

AT & T v. EXCEL: OUTLINE

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V2.0 — 4 October 1999 (A bit more detail & clarity of direction this time.)

I. BACKGROUND

This section chronicles the confusing history of the mathematical algorithm exception.

A. Patentable Subject Matter and Algorithms

Text of § 101, “anything under the sun...”, and the unpatentable categories.

The problem of mathematical algorithms: an abstract idea that can be applied in a process achieving a useful result.

B. History of the Algorithm Exception

Start with *Gottschalk v. Benson* and its ambiguous reasoning, including “mental steps,” “transformation and reduction” requirements, and the concern for pre-emption of the mathematical formula.

This leads to the *Freeman* test, later refined in *Walter* and *Abele*. (Yes, I will explain the test.)

Parker v. Flook follows, establishing that (1) post-solution activity is not enough to transform an abstract principle into a patentable process and (2) in evaluating the claims, the mathematical algorithm should be treated as well known in the art.

In *Diamond v. Diehr*, the Supreme Court upheld patent claims containing a mathematical algorithm, seeming to endorse *Freeman* and *Walter*.

In *In re Alappat*, the CAFC began backing away from specific tests such as *Freeman-Walter-Abele*: the “proper inquiry” is whether the claim as a whole goes to an abstract idea.

Summarize (one paragraph lifted from briefing paper).

C. Demise of the Algorithm Exception

A brief discussion of the relevant part of *State Street Bank*: introducing the “useful, concrete, and tangible result” test in the context of an apparatus claim.

II. CASE HISTORY

A. The '184 Patent

This section explains what AT & T patented, using material from the case report. Emphasis needs to be placed on the method claims.

B. The district court decision

At some point, we need to introduce the lawsuit. That Excel can't be accused of infringing apparatus claims, because it doesn't own any equipment, is important.

This section then explains how the district court decided that the method claims were invalid, invoking the mathematical algorithm exception. (Which is why that needs to be laid out at the beginning.)

C. The Federal Circuit's decision

The only issue before the court is the validity of the method claims of the '184 patent. This section discusses points made by the court in resolving that issue.

1. The Rule: Useful, Concrete and Tangible Result

The CAFC offers up a rationale for this rule and spends some effort to argue that it's consistent with previous cases. Here, I walk through this part of the court's analysis.

2. *No distinction between method and apparatus claims*

This case differs from *State Street Bank* on the mathematical algorithm issue in that the claims at issue in *State Street Bank* were apparatus claims; here only method claims are at issue. Thus, the two paragraphs the CAFC devotes to establishing that there is no difference are important.

3. *The CAFC rejects Excel's argument that physical limitations are needed.*

This (possibly misleading) heading subsumes a couple of points. First, the CAFC states that a physical transformation is not a requirement but merely an example of how an algorithm can be applied to achieve a useful, concrete, and tangible result. Second, the CAFC then goes even farther to state that physical limitations are not required for method claims, driving a stake through the heart of the Freeman-Walter-Abele test. (Or, more precisely, pounding in the stake left there by *State Street Bank*.) Third, the CAFC denies that any physical step is necessary in a method claim that recites an algorithm, rejecting as “unhelpful” its own earlier decisions in *In re Grams* and *In re Schrader*.

4. *Addressing Justice Stevens' dissent in Diehr*

The CAFC concludes by asserting that its “useful, concrete and tangible result” test resolves two concerns raised by Justice Stevens in his dissent in *Diehr*: (1) the lack of clear rules for determining which computer-related inventions contain statutory subject matter and (2) the fact that almost any process can be described as an algorithm and therefore declared unpatentable subject matter under the “algorithm exception.”

III. ANALYSIS

1. *Comparing this case to prior cases*

The CAFC disavows any idea that mathematical subject matter should be treated as a special case. To the extent that prior cases subjected mathematical algorithms to special tests not applied to other subject matter, this case is inconsistent with those decisions.

That said, the older cases are not irrelevant. For instance, a patentee could point to *Arrhythmia* and *Diehr* as support for the proposition that use of an algorithm in a physical transformation is patentable subject matter. However, alleged infringers probably won't succeed by invoking cases where the CAFC invalidated claims without applying the "useful, concrete, and tangible result" test. (Excel tried this and it didn't work.)

2. *Mathematical subject matter is now to be treated just like any other process*

Justice Stevens, dissenting in *Diehr*, made the point that any process can be described as an algorithm. This is true. (Example: the non-mathematical version of the law-school course selection algorithm, where you directly look at the times and see if they conflict.)

Courts have never explained why mathematical algorithms should be treated differently from other algorithms, which is especially problematic if you consider that the line between a mathematical and non-mathematical algorithm can be fuzzy. (Example: the mathematical version of the same algorithm, where you assign a code to the times and then compare the code.)

The CAFC is saying in effect that all claims reciting algorithms should be treated alike: if they are directed to new and useful processes, not merely abstract ideas or laws of nature, then they are patentable under § 101.

3. *This decision increases the clarity of standards for patentable subject matter*

Justice Stevens was also concerned that the ruling in *Diehr* left practitioners without clear standards as to what was patentable subject matter. The CAFC has greatly clarified the situation: as long as the algorithm is being applied to achieve some useful result, practitioners don't have to worry about § 101 rejections.

4. *The future of mathematical algorithm patents¹*

In terms of quality of issued patents, doing away with the mathematical algorithm exception would not make a big difference if: (1) for purposes of determining novelty and obviousness, the algorithm continues to be treated as something well known in the art (as it was in prior cases, e.g. *Diehr*), and (2) the PTO does a good job of rejecting patents on §102 and §103 grounds. The latter is, as has been documented, problematic. So it could lead to a large number of dubious patents, something like the flood of Internet business method patents that followed *State Street Bank*.² This in turn would likely lead to a lot of litigation, focusing on whether claims are invalid for lack of novelty or for obviousness.

In terms of quantity, my guess is that most of the interest in mathematical algorithm patents is in the software community, where the exception doesn't seem to have stopped many developers from seeking patents. What will likely change is that drafters of software claims will no longer feel compelled to tie the software to hardware, as they've been doing ever since *Benson*.

1. This assumes, of course, that the Supreme Court doesn't grant cert and then reverse. (Excel filed its petition in July.)

2. A pending bill to increase the independence of the PTO (which I need to look up) could help here by enabling the PTO to train and retain a larger number of skilled examiners.