04-1234

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

EOLAS TECHNOLOGIES INCORPORATED and
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA,

Plaintiffs-Appellees

v.

MICROSOFT CORPORATION,

Defendant-Appellant

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS IN CASE NO. 99-CV-626, JUDGE JAMES B. ZAGEL

BRIEF OF *AMICI CURIAE* BENTLEY SYSTEMS, INC., MACROMEDIA, INC., WACOM TECHNOLOGY CORP., AND PROFESSOR JOSEPH S. MILLER, IN SUPPORT OF PANEL REHEARING AND REHEARING *EN BANC* OF THE PANEL'S DECISION REGARDING 35 U.S.C. § 271(f)

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March 17, 2005

CERTIFICATE OF INTEREST

Counsel for *Amici Curiae* Bentley Systems, Inc., Macromedia, Inc., Wacom Technology Corp., and Professor Joseph S. Miller certifies the following:

1. The full name of every party or *amicus* represented by me is:

Bentley Systems, Inc., Macromedia, Inc., Wacom Technology Corp., and Professor Joseph S. Miller.

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

None.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or *amicus curiae* represented by me are:

Wacom Co., Ltd., a Japanese corporation, and Intergraph Corporation.

4. The names of all law firms and the partners or associates that appeared for the *amici* now represented by me in the trial court or are expected to appear in this Court are:

KLARQUIST SPARKMAN, LLP
John D. Vandenberg

DATED: March 17, 2004

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I. INTEREST OF *AMICI CURIAE*

Exporting this Brief could violate 35 U.S.C. § 271(f) under the Panel's mistaken construction of that Statute. *Amici*, and the general public, have an interest in preventing such a dramatic extension of U.S. Patent Law.

Amici curiae Bentley Systems, Inc., Macromedia, Inc., and Wacom Technology Corp. each employs software engineers in the United States who develop innovative software solutions for use around the world. Each company exports software code developed in the U.S. that is replicated overseas for use in foreign-made computer systems. *Amicus curiae* Joseph S. Miller is a professor of law at Lewis & Clark Law School in Portland, Oregon. He teaches both basic and advanced patent law classes.

Replicating a "golden master" disc that stores computer-usable information (e.g., software code) is like photocopying pages of paper that store that same information. The computer-usable information is transferred from disc to disc or from page to page, but not a single atom of the "master" disc or page is moved to the copy. As not a single atom of Microsoft's U.S.-supplied "golden master" in this case was transferred to the accused foreign computer products, the Panel correctly did not find the "golden master" disc itself to be a "component of a patented invention" under 35 U.S.C. § 271(f). Nevertheless, the Panel ruled that the **information** stored in that disc (viz., the software code that could instead have

been stored on paper) is a "component of [the] patented invention." This, *Amici* respectfully submit, was an unprecedented and mistaken extension of U.S. Patent Law, caused, apparently, by a misunderstanding of the nature of computer software. This Court never before has treated mere information—having no mass or molecules—the same as a physical object for infringement purposes. *Amici's* interest in this appeal is to see this mistaken extension of U.S. patent law, with implications far beyond the field of computer software, reconsidered and overturned.

II. SUMMARY OF THE ARGUMENT

The below code cannot be a "component of a patented invention" under Section 271(f), as properly construed. But, it might under the Panel's decision.

00000001 00001000 00011000 00000011 00000001 00000001 00011111

10010010 00000010 10000111 10011111 00000011 10000001 01111111

00011000 00000001 00000001 00011111 00000111 00000001 00011111

00000001 00011111 00000011 00010001 00000111 00000001 00010001

00000001 00011111 10000111 10011111 10010010 00000010 00000001

00000001 00001000 00011000 00000011 10000111 10011111 00000010

00000001 10010010 00000010 00000010 10000111 00011111 00000011

This software code can be read by a machine and (hypothetically) used to program a foreign computer, just as software code on a golden master disc can be

machine-read and used to program a foreign computer. If this computer program is recited in a U.S. patent claim, then the Panel's analysis would deem the above code a "component of a patented invention." And, exporting this page of this Brief (with the required intent) would violate Section 271(f). So would exporting (with the required intent) a copy of any U.S. patent that contains machine-readable code embodying a computer program recited within a claim of the patent. Thus, by treating **information** as a "component of a patented invention," the Panel's decision has greatly expanded the reach of U.S. Patent Law.

The Panel here ruled as if the Microsoft "software code" were something physical, with molecules that are moved from one disc to another in the replication process. That is not so. While tremendously more complex than the above hypothetical software code, the Microsoft software code at issue on this appeal—as distinct from the paper or disc on which it may be stored—is pure information. It has no mass and no molecules. It is transferred from disc to disc or page to page without a single atom being transferred. "Software code molecules" are no more moved from one disc to another than "molecules of this Brief" are transferred to a copy of this Brief.

More fundamentally, the Panel's mistake is to fail to see that "software code" is simply machine-readable engineering information used to manufacture physical "software products," just like any other machine-readable engineering

information used to manufacture physical products. Manufactured devices—such as a gear or screw—are made of molecules, they have mass. Engineering information—such as the (machine-readable and machine-executable) design of a gear's or screw's precise patterns—has no molecules, no mass. The intangible engineering information is used in the manufacturing process to dictate, in whole or in part, the precise physical patterns of molecules in the manufactured device. That is exactly what happens in software manufacturing. The engineering information is the "software code" and it is used in a "software product" manufacturing process to dictate the precise physical patterns of pits and lands, or magnetic patterns, in the manufactured CD, hard disc or other software product. The Panel's decision, however, conflates the intangible engineering information and the tangible manufactured product by mistakenly treating "software code" and "software product" interchangeably.

Section 271(f)(2) provides, in pertinent part: "Whoever ... supplies ... from the United States ... any **component of a patented invention** ... intending that such component will be combined outside of the United States ... shall be liable as an infringer." (Emphasis added). Does this provision apply where, as here, all physical parts of the foreign product are manufactured outside the U.S. but one or more of its parts is manufactured using engineering information supplied from the United States? The answer is "No." The term "patented invention" in Section

271(f) refers to physical embodiments whose components, if any, are physical. The Panel's ruling to the contrary should be vacated.

III. THE NATURE OF THE MEDIA CARRYING THE SOFTWARE CODE IS IMMATERIAL TO THE PANEL'S DECISION

The Panel's decision did not rely on the nature of the media carrying the software code in question. That the "golden masters" are discs was not a basis for the Panel's ruling. Indeed, there is no basis in Section 271(f) for distinguishing export actions based on the nature of the physical carrier media. Thus, the correct ruling for "golden master" discs should be no different than the correct ruling for "golden master" paper, such as this Brief, containing software code.

IV. ANALOGOUS EXAMPLES ILLUSTRATE THE ERROR IN THE PANEL'S ANALYSIS

The Panel's decision emphasizes that it must treat software-related inventions like all other inventions. Ironically, the decision then proceeds to do the exact opposite. If this case concerned any type of manufactured product other than a software product, the result surely would have been different. In no other realm of engineering would the Panel have ruled that intangible engineering information is a component of a physical device. The following examples illustrate this.

Digital Data Dictating the Shape of Machined Devices

Most industrial mills, routers and other machine tools are computer controlled. An engineer designs a particular shape or pattern for a product (e.g., a

gear, cam, screw, etc.), a computer program converts that shape into a digital "NC" ("numerically controlled") data file embodying the desired shape, and then that NC file is uploaded to a computer-controlled cutting tool that automatically follows the cutting path necessary to create the desired shape of gear, cam, screw, etc. Assuming that the particular shape of gear, cam, screw, etc. is recited in a U.S. Patent claim, is the information in the "NC" file a component of that gear under Section 271(f)? The Panel's analysis dictates "Yes."

Certainly the claim-recited shape of the gear, cam, screw, etc. can be considered a part of the device. Cf. Slip Op. at 23 ("A 'component' of an article of manufacture invention would encompass a part of that construct.") The shape can be considered "an operating element of the ultimate device." Id. It "in effect drives the 'functional nucleus of the finished'" product. Id. "Without this aspect of the patented invention [i.e., the device's shape], the invention would not work at all and thus would not even qualify as new and 'useful.'" Id. The shape of gear, cam, screw, etc. "not only is a component, it is probably the key part of this patented invention," according to the Panel's analysis. Id. Without the claimed shape, the unformed metal no more infringes than a computer would infringe without having been programmed using the accused software code.

Every basis stated by the Panel for its decision would apply equally to machine-executable data (however stored) defining the shape of a gear, cam,

screw, etc. Thus, were the Panel's decision to stand, anyone in the United States exporting machine-executable design data could be subject to patent infringement liability, and surely without Congress having imagined such a prospect.

There **is** one clear distinction between a gear and a software product, but it is superficial. We can see the gear's manufactured shape but cannot see, with the naked eye, the patterns on a software disc. But, each set of patterns is dictated by digital data representing an engineer's design. Nothing in Section 271(f) turns on whether the physical patterns dictated by the engineering information are visible to the naked eye. There is simply no substantive difference between a software product and any other manufactured device—in neither is the engineering design information a component of the device under Section 271(f).

"Master" Devices that are Digitally Replicated

Above, the device's design began in the brain of an engineer. Sometimes, the design is copied from a master device. A computer controlled machine measures the exact shape of the master device and creates a digital file representing that shape. That file is then used, as above, to manufacture many copies of the master device. Thus, the "master" device's precise shape itself constitutes machine-readable and machine-executable engineering information. Is that shape of the master device a component of the later-manufactured replicas? Again, the Panel's analysis would say "Yes," but the correct answer plainly is "No." This is

shown by the following two-part "French key" hypothetical.

Part One: A U.S. patent claims the combination of a lock and key each with a novel, useful pattern recited in the claim. A key is manufactured in France with that claimed pattern, and combined with a claimed lock. Not a single molecule or atom in the key is traceable to the U.S. No one would argue that Section 271(f) applies to this situation.

Part Two: The pattern of the French key was copied from a U.S.-made master key. The key still is made in France but U.S.-supplied engineering information dictates the functional shape of the key. As not a single atom of the French key is supplied from the U.S., Section 271(f) still does not apply.

But, it would apply under the Panel's analysis. Every basis stated by the Panel would apply equally to a master key as to a master disc. Were the Panel's ruling to stand, anyone exporting a "master" device would be subject to patent infringement liability, surely without Congress having imagined such a prospect.

V. THE PANEL'S STATUTORY CONSTRUCTION ANALYSIS CONFLATES "INVENTION" AND "PATENTED INVENTION"

The Panel's ruling conflates the terms "invention" and "patented invention."

"Invention": "The primary meaning of the word 'invention' in the Patent Act unquestionably refers to the inventor's conception rather than to a physical embodiment of that idea." Pfaff v. Wells Electronics, Inc., 525 U.S. 55, 60, 119 S. Ct. 304, 142 L. Ed. 2d 261 (1998).

"Patented Invention": While information (e.g., intangible software code) may be an "invention," information itself is not patentable. Rather, **physical** embodiments of an idea (e.g., a computer readable media storing software code), or **physical** processes, may be patentable. See 35 U.S.C. § 101 ("Inventions patentable: Whoever invents or discovers any new and useful **process, machine, manufacture, or composition of matter**, ..., may obtain a patent therefor ....") (emphasis added); Gottschalk v. Benson, 409 U.S. 63, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972) (an algorithm is not patentable); Rubber-Tip Pencil Co. v. Howard, 87 U.S. 498, 507 (1874) ("An idea of itself is not patentable...."). Making or selling information could no more infringe under 35 U.S.C. § 271(a) than that information could be patented under Section 101.

This is equally true for processes. A process is no less physical than a machine. "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**." Cochrane v. Deener, 94 U.S. 780, 788, 24 L. Ed. 139 (1887) (emphases added). "'Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines.'" Diamond v. Diehr, 450 U.S. 175, 184, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) (citation omitted).

When the Panel states that the "statutory language uses the broad and

inclusive term 'patented invention,'" Slip Op. at 22, it overlooks the limitation on the term "patented invention" that is most important to this case: it is limited to **physical** things and processes. And, when it states "without question, software code alone qualifies as an invention eligible for patenting under these categories, at least as processes," id. at 22, the Panel is mistaken. "Software code" is information, not a physical process, and is not patentable by itself.

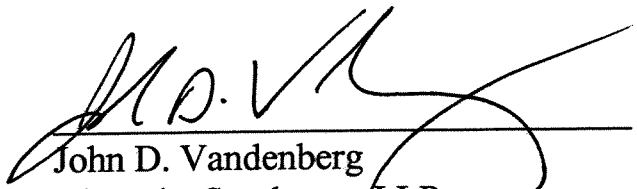
"Component of a Patented Invention": Thus, a "component of a patented invention" in Section 271(f) refers to a constituent part of a physical thing. The parts of a physical thing are made up of molecules and atoms, not intangible information.

VI. CONCLUSION

The Court should maintain the principled and clear distinction between supplying physical components of a physical patented invention, versus supplying engineering design information that can be used to manufacture components of a patented invention, and reverse the district court's expansion of Section 271(f).

DATED: March 17, 2005

Respectfully submitted,



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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on March 17, 2005, two true and correct copies of the foregoing **BRIEF OF *AMICI CURIAE* BENTLEY SYSTEMS, INC., MACROMEDIA, INC., WACOM TECHNOLOGY CORP., AND PROFESSOR JOSEPH S. MILLER, IN SUPPORT OF PANEL REHEARING AND REHEARING *EN BANC* OF THE PANEL'S DECISION REGARDING 35 U.S.C. § 271(f)** were served by Federal Express overnight delivery upon counsel for Appellant and Appellee addressed as follows:

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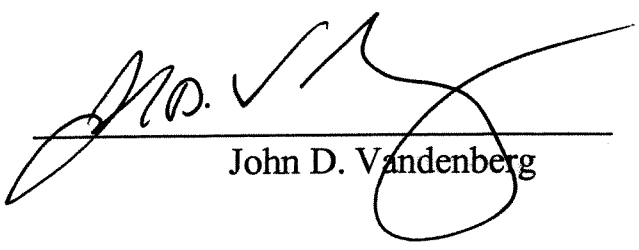

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CERTIFICATE OF COMPLIANCE

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