

The Battle Rages On: A Report from the Front Line of the Patentable Subject Matter War

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In July 2012, the Federal Circuit issued two decisions regarding patentable subject matter for computer implemented business methods, *CLS Bank Int'l v. Alice Corp.* No. 2011-1301 (Fed. Cir. July 9, 2012), and *Bancorp Services v. Sun Life Assurance Co. of Canada*, No. 2011-1467 (Fed. Cir. July 26, 2012), that vividly demonstrate the conflicting approaches various members of the court apply to this question. On what appears to be similar business method patents, the two panels came to opposite decisions—the *CLS* panel finding the claims patent-eligible, and the *Bancorp* panel holding not. The decisions can be reconciled when considered in light of the adequacy of the respective patent disclosures. From a strategic perspective, the decisions reinforce the need for substantively robust specifications that do more than nominally describe the use of a computer in the performance of a business method.

There are many similarities between the cases. First, both cases involved business method patents related to risk management. *Alice Corp.*'s patents cover a trading system in which counter parties exchange various types of contractual future obligations (e.g. supply and delivery contracts), and where the system automatically matches offers between various counter parties so that each party's risk is minimized at the time the contracts mature. The specific claims at issue include the feature of a third party that manages the exchanges between the counter parties, using a particular record keeping format based on shadow credit and debit records.

Similarly, *Bancorp*'s patents deal with market risk related to the value of certain types of life insurance policies that companies use to fund employee life insurance and retirement benefits. The corporate policyholders normally bear the risk of the fluctuation in the market value of the underlying investments. Thus, a third party administers the policies and absorbs that risk by providing a "stable valued protected investment," that yields more stable returns. The third party is paid a fee to compensate for its risk exposure.

The representative method claims are also similar. *Alice*'s U.S. Pat. No. 5,970,749 recites the steps by which the third party manages the exchange of obligations, storing shadow credit and debit records of the parties, and "adjusting" these records on a daily basis. Method claim 33 of the '749 patent does not expressly recite a "computer" or "server" or "processor" or other generic computer components. The representative claim in *Bancorp*, claim 9 of U.S. Pat. No. 5,926,792 also does not expressly recite any computer elements to perform the steps, instead reciting the steps of a third party administrator in "generating a life insurance policy including a stable protected value investment," and "calculating" "fee units," "surrender values," "policy value," and so forth.

As expected, both Federal Circuit panels cited the same general precedents of *Bilski*, *Prometheus*, *Benson*, *Cybersource*, *Fort Properties*, and *Dealertrack* to frame their analysis. Thus, both panels asserted that claiming "mere computer implementation cannot render an otherwise abstract idea patent eligible" and that the form of the claim, whether a system or computer program product, does not change "the basic character of a process claim." *CLS*, slip op. at 22 citing *Cybersource*, and *Bancorp*, slip op. at 19 citing *Dealertrack*.

Interestingly, both panels ultimately relied on the "meaningful limitations" rule set forth in *SIRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010), that addition of machine elements in the claim "impose a meaningful limit on the scope of the claim." The *CLS* court put special emphasis on *SIRF*'s statement that a meaningful limit exists when the computer elements do more than function solely as the "obvious mechanism for permitting a solution to be achieved more quickly" by the use of the computer "for performing calculations." *CLS*, slip op. at 25. The *Bancorp* court further characterized this rule as requiring that the computer must "facilitate the process in a way that a person making calculations or computations could not," and thus

using a computer “only for its most basic function, the performance of repetitive calculations” does not impose a meaningful limitation. *Bancorp*, slip op. at 19-20.

Given all of the similarities then, why the divergent outcomes? There are two primary reasons. The first reason is intrinsic. Alice’s ‘749 patent includes a lengthy and detailed specification. There are 70 figures, including 33 flow charts which focus on computer steps and data files, and 30 screen displays showing the results of the computations. The 65-column specification describes the trading system by extensive and consistent reference to the computer implementation of how individual data records are accessed, read, and updated throughout the claimed process.

At first glance, Bancorp’s patent appears equally robust with 15 figures including flowcharts and system diagrams. However, operations that are putatively described as being performed by a computer system are simply hand waving. For example, the description of a fax/modem is practically comical in its faux technicality: “The fax half of the fax/modem 8 additionally is used to send confirmations to plan participants when they make trades between funds or between the Defined Contribution and Defined Benefit plans.... The modem half of the fax/modem 8 sends and receives information from plan sponsors and participants’ remote computers, by using an installed bulletin board service (BBS) program which runs on the computer system 2.” ‘749 patent, col. 7, lns. 5-15. From a software engineering perspective, this is simply a high level discussion of the business operations mocked up as if it they were performed by a computer.

The second reason is doctrinal and leverages the qualitative differences between the patent specifications. The majority in *CLS*, Judges Linn and O’Malley, along with Newman, Plager, and Rader, are what I would call §101 “Positivists”: they view §101 as asking whether an invention as claimed “is” of a particular kind—a process, a machine, etc. Thus, they strongly respect the claim language. Judge Linn is quite clear that it is “fundamentally improper to paraphrase a claim in overly simplistic generalities.... Patent eligibility must be evaluated based on what the claims recite, not merely on the ideas upon which they

are premised.” *CLS*, slip op. at 19. To these Judges, *Diehr*’s rule against claim dissection still stands, regardless that the *Prometheus* court arguably excised it from the patent law canon.

Under this view, the preemption test takes on an instrumentalist role. Judge Linn states that, “the essential concern is not preemption, *per se*, but the extent to which preemption results in the foreclosure of innovation.” *CLS*, slip op. at 16-17. This question can be answered by doing what most patent attorneys do when drafting claims, considering whether the claim can be designed around: “It is clear, moreover, that the limitations requiring specific shadow records leave broad room for other methods of using intermediaries to help consummate exchanges, whether with the aid of a computer or otherwise, and, thus, do not appear to preempt much in the way of innovation.” *CLS*, slip op. at 27. This is perhaps the first time a court has intelligently and practically applied the preemption test.

Finally, Judge Linn completes the Positivist framework with a decision rule: “Unless the single most reasonable understanding is that a claim is directed to nothing more than a fundamental truth or disembodied concept, with no limitations in the claim attaching that idea to a specific application, it is inappropriate to hold that the claim is directed to a patent ineligible ‘abstract idea’ under 35 U.S.C. § 101.” *CLS*, slip op. at 21. The Positivist approach then is entirely of a piece with the “coarse eligibility filter” test that Chief Judge Rader set forth in *RTC* and *Ultramercial*—which the Supreme Court implicitly rejected in *Prometheus*—which requires that the “abstractness” of the claims is so “manifestly evident” as to “override the broad statutory categories.”

There is an opposing framework for understanding §101. Prost who dissented in *CLS*, and was in the majority in *Bancorp* along with Dyk, Mayer, and Moore are §101 “Normativists,” who see §101 as defining what inventions and claims “ought” to be. The Supreme Court is clearly Normativist in approach, by looking for an “inventive concept.” Thus, Prost would strictly follow the Supreme Court in *Prometheus*: “Now there is no doubt that to be patent eligible under § 101, the claims must include an ‘inventive concept.’ Prost, dissent at 3.

Using this approach, it's entirely appropriate to "strip" the claims of their "jargon", to look at the "basic idea." Prost, dissent at 5. Judge Prost creates a "plain English" claim chart and finds that the "basic idea" of "credit intermediation" is not just abstract; it is also literally ancient." Prost, dissent at 4-5. Judge Prost finds this to be nothing more than an abstract idea, which the claim says merely to "apply it." Prost, dissent at 6. Finally, whereas Judge Linn reads the patents in suit and sees a computerized trading system, Judge Prost sees something else: "Even a quick glance at the '720 patent reveals that the claimed *invention* is not about physical systems; it is the abstract idea of risk management in financial transactions carried out on an already known infrastructure." Prost, dissent at 11. Indeed, so powerful is the Normativist lens, that Prost simply cannot see the detailed nature of Alice's specification, asserting that it "is similarly devoid of any teaching for how one must implement computer systems." Prost, dissent at 10.

This difference in viewpoint is not simply one of jurisprudential aesthetics, but a profound difference in understanding and belief about what *invention* itself is. For the Positivists there is *invention* in the manipulation of a known artifact such as towards a functional goal. In the Industrial Age, this manipulation was primarily in terms of *structural* transformation in order to achieve the desired function. Hence, the statement in *Cochrane v. Deener*, 94 U.S. 780, 788 (1877) that "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing." In the Information Age, the ability to create *functional* transformation apart from structural transformation results from ever more powerful and general programming languages, and the development of commoditized computer processors and memory. As a topical example, we care more about what *functions* our smartphones perform, than what *materials* they are made out of, and we were only mildly surprised when Facebook purchased Instagram—an application company that simply makes it easy to apply digital filters to photos taken on a smartphone—for \$1B, because we knew that Instagram provided tremendous functional value to end users. Judge Plager was perhaps the first to note that the broad rule of functional transformation

applies to the use of computers as well: "thus, it is apparent that changes to *intangible* subject matter representative of or constituting physical activity or objects are included in the definition [of patentable subject matter]." *In re Schrader*, 22 F.3d 290, fn. 12 (Fed. Cir. 1994).

However, to keep their analysis within the tight confines of the (arbitrary) rule that mere computer implementation does not make the claim patent eligible, the Positivists are willing to find that the computer is not merely used in the functional transformation, but "integral" to the invention as well by giving real weight to a disclosed specification and reading the claims in view thereof as would a technologist of skill in the art. And this is where the depth and detail of Alice's patent specification made all the difference in outcomes. The meaty description gave the *CLS* court precisely the substance it needed to find that the method claims not only "require computer implemented steps of exchanging obligations maintained at an exchange institution by creating electronically maintained shadow credit and shadow debit records," but that the computer limitations "can be characterized as being integral to the method, as "play[ing] a significant part in permitting the method to be performed." *CLS*, slip op. at 26-27.

The Normativists on the other hand impose an extrinsic value judgment, that the use of computers to deliver useful functionality has no inherent *inventive* value *per se*. At its very core, this judgment appears to be based on a fundamentally incorrect understanding of operation computers in their relationship to the human brain. Judge Lourie states this (mis) understanding:

As the Supreme Court has explained, "[a] digital computer . . . operates on data expressed in digits, solving a problem by doing arithmetic as a person would do it by head and hand." *Benson*, 409 U.S. at 65. Indeed, prior to the information age, a "computer" was not a machine at all; rather, it was a job title: "a person employed to make calculations." Oxford English Dictionary, *supra*. Those meanings conveniently illustrate the interchangeability of certain mental processes and basic digital computation,

and help explain why the use of a computer in an otherwise patent-ineligible process for no more than its most basic function—making calculations or computations—fails to circumvent the prohibition against patenting abstract ideas and mental processes. [*Bancorp*, slip op. at 19].

This is profoundly wrong. A digital computer certainly does not “do arithmetic” as a person would do by “head and hand.” As an example, computers simply don’t do long division—the bane of every 4th grader’s existence—by repeatedly factoring the divisor into the dividend, subtracting the result, etc., for a number of structural reasons—not the least of which is that the computers have memory registers and logic gates and the brain, well, does not. A neuroscientist would likely lose tenure today if she asserted that “mental processes and basic digital computation” were “interchangeable.” Nor is the “most basic function” of a computer making calculations, as many types of calculations are implemented by lower level operations.

If this belief is sincere, than it makes perfect sense for the Normativists to deeply discount the use of computers generally, and in business methods particularly. If you believe that computers do nothing more than make repetitive calculations faster, their presence—even if expressly recited in the claims—adds nothing inventive since humans can make such calculations.

In this author’s opinion, this belief structure arises primarily from Justice Stevens. Justice Stevens served during WWII in the Navy as a cryptoanalyst, analyzing Japanese radio messages to figure out the locations and movements of the Japanese fleet in the Pacific. Working in the cryptography division, Justice Stevens dealt with many human “computers” whose role was primarily computing long tables of numeric values. To Justice Stevens, doing “repetitive calculations” is all that “computers”—human or machine did. Justice Stevens carried this mental model of computers with him into his §101 jurisprudence, first in *Parker v. Flook*, stating that Flook’s “computations can be made by pencil and paper calculations” and that “our holding today is that a claim for an improved method of calculation, even when tied to a specific end use, is unpatentable subject matter under § 101.” 437 U.S. 584, 586; and fn. 18 (1978).

Later, Justice Stevens argued in his dissent in *Diehr* for “an unequivocal holding that no program-related invention is a patentable process under § 101 unless it makes a contribution to the art that is not dependent entirely on the utilization of a computer.” *Diehr*, 450 US 175, 219 (1981). This is an unmistakable bias against computers: would a rule against an invention in smelting “unless it makes a contribution to the art that is not dependent entirely on the utilization of a furnace” make any sense?

With this background disposition against “program-related inventions,” the superficiality of the Bancorp’s ‘792 patent specification made the claims an easy kill. “The computer required by some of Bancorp’s claims is employed only for its most basic function, the performance of repetitive calculations, and as such does not impose meaningful limits on the scope of those claims.” *Bancorp*, slip op. at 20. In other words, since the computer simply performs “mere mathematical computation,” what Justice Stevens would recognize as the function of “human computers” in the 1940s, there’s nothing “inventive” in its use. Similarly, once the computer limitations are removed from the system claim (against the rule of *Diehr*), “nothing remains in the claims but the abstract idea of managing a stable value protected life insurance policy by performing calculations and manipulating the results.” *Bancorp*, slip op. at 23. The court then distinguished *CLS* without any deep explanation, saying simply that “unlike in *CLS*, the claims here are not directed to a ‘very specific application’ of the inventive concept.”

Now, do the Federal Circuit Normativists *actually* believe in Justices Stevens’ brain-computer equivalence assertion? Perhaps not. Justice Prost, in her *CLS* dissent, notes that “When it comes to subject matter patentability, we do not write on a blank slate” and “the Supreme Court has directed us to inquire whether the claim limitations that are added to the abstract idea are inventive.” She warns that “The majority has failed to follow the Supreme Court’s instructions—not just in its holding, but more importantly in its approach.” Prost, dissent at 3. Justice Prost says she “would be more empathetic if the majority’s approach was based on a case-specific determination, made upon the application of the Supreme Court’s abstract idea test to the asserted claims,” suggesting that a case-by-case approach

would give the court the flexibility to conform to the Supreme Court's dictates while still operating in a more positivist manner. *Id.* Thus, perhaps Justice Prost is saying that the Federal Circuit has no choice but to adopt the Supreme Court's approach—even if it is wrong in theory. Justice Lourie, with a Ph.D in chemistry, is no stranger to science, and his precise phrasing in *CLS* above—“As the Supreme Court has explained, ...”—can likewise be read as possibly exposing the Supreme Court's scientific naiveté, and signaling that the Federal Circuit simply has to follow suit, regardless of the incoherence of the results.

The Positivist-Normativist framework is not meant to be dichotomous, but instead provides a spectrum in which various judges and opinions can be placed. Indeed some judges appear to use both approaches, such as Lourie as a Normativist in *Bancorp*, and as a Positivist in the two Federal Circuit *Prometheus* decisions, No. 2008-1403 (Fed. Cir., Sep. 16, 2009), and (Fed. Cir., Dec. 17, 2010).

The prosecution takeaway from *CLS* and *Bancorp* is straightforward. Business method patents have to describe not just how a computer is *used* in the system, but how the functional operations would actually be implemented from a software and financial engineering point of view. This requires at the very least a data model that shows how the real world entities, such as accounts, transactions, records, credits, debits, investments, assets, etc. are represented as computer data, and a functional decomposition of the relevant transformations of such computer data.

A litigation strategy based on these decisions is likewise based on the quality of the patent disclosure. A business method patent that primarily describes the business operations, without a detailed supporting computer implementation in software engineering terms, can be challenged by asking the question: *How* is each alleged steps of the business method performed using a computer? If the only answer the specification teaches is “the computer does it,” then this is “a clue” that the computer is not integral to the invention. This is not an attack on §112 sufficiency *per se* (though it may lead there) but instead a way of exposing whether the computer steps are integral to the business method, and whether or they not provide meaningful limits on the scope of the claim.

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