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Intellectual Property Attorneys

PATENT PROTECTION FOR HIGH TECHNOLOGY





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In the Aftermath of Bilski

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OVERVIEW OF PRESENTATION:

- Section 101 (slide 4)
- Bilski Basics (slides 5-6)
- Federal Circuit Decision in Bilski (slides 7-11)
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- **Title 35 U.S.C. §101 states:**
- “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 therefore, subject to the conditions and requirements of this title.”
- **Title 35 U.S.C. §100 states:**
- (b) The term “process” means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

Exceptions to §101:

- Supreme Court precedents provide three specific exceptions to §101’s broad patent-eligibility principles: laws of nature, physical phenomena, and abstract ideas.

The invention relates to hedging the consumption risk associated with a commodity sold at a fixed price for a given time period:

- Commodity provider sells commodities to customers at a fixed price to avoid spikes in demand that could significantly increase the cost of the commodity; and
- Commodity trader buys the commodities from a “market participant” (e.g., supplier) at a different fixed price to avoid the sudden drops in demand that could significantly lower prices.

***Bilski's* Claim 1:**

1. 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.

The Federal Circuit ruled that the “Machine-or Transformation” test is the exclusive test for patentability of a “process’ under 35 U.S.C. §101:

A process is patentable under §101 if:

- (1) it is tied to a particular machine or apparatus, or
- (2) it transforms a particular article into a different state or thing.

Example of Transformed data (*In re Abele*):

Example cited in *Bilski: In re Abele*, 684 F.2d 902 (C.C.P.A. 1982):

- “5. 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.”
6. The method of claim 5 wherein said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner.

Example of Transformed data (*In re Abele*) (continued):

In re Abele's claim 5 unpatentable: 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; merely calculates the difference between two data values; “displaying” is insignificant post-solution activity

In re Abele's claim 6 patentable data transformation: X-ray data represents physical objects, i.e. represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. 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.

The electronic transformation of the data itself into a visual depiction in *Abele* was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented.

Federal Circuit Decision: *In re Bilski*, 545 F.3d 943
(Fed. Cir. 2008) - 4

Holding:

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.

Claim only refers to “transactions” involving the exchange of these legal rights at a “fixed rate corresponding to a risk position” that do not involve the transformation of any physical object or substance, or an electronic signal representative of any physical object or substance.

Entirely fails the machine-or-transformation test and is not drawn to patent-eligible subject matter.

Summary of the Machine or Transformation Test:

A. Transformation prong:

- Must be central to the purpose of the invention
- Must transform "physical objects or substances"
- May be transformation of electronic transformation of data representing physical objects
- Not transformation of legal obligations, organizational relationships, business risks

B. Machine prong:

- Open question: the level of particularity with which a claim must specify a machine and its involvement with the process

C. Corollaries:

- Mere field-of-use limitations are insufficient to render a process claim patent-eligible.
- Insignificant extra-solution activity will not transform an unpatentable principle into a patentable process.

Ruled that under the ‘Software Trilogy’ the *Bilski* claim is to an unpatentable Abstract Idea:

- The Court applied the ‘Software Trilogy’ of Cases from the 1970s and 1980s: *Diamond v Diehr*, 450 U.S. 175 (1981), *Parker v Flook*, 437 U.S. 584 (1978), and *Gottschalk v Benson*, 409 U.S. 63 (1972).
- “The *concept* of hedging, described in claim is an unpatentable abstract idea, just like the algorithms at issue in *Benson*, and *Flook*. Allowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.” (Emphasis added.)

Machine-or-Transformation Test: The machine-or-transformation (MoT) test is a useful but important tool but it is not the *sole* test for deciding whether an invention is a patent-eligible ‘process’ under §101. The transformation and reduction of an article to a different state or thing is the *clue* to patentability of a process claim that does not include particular machines. The Court expressly declined to hold that no process patent could ever qualify if it did not meet the machine or transformation requirements.

Business Methods: No categorical prohibition against patent protection for business methods. The Court noted that 35 U.S.C. § 273 allows an alleged infringer to assert a prior-use defense against a complaint based on a patent for a method of doing or conducting business leaves open the possibility of patent protection for some business methods, but it does not suggest broad patentability of such claims inventions. The Court also noted that “some business patents raise special problems in terms of vagueness and suspect validity.” (citing *eBay, Inc. v MercExchange, L.L.C.*, 547 U.S. 388 (2006).)

Rejected Federal Circuit’s §101 Interpretation in *State Street Bank & Trust v Signature Financial*, 149 F.3d 1368 (Fed. Cir. 1998) and *AT&T Corp. v Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999): The “useful, concrete and tangible result” is not the test.

Supreme Court Decision: *In re Bilski* – 5

The Majority Opinion acknowledge that the Federal Circuit may need to develop additional criteria to apply Patent Laws to emerging technologies in the Information Age:

Striking a Balance: “With ever more people trying to innovate and thus seeking patent protections in their inventions, the patent law faces a great challenge in striking the balance between protecting inventors and not granting monopolies over procedures that others would discover by independent, creative application of general principles. Nothing in this opinion should be read to take a position on where that balance ought to be struck.”

Supreme Court Decision: *In re Bilski* – 6

Invitation to the Federal Circuit to develop additional limiting criteria for Information Age Inventions: “In disapproving an exclusive machine-or-transformation test, we by no means foreclose the Federal Circuit’s development of other limiting criteria that further the purposes of the patent act and are not inconsistent with its text.”

Supreme Court Decision: *In re Bilski* – 7

The Concurring Opinions advocated strongly for restraint in the application of patent protection not only to business methods but also to new processes

Justice Stevens' Concurrence: Justice Stevens and three other Justices (Ginsburg, Breyer, Sotomayor) concurred in the judgment but disagreed with giving the term “process” a broad interpretation and disagreed that business methods should be patentable.

Justice Breyer's Concurrence: Justice Breyer joined by Justice Scalia summarized points of agreement between the Opinion of the Court and Justice Stevens' concurring opinion. In a concluding paragraph, Justice Breyer stated, “In sum, it is my view that in reemphasizing that the ‘machine-or-transformation’ test is not necessarily the sole test of patentability, the Court intends to neither to deemphasize the test’s usefulness nor to suggest that many patentable processes lie beyond its reach.”

Reaffirmation by the Supreme Court of the ‘Software Trilogy’ of cases from the 1970’s and 1980’s - 1

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

A method of converting signals from binary coded decimal form to binary storing BCD signals in a re-entrant shift register; shifting the signals...to the right, masking out said binary 1 signal...

...
shifting the signals to the right...of the register.

The *Bilski* Court quoted the *Benson* Court,

“‘[a] principle, in the abstract in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented,...It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting...numerals to pure binary numbers were patented in this case. [citations omitted].’ A contrary holding ‘would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.’”

Reaffirmation by the Supreme Court of the 'Software Trilogy' of cases from the 1970's and 1980's - 2

***Parker v Flook*, 437 U.S. 584 (1978):**

*A method for updating the value of at least one alarm limit ...comprises:
determining the present value of the process value...;
determining a new alarm base B1 using the following equation...;
determining an updated alarm limit...;
adjusting said alarm limit to said updated alarm limit value.*

The *Flook* Court rejected the notion that post-solution activity no matter how conventional or obvious in itself can transform an unpatentable principle into a patentable process. According to the *Bilski* Court, the *Flook* decision stands for the proposition that the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of a formula to a particular technological environment or by adding insignificant post-solution activity.

Reaffirmation by the Supreme Court of the 'Software Trilogy' of cases from the 1970's and 1980's - 3

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

A method of operating a rubber-molding press for precision molded compounds with the aid of a digital computer, comprising:

providing said computer with a data base for said press including at least, natural logarithms conversion data, ...activation energy constant..., constant (x) dependent upon geometry...,

initiating an interval timer...,

constantly determining a temperature...,

repetitively comparing in the computer...said calculation of the total required cure time calculated with the Arrhenius equation with said elapsed time, and

opening the press automatically when a said comparison indicates equivalence.

Reaffirmation by the Supreme Court of the 'Software Trilogy' of cases from the 1970's and 1980's - 3

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

- According to the *Bilski* Court, the *Diehr* decision stands for several principles:
 - A scientific truth or a mathematical expression of it is not a patentable invention, a novel and useful structure created with the knowledge of the scientific truth may be.
 - An abstract idea, law of nature or mathematical formula cannot be patented, but an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.
 - The need to consider the invention as a whole rather than dissecting rather than dissecting the claims into old and new elements and then ignoring the presence of the old elements in the analysis.
 - The *Diehr* Court held: The that the claim, which contained a mathematical algorithm, was to an industrial process for molding rubber products, and therefore, fell well within 101's patentable subject matter.

CLAIM EXAMPLE A:

29. Apparatus for the halftoning of color images comprising a comparator for comparing, on a pixel-by-pixel basis, a plurality of color planes of said color image against a blue noise mask in which the blue noise mask is comprised of a random non-deterministic, non-white noise single valued function which is designed to provide visually pleasing dot profiles when thresholded at any level of said color images, wherein an output of said comparator is used to produce a halftoned image.

COMMENTS ON CLAIM EXAMPLE A:

- *Research Corporation Technologies, Inc. v Microsoft Corp., (D. Ariz, July 28, 2009)*
- No machine
- The claim recitation does not mandate a machine.
- The device is merely a collection of operations that compares an input number to a threshold value and produces a resulting binary value
- could be performed in one's mind.
- The specification offers software as an example of what a device that compares the numbers could be.
- The potential for use in a machine is not synonymous with a machine.

CLAIM EXAMPLE B:

12. A method of reducing a step of visibility computations in 3-D computer graphics from a perspective of a viewpoint, the method comprising: computing, before said step and from said perspective, the visibility of at least one entity selected from 3-D surfaces and sub-elements of said 3-D surfaces, wherein said computing step comprises:

- employing at least one projection plane for generating projections with said selected set of 3-D surfaces and said sub-elements with respect to said perspective;
- identifying regions on said at least one projection plane...;
- updating data related to said regions in computer storage; and
- deriving the visibility of at least one of said 3-D surfaces or said subelements from the stored data in said computer storage; and
- skipping, at said step of visibility computations, at least an occlusion relationship calculation for at least one entity that has been determined to be invisible in said computing step.

COMMENTS ON CLAIM EXAMPLE B:

- *FuzzySharp Technologies, Inc. v. 3D Labs. Inc.* (N.D. Cal. Dec. 11, 2009)
- No particular machine.
- Even if the claims are tied to a computer, they are not tied to a “particular machine”.

CLAIM EXAMPLE C:

1. A computerized system for providing a loan to a taxpayer prior to the end of the current tax year, comprising:
 - historical income tax refund data for said taxpayer, ...in a computer;
 - year-to-date income data for the current year, for said taxpayer,... in said computer;
 - year-to-date expense data for the current year, ... in said computer;
 - a process in said computer to determine prior to the end of the current tax year an estimated income tax refund amount...;
 - a loan provided to said taxpayer prior to the end of said current tax year in an amount based on said estimated income tax refund amount...as determined by said computer; and
 - an income tax refund for said current tax year

COMMENTS ON CLAIM EXAMPLE C:

- *H&R Block Tax Services, Inc. v. Jackson Hewitt Tax Service, Inc.* No. 6:08-cv-37 (E.D. Tex.)
- Not statutory.
- Computer is an insignificant extra-solution component.
- Computer does not impose meaningful limitations upon claim scope

CLAIM EXAMPLE D:

A method for distribution of products over the Internet via a facilitator, said method comprising the steps of:

- (1) receiving, from a content provider, media products that are covered by intellectual-property rights protection ...
- (2) selecting a sponsor message to be associated with the media product...
- (3) providing the media product for sale at an Internet website...
- (4) restricting general public access to said media product;
- (5) offering to a consumer access to the media product without charge to the consumer on the precondition that the consumer views the sponsor message;
- (6) receiving from the consumer a request to view the sponsor message,...
- (7) in response to receiving the request from the consumer, facilitating the display of a sponsor message to the consumer;
- (8) if the sponsor message is not an interactive message, allowing said consumer access to said media product after said step of facilitating the display of said sponsor message;
- (9) if the sponsor message is an interactive message, presenting at least one query to the consumer and allowing said consumer access to said media product after receiving a response to said at least one query;
- (10) recording the transaction event to the activity log...
- (11) receiving payment from the sponsor of the sponsor message displayed.

COMMENTS ON CLAIM EXAMPLE D:

- *Ultramercial, LLC v Hulu, LLC (C.D. Cal. August 13, 2010)*
- Not statutory; not a particular machine.
- Although a ‘facilitator’ could be a person, the only useful application of the invention is in relation to the Internet, where the facilitator is a specifically “programmed computer”.
- The computer (i.e., facilitator) does not limit the invention in a meaningful way. One cannot circumvent the patentability test merely by limiting use of the invention to a computer.
- The *concept* of an advertisement-media exchange does not become patentable merely by because the claims limit its application to the Internet and computers.

CLAIM EXAMPLE E:

1. A method, comprising:

normalizing by a processor operands a, b, and c for a floatingpoint operation;
predicting by the processor whether result d of said floatingpoint operation on said a, b, c might be tiny;
if so, then scaling by the processor said a, b, c to form a', b', c';
calculating by the processor result d' of said floating-point operation on said a', b', c';
determining by the processor whether said d is tiny based upon said result d';
if so, then calculating by the processor said d using software; and
if not, then calculating by the processor said d using floatingpoint hardware.

COMMENTS ON CLAIM EXAMPLE E:

- *Ex Parte Cornea-Hasegan No. 2008-4742 (B.P.A.I. Jan 13, 2009)*
- Not statutory; not a particular machine
- each claim step recited a different function performed “by a processor”
- recitation of a processor in combination with purely functional recitations of method steps, where functions are performed by an unspecified algorithm is insufficient to transform an unpatentable method into a patent eligible process
- last step involving “calculating by the processor using floating point hardware” is “insignificant post-solution activity.”

CLAIM EXAMPLE F:

A system for converting a unidirectional domain name to a bidirectional domain name comprising:

a label identifier adapted to . . . ;

an inferencer adapted to . . . ;

a character reorder adapted to . . .

COMMENTS ON CLAIM EXAMPLE F:

- *Ex Parte Atkin* (January 30, 2009)
- Not statutory; not a particular machine
- No recitation of “means” signifies no interpretation under 35 USC §112, sixth paragraph, and thus, would not be construed to imply any particular structure; Under *Ex Parte Miyazake* (BPAI 2008), construed to cover all means to perform functions and invalid under 112, first paragraph for lack of enablement.
- Comment: patent attorney as her own lexicographer does not work so well with functional claim limitations directed to software.

CLAIM EXAMPLE G:

14. A system for identifying one or more mean items for a plurality of items, J, each of the items having at least one symbolic attribute having a symbolic value, the system comprising:
- a memory for storing computer readable code; and
 - a processor operatively coupled to the memory, the processor configured to:
 - compute a variance of the symbolic values of the plurality of items relative to each of the items; and
 - select the at least one mean item having a symbolic value that minimizes the variance.
19. An article of manufacture for identifying one or more mean items for a plurality of items, J, each of the items having at least one symbolic attribute having a symbolic value, comprising:
- a computer readable medium having computer readable code embodied thereon, the computer readable program code comprising:
 - a step to compute a variance of the symbolic values of the plurality of items relative to the symbolic value of each of the items; and
 - a step to select at least one item that has the symbolic value that minimizes the variance.

COMMENTS ON CLAIM G:

- *Ex Parte Gutta, No. 2008-4366, (B.P.A.I. Aug. 10, 2009)*
(Precedential)
- Not statutory
- Although the system and article claims recite tangible elements, the memory and processor limitations encompass substantially all means to realize these elements.
- Items, symbolic values and symbolic attributes constitute abstract ideas.
- Therefore, these claims wholly preempt the disclosed algorithm, and in effect, claim the algorithm itself.

CLAIM EXAMPLE H:

1. In a data processing system, a method of forming an immediate value comprising:

receiving a data processing instruction at an input of a processor;

the processor using a first field of the same data processing instruction as a portion of the immediate value;

the processor using a second field of the same data processing instruction to determine a positional location of the portion of the immediate value within the immediate value; and

the processor using a bit value in a third field of the same data processing instruction to determine a remainder of the immediate value.

COMMENTS ON CLAIM H:

- *Ex parte Moyer, No. 2009-002154 (B.P.A.I. Jan. 20, 2010)*
- IS statutory system claim
- Processor imposes meaningful limitations.
- Claimed process has a real world use of forming an immediate value with only one instruction and has a practical application in the computer field.

CLAIM EXAMPLE I:

19. A method for improved decoding of a binary representation of a[n] XML-based document, comprising the steps of:

associating the binary representation of the XML-based document to a name space or schema, wherein the XML based document contains only elements or types of a name subspace of the name space or of a simplified schema of the schema;

transmitting the name subspace or simplified schema to at least one decoder;

transmitting a correction code to the at least one decoder;

performing a code substitution of the name subspace or simplified schema to codes of the name space or schema using the correction code; and

decoding, via the decoder, the binary representation of the XML-based document in accordance with the name space or schema from the name subspace or simplified schema with the aid of the correction code.

COMMENTS ON CLAIM I:

- *Ex Parte Jorg Heuer, No. 2009-004590 (B.P.A.I. Aug. 4, 2010)*
- NOT statutory.
- The claim recites an “XML-based document,” “a simplified schema,” “a schema,” “correction code,” and “at least one decoder.”
- The Specification does not indicate that any of the above-stated claim elements must be hardware, and not software.
- Decoding “XML based document” using a “namespace” fails to qualify as a transformation consistent with MoT test.

CLAIM EXAMPLE J:

1. A system that facilitates managing product life cycle, comprising:
 - a data-receiving component that receives data on availability of components to a product and suitable substitution components and determines relevance of the components to the product;
 - an analyzing component that evaluates the received data, and determines, infers or predicts obsolescence and/or risk to end-of-life (EOL) of a subset of the components to a product by scoring each component on a numerical EOL scale; and
 - a notification component that provides notification to at least one of individuals, computers and systems regarding obsolescence and/or risk to end-of-life of the subset of the components to a product, and provides recommendations in accordance therewith.

COMMENTS ON CLAIM J:

- *Ex Parte Morrison*, No. 2009-1476, (B.P.A.I. Jan. 7, 2010)
- IS statutory system claim.
- Applied *Ex parte Gutta* criteria to the system claim.
- Notification at the end-of-life is a real-world use of the system and algorithm that avoids preemption of the algorithm.
- Comment: Ruling is reminiscent of the discredited and abandoned *State Street* ‘useful, tangible, concrete’ results rule.

CLAIM EXAMPLE K:

3. A method for verifying the validity of a credit card transaction over the Internet comprising the steps of:
- a) obtaining other transactions utilizing an Internet address that is identified with the credit card transaction;
 - b) constructing a map of credit card numbers based upon the other transactions and;
 - c) utilizing the map of credit card numbers to determine if the credit card transaction is valid.

COMMENTS ON CLAIM K:

- *Cybersource Corp. v Retail Decisions, Inc.*, 620 F. Supp.2d 1068 (N. D. Cal. 2009)
- NO Transformation
- Constructing a map of credit card numbers is like the data gathering of *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989).
- Credit card number is not an article, and credit card number does not represent a physical object. A credit number represents a credit card account, not a physical credit card. A credit card account is a mere abstraction and not something physical.
- An Internet address represents a physical machine, but there is no transformation of the Internet address in the claim.

COMMENTS ON CLAIM K (Continued):

- *Cybersource Corp. v Retail Decisions, Inc.*, 620 F. Supp.2d 1068 (N. D. Cal. 2009) (Continued)
- No Machine
- Preamble recitation “over the Internet” does not satisfy the machine requirement:
- The Internet is not a “*particular machine*”
- constitutes “*insignificant extra-solution activity*”
- Places “*no meaningful limits*” on the scope of the claims. A claim need not preempt all possible uses of a process to be found to lack meaningful limits of scope.
- Otherwise non-statutory subject matter cannot be made patentable simply by limiting it to a particular field, citing *Bilski* 545 F.3d at 957; citing *Diehr*, 450 U.S. at 191-192, 101 S.Ct. 1048.

CLAIM EXAMPLE L:

2. A computer readable medium containing program instructions for detecting fraud in a credit card transaction between a consumer and a merchant over the Internet, wherein execution of the program instructions by one or more processors of a computer system causes the one or more processors to carry out the steps of:

a) obtaining credit card information ...

b) verifying the credit card information...

wherein execution of the program instructions by one or more processors of a computer system causes the one or more processors to carry out the further steps of;

obtaining other transactions utilizing an Internet address...;

a constructing a map of credit card numbers...

utilizing the map of credit card numbers to determine if the credit card transaction is valid.

COMMENTS ON CLAIM L:

- *Cybersource Corp. v Retail Decisions, Inc.*, 620 F. Supp.2d 1068 (N. D. Cal. 2009)
- NOT Statutory
- A computer readable medium containing program instructions to an otherwise non-statutory process is insufficient to make it statutory, citing *Ex Parte Cornea-Hasegan*, 89 U.S.P.Q. 2d 1557 (B.P.A.I. 2009).

CLAIM EXAMPLE M:

15. A system, comprising:

a network;

entry means coupled to said network for entering into the network an amount being paid in a transaction by a payor;

identification entering means in said entry means and coupled to said network for entering an identification of the payor;

said network including computing means having data concerning the payor including an excess determinant established by the payor for the accounts;

said computing means in said network being responsive to said data and said identification entering means for determining an excess payment to the basis of the determinant established by the payor, and

said computing means in said network being responsive to the excess payment for apportioning at least a part of the excess payment among said accounts on the basis of the excess determined and established by the payor and on the basis of commands established by the payor and controlled by other than the payee.

COMMENTS ON CLAIM M:

- *Every Penny Counts, Inc., v. Bank of America Corp., Case No. 2:07-cv-042, 2009 U.S. Dist. LEXIS 53626 (M.D. FL May 2009)*
- NOT tied to a particular machine
- Couched in the language of 35 U.S.C. 112, sixth paragraph
- Simply because the process at issue requires machines or computers to work, does not mean that the process or system is a machine.
- No substantial application except in connection with computers cash registers and networks but is not comprised of those devices.
- The machine limitations do not place meaningful limits on the claim's scope and are merely insignificant extra-solution activity.

CLAIM EXAMPLE N:

1. A method for calculating an absolute position of a GPS receiver and an absolute time of reception of satellite signals comprising:
 - providing pseudoranges that estimate the range of the GPS receiver to a plurality of GPS satellites;
 - providing an estimate of an absolute time of reception of a plurality of satellite signals;
 - providing an estimate of a position of the GPS receiver;
 - providing satellite ephemeris data;
 - computing absolute position and absolute time using said pseudoranges by updating said estimate of an absolute time and the estimate of position of the GPS receiver.

COMMENTS ON CLAIM N:

- *SIRF Technology, Inc. ITC, 601 F.3d 1319 (Fed. Cir. 2010)*
- Inclusion of GPS receiver in claims place meaningful limit on the claims.
- Claim preamble states that the claim is directed to “calculating an absolute position of a GPS receiver”.
- Claim requires “pseudoranges that estimate the range of the GPS receiver to a plurality of GPS satellites” that can exist only with respect to a *particular* receiver.
- In order for the addition of a machine to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly, i.e., through the utilization of a computer for performing calculations. Here the GPS receiver is essential to the operation of the method claims.
- Comment: Peculiar scenario. The claim is ostensibly drafted with *BMC Resouces, Inc. v, Paymentech* in mind to avoid the multiple actor infringement problem by reciting no actions performed by the GPS receiver. The infringer is the infrastructure provider, not the person with Smart Phone in her pocket. Yet the Court held that it was the GPS receiver that is the particular machine that meets the MoT test requirement.

EXAMPLE CLAIM O:

- 10. A method, performed by a computer, for assembling a product having components, the method comprising the steps of:
- (a) providing one or more abstract assembly steps for assembling the product...
- (b) obtaining a configuration model corresponding to a requested configuration of the product...
- (c) applying the configuration model to the abstract assembly steps provided for assembling the product by inserting component information from the component information lines into the variable parameters of the variable portions of the abstract assembly steps to produce one or more assembly instructions for assembling the product to have the requested configuration.

COMMENT ON EXAMPLE CLAIM O:

- *Abstrax, Inc. v Dell, Inc.*, 2009 WL 3255085 (E.D. Tex October 7, 2009)
- IS Transformation
- “configuration model” represents physical and tangible objects and their respective structures
- data is obtained from the component information lines in the configuration model (Federal Circuit interpretation of *In re Abele*)
- raw data is transformed into assembly instructions for assembling the product to have the requested configuration
- Magistrate’s comment that proposal to subject “configuration model” to claim construction suggests that there are meaningful limits and not mere extra-solution activity.
- Comment: Closer to pure data processing than other claims addressed so far. Transformation of data representing data about physical objects?

EXAMPLE CLAIM P:

1. A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising:
 - (a) administering a drug providing 6-thioguanine to a subject having said immune-mediated gastrointestinal disorder; and
 - (b) determining the level of 6-thioguanine in said subject having said immune-mediated gastrointestinal disorder,wherein the level of 6-thioguanine less than about 230 pmol per 8×10^8 red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and
wherein the level of 6-thioguanine greater than about 400 pmol per 8×10^8 red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.

COMMENT ON EXAMPLE CLAIM P:

- *Prometheus Laboratories, Inc. v Mayo Collaborative Services* (September 17, 2009)
- IS Transformation
- The “administering” step effects a transformation on the body in that the body metabolizes the administered drug.
- The “determining” step effects a transformation since metabolite levels cannot be ascertained by mere observation. Some form of manipulation such as high pressure chromatography specified in dependent claims or other modification of the substances to be measured is required.
- The “wherein” clauses are mental steps and, therefore, are not patent eligible per se. However, a subsequent mental step does not by itself negate the transformative nature of the prior steps.

Interim Patent Subject Matter Examination Instructions – Effective August 24, 2009

- **Transformation of an article prong:**

ARTICLE: An article can be electronic data that represents a physical object or substance. For the test, the data should be more than an abstract value. Data can be specifically identified by indicating what the data represents, the particular type of data, and/or how or from where the data was obtained.

TRANSFORMATION OF DATA: A mathematical manipulation per se of data has not been deemed a transformation; but transformation of electronic data has been found when the nature of the data has been changed such that it has a different function or is suitable for a different use.

Claim Rejections – 35 USC §101...During Prosecution in USPTO

“A § 101 process claim that would not qualify as a statutory process would be a claim that recites purely mental step(s) that can be performed manually or merely manipulating an abstract idea without the use of a specific structure. Thus, to qualify as a § 101 statutory process, the claimed step(s) must explicitly recite the other statutory class, i.e., the computer, the thing, to which it is tied, for example by identifying the computer, the structure that accomplishes the step(s) and providing transformation underlying subject matter to a different state or thing.” (Emphasis added.)

- No requirement as to “significance” of the tie.

Recommendations -1

- **MACHINE LIMITATIONS:**

- Beware of Ersatz ‘machine limitations’:
- Recitation of “computer-implemented” or “performed on a computer” is unlikely to be enough to tie a claim to a particular machine.
- Specific Hardware limitations that are insignificant or that are not meaningful are unlikely to be enough to tie a claim to a particular machine.
- Functional claim elements may be construed as software.
- Means-plus-function elements may not be construed as corresponding to a machine even if a general purpose computer is disclosed.

Recommendations - 2

- **MACHINE LIMITATIONS:**
 - Recite real-world use of the 'result'
 - Recite hardware structure that plays a significant part in permitting the claimed method to be performed.

Recommendations - 3

- **TRANSFORMATION:**

- Transformation of data or signal that represents a physical article.
- Indicate that the data to be transformed represents a physical article by indicating how or from where it was obtained

Recommendations - 4

- Include multiple sets of claims in multiple formats
- Interview the Examiner /SPE re refinements to claim language during prosecution
- Consult and cite USPTO's Interim Instructions on statutory subject matter



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