applying machine-or-transformation test for 1+ years pre-Bilski
- Patents relating to financial innovation were less common pre-State Street Bank, but are not new

Impact on “bad patents”
- Patents for “thinking” alone are dead
- Aspects of machine-or-transformation test intended to avoid pre-emption may reduce number of broad patents
- Bad patents reduced by Supreme Court’s KSR decision (2006)
  - Gives PTO greater flexibility to reject patents based on prior art

Impact on new patent filings
- Innovations not implemented on a computer
  - e.g., tax advice in the abstract
  - e.g., legal documents, legal structures in the abstract
- Innovations implemented with the aid of a computer
  - e.g., on-line banking
  - e.g., consumer transactions conducted in volume and processed with a computer

Impact on industry litigation
- Most litigated patents have machine/manufacture claims, or both process and machine/manufacture claims
**Bilski – Practical Implications**

- What will be the impact of Bilski in the financial services industry?
  - Potential misperceptions in the industry regarding Bilski
  - Scope of what’s impacted by Bilski decision
    - What exactly was held to be unpatentable?
    - How does that compare with other claims pursued for financial services innovations?
- What will be the impact of Bilski on new application filing?
  - Fewer applications?
  - For what percentage of inventions does Bilski present an insurmountable hurdle?
  - For what percentage of inventions does Bilski limit the number available strategies, but not present an insurmountable hurdle?
  - For what percentage of inventions does Bilski have no impact at all?
- What will be the impact on “bad patents”?
  - Machine implementation/Data transformation as limit on claim scope?
  - First and second corollaries as limits on claim scope?
  - Court stated that § 101 clearly different from other sections of patentability such as §§ 102, 103, and 112.

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**Bilski – Practical Implications**

- What is the likely impact of Bilski on the enforcement of software and business method patents?
  - Compliance with § 101 is a question of law. *AT & T Corp. v. Excel Comm. Inc.*, 172 F.3d 1352, 1355 (Fed. Cir. 1999).
  - *Bilski* may present opportunities to challenge previously issued patents in litigation under § 101.
Can Existing Patents Be Reexamined in view of Bilski?

- No, reexamination can only be based upon prior art patents and printed publications.
- See MPEP § 2258 ("Rejections will not be based on matters other than patents or printed publications, such as public use or sale, inventorship, 35 U.S.C. 101, fraud, etc.") (emphasis added); see also MPEP § 2658.

What is likely to happen next at the Patent Office (e.g., new rules)?

- The Solicitors Office may provide legal guidance to the Examiners in complying with Bilski.
- The Bilski Board opinion may shed light on how the PTO moves forward with Bilski.
PTO *Bilski* Board Opinion (Machine-Implemented Methods)
- “Methods tied to a machine generally qualify as a ‘process’ under § 101 because machines inherently act on and transform physical subject matter ... and new uses for known machines are a ‘process’ under 35 U.S.C. § 100 (b).”
- Machine-implemented process left open for further resolution by *Bilski*.

PTO *Bilski* Board Opinion (Methods Not Tied to Machine)
- “In questionable cases, we feel that the public interest is best served by making a rejection. The Federal Circuit cannot address rejections that it does not see.” Board *Bilski* Opinion.
- The PTO may instruct examiners to make 101 rejections as a means of gaining further guidance from the Federal Circuit.
PTO *Bilski* Board Opinion (Methods Not Tied to Machine)

- “Statutory processes are evidenced by physical transformation steps, such as chemical, electrical, and mechanical steps.” Board *Bilski* Op.
- “Not every step requiring a physical action results in a patentable physical transformation”
  - Negotiating a contract
  - Convening a meeting

Some subject matter, although invented by man, does not fall within any of the four categories of § 101, e.g., *data structures*, computer programs, documents, music, art, and literature, etc.” Board *Bilski* Op.

Would a process covering an improved way of managing legacy database information be patentable subject-matter?
Two common biotech claim formats (both can have issues)

- Treatment claim – e.g., method of treating spinal condition (discussed during Bilski oral arguments)
- Diagnostic claim – e.g., Metabolite claim (cert. granted followed by DIG)

Metabolite claim:
A method for detecting a deficiency of cobalamin or folate in warm-blooded animals comprising the steps of:
assaying [testing] a body fluid for an elevated level of total homocysteine; and
 correlating an elevated level of total homocysteine in said body fluid with a deficiency of cobalamin or folate.

Example: Metabolite

Bilski Majority: We have in fact consistently rejected claims like those in the present appeal and in Comiskey. For example, in Meyer, the applicant sought to patent a method of diagnosing the location of a malfunction in an unspecified multi-component system that assigned a numerical value, a ‘factor,’ to each component and updated that value based on diagnostic tests of each component.... The locations of any malfunctions could thus be deduced from reviewing these "factors." The diagnostic tests were not identified, and the "factors" were not tied to any particular measurement; indeed they could be arbitrary.... No machine was recited in the claim, and the only potential ‘transformation’ was of the disembodied ‘factors’ from one number to another.
Bilski Majority: “We note that, at least in most cases, gathering data would not constitute a transformation of any article. A requirement simply that data inputs be gathered—without specifying how—is a meaningless limit on a claim to an algorithm because every algorithm inherently requires the gathering of data inputs.... Further, the inherent step of gathering data can also fairly be characterized as insignificant extra-solution activity.”

Transformation of body fluid?
- A process claim that could be infringed merely by an individual seeing and thinking is likely not patent-eligible.

Example: Metabolite

Example: Schrader (Machine prong)
Bilski majority:

“Similarly, In re Schrader presented claims directed to a method of conducting an auction of multiple items in which the winning bids were selected in a manner that maximized the total price of all the items (rather than to the highest individual bid for each item separately). 22 F.3d 290, 291 (Fed. Cir. 1994). We held the claims to be drawn to unpatentable subject matter, namely a mathematical optimization algorithm. Id. at 293-94. No specific machine or apparatus was recited. The claimed method did require a step of recording the bids on each item, though no particular manner of recording (e.g., on paper, on a computer) was specified. Id. But, relying on Flook, we held that this step constituted insignificant extra-solution activity.”

Example: Schrader
(Machine Prong)

Bilski majority:

“Interestingly, Benson presents a difficult case under its own test in that the claimed process operated on a machine, a digital computer, but was still held to be ineligible subject matter. However, in Benson, the limitations tying the process to a computer were not actually limiting because the fundamental principle at issue, a particular algorithm, had no utility other than operating on a digital computer.... Thus, the claim’s tie to a digital computer did not reduce the preemptive footprint of the claim since all uses of the algorithm were still covered by the claim.”

Example: Benson
(Machine Prong)
Example: Halligan
(Machine Prong – 11/24/08)

Ex Parte Halligan, B.P.A.I., No. 2008-1588, 11/24/08).

“The issue presented by [claims 119 and 120] is whether recitation of a programmed computer suffices to tie the process claims to a particular machine. This is the exact issue that the court in Bilski declined to decide. Bilski at *11. The court did, however, provide some guidance when it explained that the use of a specific machine must impose meaningful limits on the claim’s scope to impart patent-eligibility. Id. Claims 119 and 120 recite a method performed on a programmed computer. This recitation fails to impose any meaningful limits on the claim’s scope as it adds nothing more than a general purpose computer that has been programmed in an unspecified manner to implement the functional steps recited in the claims. Were the recitation of a ‘programmed computer’ in combination with purely functional recitations of method steps, where the functions are implemented using an unspecified algorithm, sufficient to transform otherwise unpatentable method steps into a patent eligible process, this would exalt form over substance and would allow pre-emption of the fundamental principle present in the non-machine implemented method by the addition of the mere recitation of a ‘programmed computer.’”

Example: Schrader “Beauregard-ized”
(Machine/manufacture recitation of process)

A computer-readable medium having stored therein a set of instructions that when executed cause a computer to implement a process of competitively bidding on a plurality of items which comprises the steps of:

identifying a plurality of related items in a record,
offering said plurality of items to a plurality of potential bidders,
receiving bids from said bidders for both individual ones of said items and a plurality of groups of said items, each of said groups including one or more of said items, said items and groups being any number of all of said individual ones and all of the possible combinations of said items,
entering said bids in said record,
indexing each of said bids to one of said individual ones or said groups of said items, and
assembling a completion of all said bids on said items and groups, said completion identifying a bid for all of said items at a prevailing total price,
identifying in said record all of said bids corresponding to said prevailing total price.
- Post-*Bilski*, BPAI has held *Beauregard* claims patent-eligible

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- First claim: Meaning of data not specified
  A method of displaying data in a field comprising the steps of calculating the difference between the local value of the data at a data point in the field and the average value of the data in a region of the field which surrounds said point for each point in said field, and displaying the value of said difference as a signed gray scale at a point in a picture which corresponds to said data point.

- Held patent-ineligible
Second claim: Meaning of data specified

A method of displaying data in a field comprising the steps of calculating the difference between the local value of the data at a data point in the field and the average value of the data in a region of the field which surrounds said point for each point in said field, and displaying the value of said difference as a signed gray scale at a point in a picture which corresponds to said data point; wherein said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner.

Held patent-eligible

The Bilski majority:
“[The first Abele] claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented.... In contrast, we held [the second Abele claim] to be drawn to patent-eligible subject matter where it specified that ‘said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner.’ ... This data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.

‘... So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.”
Example: State Street Bank
(Machine/manufacture recitation; Data transformation)

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:
   (a) computer processor means [a personal computer including a CPU] for processing data;
   (b) storage means [a data disk] for storing data on a storage medium;
   (c) first means [an arithmetic logic circuit configured to prepare the data disk to magnetically store selected data] for initializing the storage medium;
   (d) second means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases or decreases based on specific input, allocate the results on a percentage basis, and store the output in a separate file] for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, [sic, funds'] assets and for allocating the percentage share that each fund holds in the portfolio;
   (e) third means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each fund;
   (f) fourth means [an arithmetic logic circuit configured to retrieve information from a specific file, calculate incremental increases and decreases based on specific input, allocate the results on a percentage basis and store the output in a separate file] for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and
   (g) fifth means [an arithmetic logic circuit configured to retrieve information from specific files, calculate that information on an aggregate basis and store the output in a separate file] for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

Example: State Street Bank (cont’d)

- Only one Federal Circuit judge (Mayer, dissenting) stated that he thought the State Street claim did not recite patent-eligible subject matter
  - State Street limited but not overruled
- How important was the fact that the claim recites a machine rather than a process?
- How important was the fact that claims employed § 112, ¶ 6 claim limitations?
  - Disclosed embodiment was a computer executing software.
- How important was the fact that the claim recited “real world” data and various “allocating” steps?
Bilski Majority: “Importantly, however, the claim is not limited to transactions involving actual commodities, and the application discloses that the recited transactions may simply involve options, i.e., rights to purchase or sell the commodity at a particular price within a particular timeframe.”

Bilski Majority: “Purported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.”

Example: State Street Bank (cont’d)

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:
   (a) a central processing unit;
   (b) a storage medium, the storage medium having instructions stored therein that when executed by the central processing unit cause the central processing unit to
      initialize the storage medium;
      process data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds’ assets and allocate the percentage share that each fund holds in the portfolio;
      process data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and allocate such data among each fund;
      process data regarding daily net unrealized gain or loss for the portfolio and allocate such data among each fund; and
      process data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.
Example: State Street Bank – Sans 112, P6

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:
   - **an initialization engine** configured to initialize the storage medium;
   - **a first allocation engine** configured to process data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds’ assets and allocate the percentage share that each fund holds in the portfolio;
   - **a second allocation engine** configured to process data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and allocate such data among each fund;
   - **a third allocation engine** configured to process data regarding daily net unrealized gain or loss for the portfolio and allocate such data among each fund; and
   - **a processing engine** configured to process data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds; wherein the initialization engine, the first allocation engine, the second allocation engine, the third allocation engine, and the processing engine are implemented in a central processing unit and a storage medium, the storage medium having instructions stored therein that are executable by the central processing unit.

Long Term Impact?

- **Mayer Dissent:**
  “The majority’s proposed ‘machine-or-transformation test’ for patentability will do little to stem the growth of patents on non-technological methods and ideas. Quite simply, in the context of business method patent applications, the majority’s proposed standard can be too easily circumvented. See Cotter, supra at 875 (noting that the physical transformation test for patentability can be problematic because ‘[i]n a material universe, every process will cause some sort of physical transformation, if only at the microscopic level or within the human body, including the brain’). **Through clever draftsmanship, nearly every process claim can be rewritten to include a physical transformation.”**
Recommendations for claim drafting:

- Review/study numerous examples of application of machine-or-transformation test in Bilski opinion (reexamination of facts of earlier cases)
- For process claims, tie claim to specific machine elements as well as possible. Optionally, this may be done in dependent claims, with the potential impact on doctrine of equivalents if amendment is needed to be considered.
- For process claims, limit data to something which represents a physical quantity. May also be done in dependent claims.

Also draft Beauregard claims and system claims that look like the State Street claims
  - But consider avoiding § 112, ¶ 6 limitations
  - Consider “single-infringer” and contributory/inducement issues if target infringer is not the user of the software
- Consider reciting specific machine elements, or limiting data to that representing physical objects
  - To be safe, at least have dependent claims that include such limitations
- Watch for new PTO guidelines reflecting Bilski.
Question 1: Revised Bilski claim

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 via a user interface a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate, the fixed rate being determined by a pricing engine 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 via the user interface a series of transactions between said commodity provider and said market participants at a second fixed rate, the second fixed rate being determined by the pricing engine such that said series of market participant transactions balances the risk position of said series of consumer transactions; and

wherein the user interface and the pricing engine are implemented in a machine that comprises instructions stored in a machine-readable medium and a processor that executes the instructions.

Question 2: Beauregard claims

A computer-readable medium having stored therein a set of instructions that when executed cause a computer to implement a process of competitively bidding on a plurality of items which comprises the steps of identifying a plurality of related items in a record, offering said plurality of items to a plurality of potential bidders, receiving bids from said bidders for both individual ones of said items and a plurality of groups of said items, each of said groups including one or more of said items, said items and groups being any number of all of said individual ones and all of the possible combinations of said items, entering said bids in said record, indexing each of said bids to one of said individual ones or said groups of said items, and assembling a completion of all said bids on said items and groups, said completion identifying a bid for all of said items at a prevailing total price, identifying in said record all of said bids corresponding to said prevailing total price.
Question 3: 
*State Street claim*

1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:
   
   (a) computer processor means for processing data;
   
   (b) storage means for storing data on a storage medium;
   
   (c) first means for initializing the storage medium;
   
   (d) second means for **processing** data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds' assets and for **allocating** the percentage share that each fund holds in the portfolio;
   
   (e) third means for **processing** data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for **allocating** such data among each fund;
   
   (f) fourth means for **processing** data regarding daily net unrealized gain or loss for the portfolio and for **allocating** such data among each fund; and
   
   (g) fifth means for **processing** data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

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Thank You

Questions?