



## Patents on selling via the Net—really?

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**E**-Data Corp. is a company apparently solely in the business of trying to make a buck out of a patent that it bought. Its efforts to make the software industry salute, or at least pay attention to, its Freeny patent (US Patent 4,528,643, issued July 9, 1985) on selling software via the Internet have provoked rage, amusement, and even some actual licenses.

### **E-Data's licensing efforts**

E-Data has already sued Dun & Bradstreet, a BankAmerica subsidiary (Meca Software), CompuServe, Adobe, Apogee, Broderbund, Intuit, McGraw-Hill, and another three dozen software and video game vendors. The company then offered "amnesty" to the software industry by direct mail and also by making instant licenses available at its Web site, [www.e-data.com](http://www.e-data.com). However, it has now withdrawn the amnesty offer and says that it will no longer be Mr. Nice Guy.

E-Data's counsel reported some hostile responses to his amnesty offer mailings. One company responded with a letter addressed to him as "E-Slime." (Presumably, this was accompanied by the traditional promise that a curt letter would follow.) Many are incredulous, as E-Data's FAQ (frequently asked questions) file on its Web site concedes. "How can E-Data own a patent which appears to have such immense implications?" E-Data asks and answers itself in its FAQ file. (The answer it gives is that the patent is really old, predating the Net as we know it by many years.)

Other companies, however, have taken licenses. E-Data lists as voluntary licensees IBM (which took a license without being sued) and also Adobe and several other software vendors that knuckled under after E-Data sued them. Whether these are "sweetheart deal" licenses to encourage the rest of the industry to accept

licenses is not disclosed.

According to E-Data's FAQ file, its patent "describes on-demand electronic distribution." E-Data interprets the scope of its patent as follows:

Our patent counsel has advised us that a company may be legally infringing if it is a content provider, reseller or service provider involved in ... on-demand or pay-as-you-go electronic distribution of any of the digital data products described above [software, fonts, digital images, music, video, news]. A content provider owns and sells the digital data product, i.e., software developers, publishers, database owners, etc. A reseller provides a distribution channel for the content providers to sell their products electronically.

### **The Freeny patent**

In 1983, Freeny disclosed a system for selling such things as video games, greeting cards, and sheet music without having to maintain an inventory at the point of sale. Customers make payment at a point-of-sale terminal, such as one located in a gift shop or other retail store. Information then comes over a network to a computer and printer (or other appropriate information reproduction device) at the location and is reproduced and delivered to the paying customer.

The Freeny patent has two principal claims. One claim covers a method for using computers to reproduce information in a storage medium (such as a floppy disk) at point-of-sale locations. Another claim is for a so-called apparatus (also designated an information-manufacturing machine) for reproducing information in a storage medium at point-of-sale locations.

The method claim has four steps:

- A content provider provides information (for

example, greeting card information) from a source that the patent calls an information control machine. This source is remote from a point-of-sale location that has an information-manufacturing machine (for example, an Apple II computer located in a retail store). A catalog code uniquely identifies each item of information.

- The point-of-sale location provides a request-reproduction code that includes the catalog code. The request-reproduction code is a request for permission to reproduce given information (for example, permission to print a given greeting card).
- The information control machine provides an authorization code at the information-manufacturing machine, authorizing the reproduction of the information just identified.
- The information-manufacturing machine receives the request-reproduction code and authorization code. It then reproduces the information in a material object (for example, printing the greeting card).

The method claims are phrased in abstract terms, such as information and codes for things to be done with information. The closest the claims get to a physical action is the system's final reproduction of information "in a material object"—that is, printing data. The system described in the claims appears to be a pure data-in, data-out system. The claimed method does not appear even to mention anything as specific and tangible as a recording head for audio tape or a color printer to print a personalized greeting card, although several claims refer to specific recording media, such as audio tape.

The apparatus claims are similarly abstract. The basic apparatus claim covers a so-called information-manufacturing machine located at a point-of-sale location. The claim describes the information that the machine is to reproduce and how a catalog code identifies the information. But the patent describes the claimed machine itself only as being adapted to provide

an authorization code including the catalog code and adapted to reproduce the information that the catalog code identifies. The patent claims do *not* require the use of any particular special-purpose hardware at the input or output end or in processing the information.

### Objections to the patent

The objections that E-Data's detractors have raised against the Freeny patent have mainly been that it is too broad, and that it claims a method or system that was obvious at the time of the invention. (See, for example, Brian Santo, "Threat to the Net?" *Electronic Engineering Times*, June 17, 1996, p. 108.) Apparently, no one has complained that the patent claims are directed to an inherently unpatentable method of doing business or to something so generic and abstract that they claim an idea rather than a tangible way to use or exploit an idea. (For example, we might interpret this as the idea of a customer's ordering an information-embodying product and a vendor's then fulfilling the order. The vendor produces an encoded or imprinted medium embodying the desired information. Is that patentable?)

The objections raised against the patent may be inconclusive. Objections not yet thus far raised, however, may well torpedo the patent.

**Too broad?** Broadness of itself is not a legitimate objection to a patent. The question that must be asked (and answered) here is whether the breadth of the Freeny patent claims is greater than what the patent discloses. Thus, say that Morse invents a particular apparatus for sending information over wires to a remote location. (In his case, this was a cascaded-relay circuit—the so-called repeater circuit—that raised signal level by a step function every 10 miles, before the signal sank into the noise.) Morse is entitled to a patent on his new apparatus. But Morse is not entitled to have, as he demanded, a patent on any and all uses of the electromagnetic force to communicate legible messages to remote locations. He did not teach the world in his patent's specification how to make fax machines and therefore can't have a

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## Micro Law

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patent that covers them. Accordingly, the Supreme Court limited Morse's patent coverage to his repeater circuit.

On the other hand, say that Morse had actually disclosed the teletype and fax machine in his specification, as well as a particular telegraph apparatus. Then, he probably would have been entitled to a generic claim broad enough to cover telegraph, fax, and teletype alike. Perhaps he would have been entitled to claim a penumbra around them, as well, if the penumbra did not also cover the prior technology. The question to ask here, therefore, is not whether Freeny's claims are broad in the abstract, but whether they are unduly broad relative to the enabling disclosure in his patent.

These are questions that we cannot fairly answer without a detailed study of the Freeny patent's disclosure and of the state of knowledge in 1983. They are also questions that I cannot cover adequately here. (Among other things, the patent is over 20,000 words long.)

It is possible to observe, however, that Freeny's specification clearly contemplates a point-to-point telecommunications system (such as a telephone line) for delivery of information products like sheet music or greeting cards to gift shops and similar establishments. That is a far cry from software vendors using the Internet to deliver their software directly to owners of home computers. We may well consider the latter to have the relationship to Freeny's disclosure that the fax machine has to Morse's telegraph disclosure. Thus, Freeny neither enabled nor described what E-Data now claims he invented and for which E-Data now demands royalties. Not only is the Net not a point-to-point telecommunications system, but electronic distribution to a personal computer located in a consumer's home is not delivery of information to a "point of sale location," to which every claim of the patent is expressly limited.

**Obviousness.** Whether the claimed invention was obvious to persons of ordinary skill in the software industry is another major issue that E-Data's and

Freeny's detractors have raised. Are the claims broad enough to cover obvious variations on what was already well known in 1983? If so, the claims are invalid under the patent law.

That, too, is a question to be answered fairly based on a detailed study of the technology as it stood in 1983. One might test the waters, however, with a comparison of the first of Freeny's dozens of numbered claims and a technology available prior to 1983 with which most of us are familiar: word processors. Consider, for example, the Wang systems in use around 1980.

Such a Wang system had as its hub a minicomputer with a substantial main memory capacity (a server). Many documents were stored in the memory. The system had many terminals as spokes (clients or dumb terminals) connected to the hub by a local area network (LAN). When a user at a spoke wanted to work on a particular document, the user called it up on screen, retrieving it from the main memory via the minicomputer and LAN. Some of the spokes had printers for reproducing on paper the information in the documents.

Compare this system with Freeny's. First, the Wang system provides information (documents) at a remote source (main memory), and the equivalent of what Freeny calls a catalog code (here, the document name) identifies the information. That feature appears to be the same in both systems.

Second, a user that wants a given document to be printed at a nearby printer (an information-manufacturing machine, in Freeny's terminology) provides what Freeny calls a request-reproduction code (the Wang user makes print-document keystrokes, causing generation of appropriate code) that includes the catalog code. Again, this feature appears to be the same in both systems.

Freeny's next element is an authorization code at the printer or its associated local computer, authorizing a print of the document. Did Wang provide this code? That is unclear, and here the Wang analogy may break down.

Fourth, after the Wang system's minicomputer receives the request-reproduction code and authorization

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code (if any), the local printer prints the document. That is clearly the same in both systems.

It may be, therefore, that the Freeny patent's broadest claims cover, or are obvious variations of, prior technology. However, we must recognize (in justice to Freeny and E-Data) that E-Data may have satisfactory answers overcoming the objections. Only after an intensive and fact-specific analysis, if at all, could one conclude that the invention would have been obvious in 1983. Such analysis is simply infeasible in this column.

Furthermore, a patent owner comes into court armed with a presumption that the patent is valid. E-Data's detractors would have to prove invalidity by "clear and convincing evidence"—a difficult legal standard to meet.

**Statutory subject matter.** Curiously, none of Freeny's and E-Data's detractors appears to have focused on whether the claimed subject matter is outside the patent laws. This is a purely legal issue, on which there is no need to produce clear and convincing evidence of anything. (You do not prove legal issues by evidence. The court simply decides them one way or the other based on precedent and right reason.)

A tangible apparatus for doing business (such as a cash register) is patentable, and so is a method for doing business that uses such a machine. But the *idea* of engaging in a given kind of business, considered apart from any specific machinery, is as unpatentable as Morse's idea of transmitting information to a distant location by application of the electro-

magnetic force. This issue is still at the forefront of our patent law, almost a century and a half after the Supreme Court decided the *Morse* case.

Two recent decisions, one of them now pending on appeal, illustrate the principle. In a 1994 decision, the Federal Circuit considered the patentability of a method of operating a special kind of auction in which competing bids are made for various subsets within a set of goods or services. For example, one bidder might submit a bid for items A+B, another for B+C+D, a third for A+C+D, and so on. The inventor's computerized method maximized the total return to the seller by selecting the combination of subset bids that provided a maximum sum. The system permitted bidders in various remote locations to participate by using TV displays and telecommunications links to enter, tabulate, and display the various bids. This could be accomplished in real time only by use of a computer, since the bid evaluation process (using a brute-force algorithm) involved a great deal of number crunching.

The patentability problem, in the Federal Circuit's view, was the total absence of any specific apparatus in the claims together with the absence of any transformation of one kind of subject matter into another. The latter includes transformations of one product into another (for example, vulcanization of rubber) or of electrical signals representing one set of physical parameters (for example, temperature) into signals representing a different set of physical parameters (for example, completion of a chemical reaction). There was only a transformation of one set of nonphysical data into another set of nonphysical data, in accordance with a particular scheme. (The claimed system was simply data in, data out.) Some kind of "physicality" beyond data in, data out is essential for a method patent to be available.

Freeny's method claim may well be the same kind of claim as the Federal Circuit held unpatentable in that case. It mentions no specific apparatus and does not describe a transformation. For example, Freeny's claim does not mention a tape head or a printer; at most, he mentions using audio tape or

a medium for printed matter. Perhaps his codes correspond to signals, but they are apparently representative of pure information rather than physical parameters, such as temperature or pressure. That adds up to very marginal physicality.

A 1996 decision raising similar issues in the banking software field is now on appeal before the Federal Circuit. The patent covered a so-called apparatus (actually a programmed general-purpose digital computer) for operating a partnership of pooled mutual funds. The claims recited in generic terminology the very elements necessary to carry on the business of operating a partnership pool of mutual funds. Hence, if valid, the patent claims would completely preempt any possible computer-implemented system for managing a partnership pool of mutual funds. This would give the patentee a monopoly over using the business idea. (The trial court said that "patenting an accounting system necessary to carry on a certain type of business is tantamount to a patent on the business itself.") For that reason, the court held the patent invalid.

Similarly, one might regard Freeny's patent as preempting the business of what E-Data calls on-demand electronic distribution. In fact, in promoting its licensing program, E-Data asserts that on-demand electronic distribution over the Net cannot be carried out except by infringing the Freeny patent.

These two decisions would suggest that E-Data may be in for some difficulty in making reluctant Net vendors pay up. But the entire law in this area is very unstable and uncertain. The pending appeal in the banking software case will tell whether the 1994 decision on bidding systems is still good law now, after two years. Until that happens, however, it will remain uncertain whether you can really have a patent that covers selling things over the Net.

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## Micro Review

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native user interface, and it does all of this on Windows, OS/2, and X Windows platforms. I started with Brief emulation, but soon moved to the native interface.

You can usually trace a great product's origin back to a single vision—in this case the vision of Clark Maurer, president of MicroEdge. His goal was to give programmers a single powerful, completely reliable, programmable editor that runs on every platform and supports every programming language.

Maurer's approach was the same as the Brief approach: devise a macro language, use it for most standard extensions of the basic editor, and give users access to it to design their own extensions.

Maurer didn't like any existing language for this purpose, so he invented Slick-C. His first goal was reliability, which led him to a simple language. He wanted inheritance, but he didn't want the complications of languages like C++. And he wanted a language that would look familiar to his target users. In fact, his goals were a lot like—but not identical to—those of the designers of Java.

Starting from this base and evolving over several years, we arrive at Visual SlickEdit 2.0—a programmer's editor so powerful and flexible, so portable, so broad in its scope, and so easy to use that it's hard to see how anybody could want to use anything else.

I won't enumerate Visual SlickEdit 2.0's many features. What seems to be common to all of them is a desire to reach out to working programmers, find the repetitive tasks and the error-prone situations in their daily routines, and provide safe, automated support for those activities.

If you're a programmer on one of the many supported platforms, you need this editor.

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