# THE GOLDEN MASTER AND THE HORROR OF EXTRATERRITORIALITY: *AT&T V. MICROSOFT* AND THE SPECTER OF GLOBAL LIABILITY UNDER 35 U.S.C. § 271(f)

## I. INTRODUCTION

In 1939 the Golden Master made his first hypnotic foray into American industry.[1] Using his uncanny mental powers, the Golden Master bent to his will the minds of American industry's unsuspecting captains.[2] In his pursuit of power he used his mesmeric prowess to terrorize American businessmen, forcing them to do his bidding.[3] If not checked by the vigilance and acumen of his nemesis, The Shadow, would the Golden Master's quest for world domination have ultimately succeeded?[4] Only The Shadow knows.

In 2005 a new golden master appeared, this time to work mischief in the hallowed halls of the Court of Appeals for the Federal Circuit.[5] Though considerably tamer than the Shadow's megalomaniacal arch-nemesis, this golden master[6] confronted the Federal Circuit with a set of unique problems. The result of the Federal Circuit's disposal of the golden master may leave American exporters, and American software exporters in particular, cowering in terror at the potential liability strewn in its wake.[7] In *AT&T Corp. v. Microsoft Corp.* ("*AT&T v. Microsoft*"),[8] the Court of Appeals for the Federal Circuit lifted

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(This Note received the Houston Business & Tax Law writing award for Distinguished Paper in Intellectual Property Law).

1. *See generally* WALTER GIBSON, THE SHADOW AND THE GOLDEN MASTER (The Mysterious Press 1984) (original copyright 1939 by Street & Smith Publications, Inc. as *The Golden Master*).

2. *Id.*

3. *Id.*

4. *Id.*

5. *See* AT&T Corp. v. Microsoft Corp., 414 F.3d 1366 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056); Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

6. A "golden master" is a master version of software, or other media, created for the purpose of replicating duplicate copies. *See AT&T Corp.*, 414 F.3d at 1368.

7. *See, e.g., Patent System Review: Hearing Before the Subcomm. on the Constitution, Civil Rights, and Property Rights of the S. Comm. on the Judiciary*, 109th Cong. (2005) *available at* 2005 WLNR 6469240 [hereinafter *Patent System Review Hearing*] (testimony of David Simon, Chief Patent Counsel, Intel Corp.) (advising the subcommittee that the court's rulings may force software companies to relocate operations outside the United States).

8. 414 F.3d 1366 (Fed. Cir. 2005).

the interpretive veil obscuring the golden master's potency. Answering a question of first impression, a panel of Federal Circuit judges construed U.S. patent infringement law to mean that export of a single golden master disk containing patented software is equivalent to exporting the number of copies generated abroad from that master.[9] A single instance of patented software supplied from the United States ascribes liability to the exporter for every copy of that software produced outside of the United States.[10] The ultimate effect of the decision is that U.S. patent law, in some cases, now assigns liability for manufacturing activities performed completely outside of United States sovereign territory.[11] By reaching this conclusion, the Federal Circuit gave extraterritorial effect to U.S. patent laws and succumbed to the "horror of extraterritoriality."[12]

This Note examines the Federal Circuit's decision in *AT&T v. Microsoft* and asks whether the court's ruling was consistent with the presumption against patent law extraterritoriality, Federal Circuit precedent, and the congressional purpose behind 35 U.S.C § 271(f).[13]

Part II of this Note recounts the history of *AT&T v. Microsoft*, including both the panel's decision and Judge Rader's dissent. Part III examines the presumption against extraterritoriality, the development of § 271(f), and the subsequent case law, and finally considers the court's application of § 271(f) to the case. This Note ultimately finds the court's ruling warranted by neither the statutory language nor evidence of legislative intent, and therefore contrary to the presumption against patent law extraterritoriality.

## II. CASE RECITATION

### A. *AT&T's Speech Coding Patents*

On December 1, 1981, Bishnu S. Atal and Joel R. Remde filed a patent application regarding their invention of an "improved speech analysis and synthesis system" with the

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9. *See AT&T Corp.*, 414 F.3d at 1370 (discussing 35 U.S.C. § 271(f)(1) (2000)).

10. *See id.*

11. *See id.* at 1375 (Rader, J., dissenting).

12. In its infancy, the Federal Circuit coined the phrase "horror of extraterritoriality" when describing the "horror of giving extraterritorial effect to United States patent protection." Paper Converting Mach. Co. v. Magna-Graphics Corp., 745 F.2d 11, 17-18 (Fed. Cir. 1984).

13. Textual references to § 271(f) refer to 35 U.S.C. § 271(f) (2000).

United States Patent and Trademark Office.[14] Their invention, entitled "Digital Speech Coder," encompassed apparatus and methods for compressing and decompressing speech signals, allowing storage and transmission of more natural sounding speech representations using fewer storage and broadcast resources than previously possible.[15] The Patent Office issued Patent No. 4,472,832 (the "832 patent") for the invention on September 18, 1984.[16]

Two years later, on September 18, 1986, the inventors filed for a reissue of the 832 patent that added four claims to the thirty-nine originally issued.[17] The Patent Office granted the reissue patent (the "580 patent") on January 19, 1988.[18] The inventors assigned all their patent rights to American Telephone and Telegraph Company ("AT&T").[19] AT&T's speech coding technology increased in both importance and value as digital voice communication, such as Internet telephony, proliferated.[20]

### B. *Speech Coding in Microsoft Products*

In response to the introduction of a competing product incorporating a standard codec,[21] Microsoft entered into a Strategic Development Agreement with Intel.[22] As a result of that agreement, Microsoft licensed software from Intel incorporating International Telecommunications Union G.723.1 audio coding technology.[23] AT&T alleged that implementation of

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14. U.S. Patent No. 4,472,832 (issued Sept. 18, 1984).

15. *Id.*

16. *Id.*

17. U.S. Reissue Patent No. 32,580 (issued Jan. 19, 1988). Reissues are used to correct patents that are "deemed wholly or partially inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent." 35 U.S.C. § 251 (2000). Regarding this reissue, AT&T asserted that the 832 patent was defective because the prosecuting attorney's "lack of speech coding expertise" resulted in claims drafted more narrowly than they should have been, depriving the inventors of the full scope of protection to which they were entitled. AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 2192, at *8-11 (S.D.N.Y. Feb. 17, 2004).

18. U.S. Reissue Patent No. 32,580 (issued Jan. 19, 1988).

19. *Id.*

20. *See* AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2003 U.S. Dist. LEXIS 10716, at *2-3 (S.D.N.Y. June 23, 2003).

21. "'A speech codec is a software program that is capable of coding—converting a speech signal into a more compact code—and decoding—converting the more compact code back into a signal that sounds like the original speech signal.'" *Id.* at *3 (quoting Am. Compl. P 14).

22. AT&T Corp. v. Microsoft Corp., 290 F. Supp. 2d 409, 415 (S.D.N.Y. 2003).

23. *Id.*; *see also* AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 1214, at *11 (S.D.N.Y. Feb. 2, 2004) (attributing Microsoft's use of the infringing codec to its desire to incorporate the latest standards and Intel's assurance of

an ITU G.723.1 codec necessarily entailed use of its 580 patent.[24]

C. *District Court Actions*

On June 4, 2001, AT&T filed suit against Microsoft alleging infringement of the 580 reissue patent by Microsoft's Windows operating systems, Netmeeting video conferencing software, and several other products.[25] After Microsoft's various defenses and invalidation attempts were rebuffed,[26] Microsoft's motion for summary judgment to exclude foreign-made copies of software from damage awards came before the district court.[27] Recognizing the significance of the issues before it, the district court stated:

> This case presents novel issues regarding application of [§] 271(f) with profound ramifications for Microsoft and other United States software manufacturers. In the end, the issue of liability under [§] 271(f) for foreign replication of infringing software supplied from the United States is a question of law ripe for review by the Federal Circuit.[28]

Microsoft presented three arguments in support of its position.[29] First, it argued that software, being intangible information, was not a component under § 271(f).[30] Second, it

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permission). "The G.723.1 standard refers to a recommendation by the International Telecommunications Union (the "ITU") that audio codecs comply with a certain standard for uniformity purposes in the marketplace. The ITU is an organization that determines uniform standards for, inter alia, video and audio conferencing." *AT&T Corp.*, 290 F. Supp. 2d at 411 n.3.

24. *AT&T Corp.*, 290 F. Supp. 2d at 413-14.

25. *AT&T Corp.*, 2003 U.S. Dist. LEXIS 10716, at *2-4.

26. *See* AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 2192, at *28 (S.D.N.Y. Feb. 17, 2004) (denying Microsoft's motion for summary judgment regarding reissue claims invalidity); AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 1648, at *22 (S.D.N.Y. Feb. 9, 2004) (granting summary judgment to AT&T with respect to Microsoft's inequitable conduct defense); *AT&T Corp.*, 2004 U.S. Dist. LEXIS 1214, at *17 (granting summary judgment to AT&T with respect to Microsoft's equitable estoppel and implied license defenses).

27. AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 3340, at *1 (S.D.N.Y. Mar. 5, 2004).

28. *Id.* at *2.

29. *Id.* at *13, *27-28.

30. *Id.* at *13. The court noted that Microsoft's "intangible information" argument contradicted its argument in Microsoft Corp. v. Commissioner. *Id.* at *16-17 (citing Microsoft Corp. v. Comm'r, 311 F.3d 1178, 1185 (9th Cir. 2002)). In that case, Microsoft argued that copies produced abroad from master media exported from the United States were equivalent, for tax purposes, to individual copies exported from the United States. *Microsoft Corp.*, 311 F.3d at 1181-82, 1187-88. The Ninth Circuit concurred, holding that

argued that software replicated in a foreign country was not supplied from the United States as required by § 271(f),[31] and third, that as matter of policy, the court should not interpret § 271(f) in a way that would both disadvantage American manufacturers relative to their foreign competitors and incentivize American manufacturers to move their operations offshore.[32] The district court found no merit in any of these arguments and consequently denied Microsoft's motion for summary judgment.[33]

### D. *Federal Circuit Review*

Microsoft's Windows operating systems are designed, coded, and tested at its facilities in Redmond, Washington.[34] From the master version of the operating system created in Redmond, Microsoft makes "golden master" disks containing only the computer executable form of the operating system for shipment to foreign computer manufacturers.[35] The "golden master" itself is not incorporated into any computer produced by the foreign computer manufacturer.[36] Instead, the foreign Original Equipment Manufacturer ("OEM") makes a copy of the machine executable code contained on the "golden master" and installs that copy on the computer.[37] As an alternative to the "golden master" disk, Microsoft sometimes supplies the Windows operating system to foreign OEMs by encrypted electronic transmission.[38]

Microsoft argued that the district court erred in holding that exported software is a component under § 271(f), and that software replicated abroad is supplied from the United States as

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exported master copies of software were similar to "film, tapes, and records" with respect to tangibility of the distribution media. *Id.* at 1179.

31. *AT&T Corp.*, 2004 U.S. Dist. LEXIS 3340, at *24.

32. *Id.* at *27-28.

33. *Id.* at *28. Following the district court's ruling in favor of AT&T, Microsoft and AT&T entered into a confidential settlement agreement under which Microsoft agreed to pay damages to AT&T in connection with all U.S. sales allegedly infringing the 580 patent. Marc J. Pensabene & Jonathan Berschadsky, *Software Patent Damages for Foreign Sales: Have the District Courts Gone Too Far?*, COMPUTER & INTERNET LAWYER, July 2004, at 23, *available at* http://www.fitzpatrickcella.com/images/pub_attachment/attachment273.pdf. The agreement also required Microsoft to pay damages for foreign sales if the district court's ruling on § 271(f) was upheld on appeal. *Id.*

34. *AT&T Corp.*, 2004 U.S. Dist. LEXIS 3340, at *2.

35. *Id.* at *2-3.

36. *Id.* at *3.

37. *Id.*

38. *Id.* at *4.

required by § 271(f).[39] Microsoft also reiterated its belief that, if sustained, the district court's holding would motivate domestic software companies to relocate their operations outside the United States.[40]

1. The Panel's Holding

a. Software as Component under § 271(f)

The panel's holding on the issue of whether software qualified as a component contemplated by § 271(f) was short and direct.[41] While the District Court for the Southern District of New York entertained AT&T's action against Microsoft,[42] the Federal Circuit was reviewing *Eolas v. Microsoft*, in which Microsoft also argued that software did not fit within § 271(f)'s definition of a component.[43] In *Eolas*, the court held that "[w]ithout question, software code alone qualifies as an invention eligible for patenting under these categories, at least as processes. . . . This statutory language did not limit [§] 271(f) to patented 'machines' or patented 'physical structures.'"[44] In *AT&T. v. Microsoft*, the court construed this holding "such that software could very well be a 'component' of a patented invention for the purposes of § 271(f)."[45]

b. When is Software "Supplied" from the United States?

The panel next considered Microsoft's argument that foreign-made copies of the Windows operating systems were "manufactured" outside the United States, rather than "supplie[d] or cause[d] to be supplied in or from the United States" as required by § 271(f).[46] The meaning of that phrase in § 271(f) as it relates to software was a question of first impression for the court.[47] Because the statute itself leaves the term "supplied" undefined, the panel considered the term's "ordinary, contemporary, common meaning" in the context of

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39. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1368-69 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056).

40. *Id.* at 1372.

41. *See id.* at 1368-69 (disposing of the components issue in fewer than 100 words).

42. *Id.* at 1369.

43. Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325, 1340 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

44. *Id.* at 1339.

45. *AT&T Corp.*, 414 F.3d at 1369 (citing *Eolas*, 399 F.3d at 1339).

46. *Id.* (citing 35 U.S.C. § 271(f)(2000)).

47. *Id.*

software distribution.[48] The panel concluded that "supplying" software often involves creating a copy, and therefore, copying "is part and parcel of software distribution."[49] Exporting a single copy of software for foreign replication, therefore, ascribes liability for each copy made abroad.[50]

The panel rejected Microsoft's argument that the holding in *Pellegrini v. Analog Devices, Inc.*[51] necessitated reversal of the district court's ruling.[52] In *Pellegrini*, Analog Devices's offending integrated circuits never entered the United States, and thus were not supplied from the United States as required by § 271(f).[53] Analog Devices designed and directed production of the micro-chips from the United States, but manufactured, sold, and used the integrated circuits only in foreign countries.[54] Microsoft's Windows operating system executable, however, was a complete and usable product as shipped from the United States.[55]

The panel also refused to accept Microsoft's proposal to treat electronically transmitted software differently than software shipped on tangible media.[56] Exportation of a component ascribes liability under § 271(f); the medium of export, whether tangible or intangible, is irrelevant.[57]

The panel bolstered its interpretation by noting that although § 271(f)'s legislative history describes it as "housekeeping-oriented,"[58] § 271(f) is a remedial measure intended to close a previously existing loophole in the patent law, and therefore "should be construed broadly to effectuate its purposes."[59] Allowing Microsoft to escape liability for copies produced from an exported master would allow technological advancement to subvert the statute's remedial intent.[60]

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48. *Id.* at 1369.
49. *Id.* at 1370.
50. *Id.*
51. 375 F.3d 1113 (Fed. Cir. 2004).
52. *AT&T Corp.*, 414 F.3d at 1370 (citing *Pellegrini*, 375 F.3d at 1118).
53. *Pellegrini*, 375 F.3d at 1117; *see* 35 U.S.C. § 271(f) (2000).
54. *Pellegrini*, 375 F.3d at 1116, 1118.
55. *AT&T Corp.*, 414 F.3d at 1370.
56. *Id.*
57. *Id.* at 1370-71.
58. *Id.* at 1371 (quoting H.R. 6286, Patent Law Amendments Act of 1984, 130 CONG. REC. 28,069 (Oct. 1, 1984)).
59. *Id.* (quoting Tcherepnin v. Knight, 389 U.S. 332, 336 (1967)).
60. *Id.*

c. Business Considerations

Finally, the panel discounted Microsoft's suggestion that sustaining the district court's ruling would encourage the software industry to move its operations offshore.[61] The panel considered business concerns irrelevant to its exercise in statutory interpretation.[62] It noted that Congress enacted § 271(f) when similar business issues were probable, and any dissatisfaction with its ruling should be resolved by Congress.[63]

2. The Dissent

Judge Rader agreed with the panel majority that "software may be a component of a patented invention under § 271(f) and that electronic transmissions of software from the United States must receive the same treatment as software shipped from the United States on disks."[64] He found a number of reasons, however, to object to the panel's determination "that supplying a single 'component' of a patented invention from the United States gives rise to endless liability in the United States under § 271(f) for products manufactured entirely abroad."[65]

a. Copying Is Not Supplying

Judge Rader argued that, while the majority claimed to reach its conclusion by interpreting the term "supplies" in accordance with its "ordinary, contemporary, common meaning," it had actually adopted an "unordinary and uncommon construction of the term."[66] Contrary to the majority's assertion, "supplying" does not ordinarily include "copying" because copying and supplying are separate and distinctly different acts.[67] By ascribing liability for copying performed abroad, the court's holding expanded liability under § 271(f) beyond the export of components as proscribed by statute.[68]

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61. *Id.* at 1372.

62. *Id.*

63. *Id.*

64. *Id.* (Rader, J., dissenting). Judge Rader wrote the *Eolas* opinion establishing that software could be a component of a patented invention under § 271(f). *See generally* Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

65. *See AT&T Corp.*, 414 F.3d at 1372-75.

66. *Id.* at 1372-73 (punctuation omitted).

67. *Id.*

68. *Id.* at 1373.

b. The Holding Violates the Territoriality of the Patent Laws

Judge Rader noted that by creating liability for manufacturing activities performed completely outside the United States, the holding conflicted with Supreme Court and Federal Circuit precedents confining patent rights to the United States and its territories.[69]

c. Inconsistent Application of the Patent Laws Across Technologies

Next, Judge Rader said, by interpreting "supplies" in light of the nature of software technology, the panel adopted a unique construction of the term, "distinguish[ing] intangible software components from tangible components."[70] Liability within the United States for foreign copying seemingly applies only to intangible software components.[71] Limiting liability for foreign replication only to software components disregards Federal Circuit precedent "that refuses to discriminate based on the field of technology."[72]

d. The Ruling Conflicts with the Holding of *Pellegrini v. Analog Devices*[73]

Judge Rader also noted that the court's ruling did not reconcile with its previous holding in *Pellegrini*.[74] The *Pellegrini* court said "the language of § 271(f) clearly contemplates that there must be an intervening sale or exportation; there can be no liability under § 271(f)(1) unless components are shipped from the United States for assembly."[75] Rather than installing the component actually supplied from the United States, foreign manufacturers in AT&T v. Microsoft installed a copy of that component made outside the United States.[76] Because the original component shipped from the United States never became part of an infringing device, the majority's ruling conflicted with

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69. *Id.*

70. *Id.*

71. *Id.* at 1374.

72. *Id.* "[T]his court accords the same treatment to all forms of invention." Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325, 1339 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

73. 375 F.3d 1113 (Fed. Cir. 2004).

74. *AT&T Corp.*, 414 F.3d at 1374.

75. *Pellegrini*, 375 F.3d at 1117.

76. *AT&T Corp.*, 414 F.3d at 1374-75.

the holding of *Pellegrini*.[77]

e. Section 271(f) Was Not Intended to Ascribe Liability for Extraterritorial Activities

The court's ruling held Microsoft liable for the manufacturing activities of foreign original equipment manufacturers.[78] However, as Judge Rader noted, neither the text of § 271(f) nor its legislative history indicates any intention to create liability for foreign activities.[79] The language of § 271(f) limits liability to components "supplied in or from the United States"[80] to insure that the patent laws are not applied to extraterritorial activities.[81] The phrase "supplied in and [sic] from the United States" would be superfluous if Congress had intended § 271(f) to have extraterritorial effect.[82]

f. Availability of Foreign Patent Protection

Lastly, Judge Rader pointed out that contrary to the court's insinuations, holders of United States patents are not defenseless against infringement by foreign manufacturers.[83] They can protect their patent rights by obtaining foreign patents.[84] Section 271(f) was intended to protect foreign markets from domestic competition, not foreign competition.[85] By expanding § 271(f)'s reach to foreign competitors, the court showed an inappropriate lack of respect for foreign patent laws.[86]

## III. ANALYSIS

### A. *The Extraterritoriality Principle*

U.S. law is presumed to have no extraterritorial potency unless Congress expressly states its intent to that effect.[87] The Supreme Court initially faced the issue of extraterritorial application of U.S. law in 1909 in *American Banana v. United*

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77. *Id.* at 1375.
78. *Id.*
79. *Id.*
80. 35 U.S.C. § 271(f)(1)-(2) (2000); *see also AT&T Corp.*, 414 F.3d at 1375.
81. *AT&T Corp.*, 414 F.3d at 1375.
82. *Id.*
83. *Id.* at 1376.
84. *See id.*
85. *Id.*
86. *Id.*
87. EEOC v. Arabian Am. Oil Co., 499 U.S. 244, 248 (1991).

*Fruit Co.*[88] In that case, Justice Holmes held that "the general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done."[89] When the legislature's intent is in doubt, a statute should be construed "as intended to be confined in its operation and effect to the territorial limits over which the lawmaker has general and legitimate power."[90] Since Justice Holmes's ruling in *American Banana*, the rule against extraterritorial application of U.S. law has evolved into a canon of statutory construction presuming no extraterritorial application of the law without clear expression of congressional intent to the contrary.[91] The Court later affirmed the validity of the presumption against extraterritoriality in *Foley Brothers., Inc. v. Filardo.*[92] Finding no intent of extraterritorial application in either the statute itself or its legislative history, the Court refused to apply U.S. law in foreign jurisdictions.[93] More recently, the Court confirmed the territoriality principle in *Smith v. United States.*[94] Finding that the Federal Tort Claims Act did not reach torts committed in Antarctica, the Court stated:

> [T]he presumption against extraterritorial application of United States statutes requires that any lingering doubt regarding the reach of the FTCA be resolved against its encompassing torts committed in Antarctica.[95] "It is a longstanding principle of American law 'that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.'"[96] In applying

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88. 213 U.S. 347, 356 (1909); *see* Jonathan Turley, *"When in Rome": Multinational Misconduct and the Presumption Against Extraterritoriality*, 84 NW. U. L. REV. 598, 603 (1990).

89. *American Banana*, 213 U.S. at 356.

90. *Id.* at 357.

91. *See* Turley, *supra* note 88, at 607.

92. 336 U.S. 281, 285 (1949).

> The canon of construction which teaches that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States . . . is a valid approach whereby unexpressed congressional intent may be ascertained. It is based on the assumption that Congress is primarily concerned with domestic conditions.

*Id.* (citation omitted).

93. *Id.*

94. 507 U.S. 197, 203-05 (1993).

95. *Id.* at 203-04.

96. *Id.* at 204 (citing EEOC v. Arabian Am. Oil Co., 499 U.S. 244, 248 (quoting *Foley Bros.*, 336 U.S. at 285)).

> this principle, "we assume that Congress legislates against the backdrop of the presumption against extraterritoriality."[97]

### B. *Extraterritoriality and Patent Law*

Having examined the general principle governing extraterritorial application of U.S. law, this Note now reviews the application of the principle to U.S. patent law.

The U.S. Constitution empowers Congress to encourage innovation in science and technology by granting to inventors a limited term monopoly over their inventions.[98] Congress implemented this constitutional mandate in Title 35 of the U.S. Code.[99] The patent statute language generally reflects the territorial nature of the patent grant: "the patentee, his heirs or assigns" have the "right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States . . . ."[100] The statute defines United States as "mean[ing] the United States of America, its territories and possessions."[101]

A patent grants a monopoly to its holder.[102] However, because the law generally disfavors monopolies, courts must take care to strictly construe the patent statute lest the patentee's monopoly be impermissibly extended by judicial fiat.[103]

Courts have traditionally upheld the territoriality of patent laws and restricted their application to activities performed within the United States.[104] In upholding this territoriality, the

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97. *Id.* at 204 (quoting *Arabian Am. Oil Co.*, 499 U.S. at 248).

98. U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries . . . .").

99. 35 U.S.C. §§ 1-376 (2000 & West 2006).

100. *Id.* § 154(a)(1) (2000).

101. *Id.* § 101(c).

102. A patent "is a limited monopoly, designed not primarily to reward the inventor . . . but to encourage a public disclosure of inventions." BLACK'S LAW DICTIONARY 1156 (8th ed. 2004) (quoting EARL W. KINTNER & JACK L. LAHR, AN INTELLECTUAL PROPERTY LAW PRIMER 7-11 (2d ed. 1982)).

103. *See* Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 530-31 (1972); Paper Converting Mach. Co. v. Magna-Graphics Corp., 745 F.2d 11, 16-17 (Fed. Cir. 1984) ("Care should be taken not to extend by judicial construction the rights and privileges which it was the purpose of Congress to bestow.") (quoting Bauer v. O'Donnell, 229 U.S. 1, 10 (1913)). The court in *Paper Converting Machine* also read *Deepsouth* as holding "that the patent laws must be construed strictly because they create a 'monopoly' in the patentee." *Paper Converting Mach.*, 745 F.2d at 17.

104. *See* Dowagiac Mfg. Co. v. Minn. Moline Plow Co., 235 U.S. 641, 650 (1915); Brown v. Duchesne, 60 U.S. 183, 195-96 (1856); Ortho Pharm. Corp. v. Genetics Inst., Inc., 52 F.3d 1026, 1033 (Fed. Cir. 1995).

Supreme Court in *Brown v. Duchesne* stated that the patent laws "do not, and were not intended to, operate beyond the limits of the United States."[105] The patentee's rights, therefore, do not extend beyond the United States, and the use of a patentee's invention outside the United States does not infringe those rights.[106] In *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.*, the Court likewise held that "[t]he right conferred by a patent under our law is confined to the United States and its Territories and infringement of this right cannot be predicated of acts wholly done in a foreign country."[107] The Court of Appeals for the Federal Circuit also recognized this principle in *Ortho Pharmaceutical Corp. v. Genetics Institute, Inc.*[108] In *Ortho*, the court reiterated that "a U.S. patent grants rights to exclude others from making, using and selling the patented invention only in the United States."[109]

1. Indirect Infringement

Some case law implies that liability for foreign actions may attach under the doctrine of indirect infringement.[110] A direct infringer makes, uses, or sells in the United States, or imports into the United States, a patented invention.[111] An indirect infringer aids a direct infringer, but is usually not a direct infringer himself.[112] The Patent Act of 1952 codified the case law doctrine of contributory infringement[113] as two types of indirect infringement:[114] inducement[115] and contributory infringement.[116] Inducement requires that the infringer knowingly and specifically intended to encourage another's direct

105. *Brown*, 60 U.S. at 195.

106. *Id.*

107. *Dowagiac Mfg.*, 235 U.S. at 650.

108. *See* 52 F.3d at 1033.

109. *Id.*

110. *See* 5 DAVID S. CHISUM, CHISUM ON PATENTS § 16.05[1][e], at 213 (1997 & Supp. 2005).

111. Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1310 (Fed. Cir. 2005) (citing 35 U.S.C. § 271(a) (2000)).

112. Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263, 1272 (Fed. Cir. 2004).

113. *E.g.*, Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 485-86 (1964); *see also* Honeywell, Inc. v. Metz Apparatewerke, 509 F.2d 1137, 1141 (7th Cir. 1975).

114. Electronized Chem. Corp. v. Rad-Mat, Inc., 288 F. Supp. 781, 783 (D. Md. 1968); *see also Dynacore*, 363 F.3d at 1272 (identifying indirect infringement as either inducement or contributory infringement).

115. 35 U.S.C. § 271(b) (2000).

116. *Id.* § 271(c).

infringement.[117] A contributory infringer provides a component with no substantial non-infringing use with knowledge that the component is especially made for inclusion in a patented and infringing combination.[118] Both inducement and contributory infringement require that a direct infringement occur within U.S. territory.[119]

The indirect infringement provisions, like the direct infringement provisions, aim to protect the patentee's monopoly within U.S. territory.[120] The doctrine of indirect infringement protects a patentee's monopoly over his invention in situations where it is impractical to act against direct infringers.[121] By ascribing liability to those parties outside the United States who aid and abet[122] direct infringers, the doctrine of indirect infringement endeavors to protect a patentee's U.S. monopoly when direct infringers are not realistically reachable.[123]

Extraterritorial liability for indirect infringement springs not from express statements of congressional intent, but from an inference of congressional intent based on statutory construction.[124] Unlike § 271(a),[125] § 271 (b) and (c) contain no geographic restrictions on their application to regions of U.S. sovereignty.[126] Whether the lack of territorial restrictions in

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117. *See* Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1312 (Fed. Cir. 2005).

118. *See id.*

119. *See id.* at 1310.

120. *See* Akzona, Inc. v. E.I. Du Pont de Nemours & Co., 662 F. Supp. 603, 611 (1987) ("[I]nfringement . . . must occur within the United States. . . . [A] United States patent gives the owner of the patent a monopoly of use within the United States.") (citation omitted); *see also* Engineered Sports Prods. v. Brunswick Corp., 362 F. Supp. 722, 727 (D. Utah 1973) ("The United States patent laws protect only domestic markets.").

121. Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 512 (1964) (citing H.R. REP. NO. 80-5988 (1948); H.R. REP. NO. 81-3866 (1949)).

122. *See* Honeywell, Inc. v. Metz Apparatewerke, 509 F.2d 1137, 1141 (7th Cir. 1975) (describing § 271(b) as an "aiding and abetting statute"); *see also Akzona*, 662 F. Supp. at 613 ("Contributory infringement is the aiding or abetting of another in the direct infringement of a patent.").

123. *See* Stearns v. Tinker & Rasor, 252 F.2d 589, 601 (9th Cir. 1957) (explaining that the purpose of the indirect infringement doctrine is to protect the patentee from those who are not direct infringers).

124. *See* Hauni Werke Koerber & Co. v. Molins Ltd., No. 73-404-R, 1974 U.S. Dist. LEXIS 8152, at *10-11 (E.D. Va. June 11, 1974) (inferring that § 271(b) is not limited to territorial applications).

125. Section 271(a) classifies as infringement certain activities occurring "within the United States." 35 U.S.C. § 271(a) (2000).

126. I.C.E. Corp. v. Armco Steel Corp., 201 F. Supp. 411, 413 (S.D.N.Y. 1961) (illustrating that § 271(c) applies to any seller without a geographical limitation); *see also Hauni*, 1974 U.S. Dist. LEXIS 8152, at *11 (noting that § 271(b) does not contain the geographically limiting language of § 271(a)). Allowing extraterritorial application of indirect infringement is also analogized to the criminal law principle whereby "[a]cts done

§ 271(b) and (c) is sufficient evidence of congressional intent to overcome the strong territorial presumption is questionable, but because liability is predicated on infringement within the United States the doctrine remains consistent with notions of territorial liability.[127] We proceed now to boil bigger shrimp.

### C. *The Origin and Application of § 271(f)*

#### 1. *Deepsouth Packing Co. v. Laitram Corp.*[128]

Two enterprising brothers from Louisiana, Fernand S. and James M. Lapeyre, desiring to share the delights of shrimp far afield of their New Orleans home, invented and received patent grants related to shrimp deveining machinery.[129] Success breeds imitation, and as the Lapeyre brothers may have expected,[130] a rival company, Deepsouth Packing Co., produced a similar deveining device.[131] Laitram Corp.,[132] the Lapeyres' assignee, brought an action against Deepsouth for infringement of the deveining patents.[133] Laitram prevailed and the court enjoined Deepsouth from producing the infringing deveiners.[134] Deepsouth, unwilling completely to concede its place in the shrimp deveiner market, sought a modification to the injunction affirming its right to manufacture and sell an unassembled

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outside a jurisdiction, but intended to produce and producing detrimental effects within it, justify a state in punishing the cause of the harm as if he had been present at the effect, if the state should succeed in getting him within its power." *Hauni*, 1974 U.S. Dist. LEXIS 8152, at *9 (quoting Strassheim v. Daily, 221 U.S. 280, 285 (1911)).

127. *See, e.g.*, Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 341 (1961) (noting that the existence of an infringement as a threshold requirement for contributory infringement requires reading the primary infringement geographical limitation into § 271(c) for consistency); Alloc, Inc. v. U.S. Int'l Trade Comm'n, 342 F.3d 1361, 1374 (Fed. Cir. 2003) (holding direct infringement to be a prerequisite for indirect infringement liability).

128. 406 U.S. 518 (1972).

129. *See* U.S. Patent No. 2,694,218 (issued Nov. 16, 1954); U.S. Patent No. 2,825,927 (issued Mar. 11, 1958); *see also* Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 521 n.3 (1972).

130. The Lapeyre brothers and their assignee, The Peelers Company, had previously crossed swords with Deepsouth regarding to the Lapeyre's shrimp peeling patent. *See* Laitram Corp. v. Deepsouth Packing Co., 279 F. Supp. 883, 885-86 (E.D. La. 1968) (explaining The Peelers Company's action against Deepsouth).

131. *See* Laitram Corp. v. Deepsouth Packing Co., 301 F. Supp. 1037, 1043 (E.D. La. 1969), *aff'd*, 443 F.2d 928 (5th Cir. 1971).

132. Note with passing interest that Laitram is the reverse spelling of Martial, James M. Lapeyre's middle name. U.S. Patent No. 2,978,334 (filed Oct. 7, 1957) (showing that patent was issued to James Martial Lapeyre). For a history of the Laitram Corp., see http://www.laitrammachinery.com/history.aspx.

133. *See Deepsouth*, 301 F. Supp. at 1046.

134. *Id.* at 1066.

version of its deveiner to a Brazilian customer.[135] Based on the existing case law, the district court ruled Deepsouth was not prohibited from making the sale.[136] The Fifth Circuit reversed, holding that "when all the parts of a patented machine are produced in the United States and, in merely minor respects, the machine is to be finally assembled for its intended use in a foreign country . . . the machine is 'made' within the United States."[137] The Supreme Court rejected the Fifth Circuit's definition of "make" because it directly contradicted the established holding "that a combination patent protects only against the operable assembly of the whole and not the manufacture of its parts."[138] The Court believed that only a congressional mandate could effect such a drastic change in the patent law.[139]

Deepsouth was allowed to manufacture and ship its deveiner unassembled in three separate boxes, with final assembly requiring less than an hour.[140] The Court's insistence on a clear statement of congressional intent[141] remained unanswered for the next twelve years.

### 2. Patent Law Amendments Act of 1984[142]

Congress finally issued a legislative response to the *Deepsouth* decision in November 1984.[143] The Patent Law Amendments Act of 1984 (the "Act") amended Title 35 of the U.S. Code to "increase the effectiveness of the patent laws."[144] Notably, the Act added subsection (f) to § 271 of the patent code.[145] Subsection (f) added the following two provisions to the patent laws:[146]

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135. Laitram Corp. v. Deepsouth Packing Co., 310 F. Supp. 926 (E.D. La. 1970), *rev'd*, 443 F.2d 936 (5th Cir. 1971), *rev'd*, 406 U.S. 518 (1972).

136. *Id.* at 929.

137. Laitram Corp. v. Deepsouth Packing Co., 443 F.2d 936, 939 (5th Cir. 1971), *rev'd*, 406 U.S. 518 (1972). The Fifth Circuit panel held that "making" as used in § 271(a) means "the substantial manufacture of the constituent parts of the machine," rather than "the machine in its totality." *Id.* at 938-39.

138. Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 528 (1972).

139. *Id.*

140. *Id.* at 524.

141. *Id.* at 531.

142. Pub. L. No. 98-622, 98 Stat. 3383 (codified as amended in scattered sections of 35 U.S.C.).

143. *Id.* § 101, 98 Stat. at 3383 (codified as amended at 35 U.S.C. § 271(f) (2000)).

144. *Id.* at preamble, 98 Stat. at 3383.

145. *Id.* § 101, 98 Stat. at 3383.

146. *Id.*

> (1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.[147]
>
> (2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.[148]

The Act's sparse legislative history sheds dim light on Congress's purpose in enacting the amendment. The section-by-section analysis of the amendment reveals that § 271(f) was added to "the patent law to avoid encouraging manufacturing outside the United States."[149] Subsection (f) was intended to close the patent law loophole uncovered by the Supreme Court's *Deepsouth* decision.[150] "Subsection 271(f) makes it an infringement to *supply* components of a patented invention, or to *cause components to be supplied*, that are to be combined outside the United States."[151]

Application of § 271(f) has increased tremendously since the 1980s. The federal district courts heard only a handful of cases involving § 271(f) in the decade after its adoption.[152] There was

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147. 35 U.S.C. § 271(f)(1) (2000).

148. *Id.* § 271(f)(2).

149. 130 CONG. REC. H10,525 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5827.

150. *Id.*

151. *Id.* (emphasis added).

152. A March 14, 2007 search of Westlaw's database "ALLFEDS" for the term "§ 271(f)" listed only eight federal district court cases involving 35 U.S.C. § 271(f) between the adoption of the Patent Amendment Act of 1984 and the close of 1994 [hereinafter

such limited authority interpreting § 271(f) that as late as 1994 the district courts were still trying to determine its most elemental meaning.[153] The number of cases brought before district courts nearly tripled in the second decade after the Act's passage.[154] Since the year 2000, district courts have entertained at least seventeen cases construing § 271(f).[155]

Federal Circuit decisions regarding § 271(f) have increased at an even more accelerated rate. In fact, Federal Circuit decisions are almost exclusively confined to the twenty-first century.[156] Only two appeals regarding § 271(f) were heard by the Federal Circuit court prior to 2000.[157] Since then the court has taken eight appeals presenting substantive § 271(f) issues.[158] Four of those were decided in 2005 alone.[159]

### 3. Continuing Expansion of Liability under § 271(f)

As the courts hear more cases implicating § 271(f), liability for infringement under that section continues to expand. Congress expanded patent liability in general by passing the Patent Law Amendments Act of 1984,[160] which introduced § 271(f) in response to the Supreme Court's *Deepsouth* decision.[161] Deepsouth had exported complete but partially disassembled shrimp deveiners.[162] In enacting § 271(f), Congress chose to expand liability beyond the set of facts presented in *Deepsouth* by making export of "all or a *substantial portion* of the

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Westlaw search].

153. *See* Motorola, Inc. v. InterDigital Tech. Corp., No. Civ.A. 93-488-LON, 1994 WL 16189952, at *2-3 (D. Del. Dec. 20, 1994) (attempting to determine whether Congress intended § 271(f) as a cause of action independent of § 271(a), or to modify the § 271(a) term "make" to include "substantial manufacture").

154. Westlaw search, *supra* note 152 (listing twenty-two federal district court opinions substantively discussing 35 U.S.C. § 271(f)).

155. *Id.*

156. *Id.* (showing a total of fourteen cases decided since 2001 and only four cases decided through the year 2000).

157. *Id.* (including Std. Havens Prods., Inc. v. Gencor Indus., Inc., 953 F.2d 1360 (Fed. Cir. 1991); Amstar Corp. v. Envirotech Corp., 823 F.2d 1538 (Fed. Cir. 1987)).

158. *Id.*

159. *Id.* (including Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co., 425 F.3d 1366 (Fed. Cir. 2005); AT&T Corp., v. Microsoft Corp., 414 F.3d 1366 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056); NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005); Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005)).

160. Pub. L. No. 98-622, 98 Stat. 3383 (codified as amended in scattered sections of 35 U.S.C.).

161. 130 CONG. REC. H10,525 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5872.

162. Laitram Corp. v. Deepsouth Packing Co., 310 F. Supp. 926, 926 (E.D. La. 1970), *rev'd*, 443 F.2d 936 (5th Cir. 1971), *rev'd*, 406 U.S. 518 (1972).

components of a patented invention" an infringement.[163]

This phrase raises what is probably the most enduring question faced by the courts in their two decades of § 271(f) interpretations: what constitutes a component? Mechanical parts, as considered in *Deepsouth*, have been unquestionably classified as components since the statute's first applications.[164] Courts have concluded that chemicals constitute components of patented chemical compositions as well.[165] Blueprints, paper, and glue are also components of a patented form.[166] Finally, § 271(f) components encompass intangible information, in the form of executable computer programs.[167] One court reasoned that "[§] 271(f) refers to 'components of a patented invention,'"[168] although the statute itself places no limitations on the term "patented invention."[169] Section 271(f) also does not require 'tangibility' in a component.[170] Therefore, because software is patentable as executable code encoded onto a storage medium, the executable code is a component of the patented software.[171]

Courts have recognized some limitations to § 271(f) liability. In a 1987 decision, a district court suggested that § 271(f) was not applicable to components manufactured outside the United

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163. Patent Law Amendments Act of 1984, Pub. L. No. 98-622, § 101, 98 Stat. 3383, 3383 (codified as amended at 35 U.S.C. § 271 (2000)) (emphasis added).

164. *See, e.g.*, T.D. Williamson, Inc. v. Laymon, 723 F. Supp. 587, 592 (N.D. Okla. 1989) (finding caliper pig parts are components), *aff'd*, 923 F.2d 871 (Fed. Cir. 1990); Loral Corp. v. B.F. Goodrich Co., No. C-3-86-216, 1989 U.S. Dist. LEXIS 16865, at *80 (S.D. Ohio Jan. 27, 1989) (holding B.F. Goodrich liable for supplying aircraft brake parts to foreign customers).

165. *See* Trs. of Columbia Univ. v. Roche Diagnostics GmbH, 150 F. Supp. 2d 191, 204 n.35 (D. Mass. 2001); Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc., 95 Civ. 8883 (RPP), 2001 U.S. Dist. LEXIS 16895, at *7-9 (S.D.N.Y. Oct. 18, 2001), *aff'd on other grounds*, 326 F.3d 1226 (Fed. Cir. 2003); W.R. Grace & Co.-Conn. v. Intercat, Inc., 60 F. Supp. 2d 316, 320-21 (D. Del. 1999); *see also* Lubrizol Corp. v. Exxon Corp., 696 F. Supp. 302, 325 (N.D. Ohio 1988) (enjoining Exxon from supplying infringing lubricating compositions or lubricant additives outside the United States).

166. Moore U.S.A. Inc. v. Standard Register Co., 144 F. Supp. 2d 188, 196 (W.D.N.Y. 2001).

167. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1369 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056); Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325, 1339 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005); Imagexpo, L.L.C. v. Microsoft Corp., 299 F. Supp. 2d 550, 553 (E.D. Va. 2003); *see also* Sw. Software, Inc. v. Harlequin Inc., 226 F.3d 1280, 1288-89 (Fed. Cir. 2000) (describing a Western District of Texas judgment on jury finding that the defendant supplied a component of a patented software invention).

168. *Eolas Techs.*, 399 F.3d at 1338.

169. *See* 35 U.S.C. § 271(f) (2000).

170. *Eolas Techs.*, 399 F.3d at 1340 (citing Alan M. Fisch & Brent H. Allen, *The Application of Domestic Patent Law to Exported Software: 35 U.S.C. § 271(f)*, 25 U. PA. J. INT'L ECON. L. 557, 575 (2004)).

171. *Id.* at 1339.

States and merely stored in the United States before export.[172] The opinion "suggested that § 271(f)(1) requires that the components be manufactured or assembled in the United States."[173] Several years later, the same court refused to apply § 271(f)(1) to a design patent because design patents have no "component parts."[174] Other courts' holdings indicate that patented methods[175] similarly may not warrant protection under § 271(f) due to lack of components.[176] Under § 271(f)(1), liability may not accrue for supplying a single component of a patented combination for assembly abroad because the statute requires "all or a substantial portion of the components."[177] Finally, export of unpatented materials used to practice a patented process may not implicate § 271(f).[178]

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172. Windsurfing Int'l, Inc. v. Fred Ostermann GmbH, 668 F. Supp. 812, 820-21 (S.D.N.Y. 1987), *aff'd in part, rev'd in part on other grounds*, 1 F.3d 1214 (Fed. Cir. 1993). *Windsurfing* also proffers the opinion that "§ 271(f) was intended to overrule *Deepsouth* by expanding the definition of 'makes' in § 271(a) to prohibit the partial manufacture or assembly of patented objects or their component parts in the United States for export to foreign countries." *Id.* at 820. The courts subsequently rejected this interpretation of § 271(f). *See* Motorola, Inc. v. InterDigital Tech. Corp., No. Civ. A. 93-488-LON, 1994 WL 16189952, at *3 (D. Del. Dec. 20, 1994).

173. Aerogroup Int'l, Inc. v. Marlboro Footworks, Ltd., 955 F. Supp. 220, 232 (S.D.N.Y. 1997) (interpreting *Windsurfing*, 668 F. Supp. at 820-21).

174. *Id.*

175. A method patent is also known as a process patent. "The term 'process' means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter or material." 35 U.S.C. § 100(b) (2000). "A process patent claims . . . an operation or series of steps leading to a useful result." 1 DAVID S. CHISUM, CHISUM ON PATENTS § 1.03, at 1-109 n.2 (2006).

176. Enpat, Inc. v. Microsoft Corp., 6 F. Supp. 2d 537, 539 (E.D. Va. 1998); *see also* NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1322 (Fed. Cir. 2005) (explaining that "it is difficult to conceive of how one might supply or cause to be supplied all or a substantial portion of the steps of a patented method in the sense contemplated by the phrase 'components of a patented invention' in [§] 271(f)"), *cert. denied*, 126 S. Ct. 1174 (2006).

177. *See* Fieldturf, Inc. v. Sw. Recreational Indus. Inc., 235 F. Supp. 2d 708, 733 (E.D. Ky. 2002) ("[T]his Court cannot find that the plain meaning of § 271(f)(1) yields liability for infringement where only one component of four comprising the patent is supplied from within the United States."), *vacated in part, remanded in part*, 357 F.3d 1266 (Fed. Cir. 2004); Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc., 95 Civ. 8883 (RPP), 2001 U.S. Dist. LEXIS 16895, at *11-14 (S.D.N.Y. Oct. 18, 2001) (denying summary judgment because the defendant supplied a single component, rather than a "substantial portion of the components" of the patented combination), *aff'd on other grounds*, 326 F.3d 1226 (Fed. Cir. 2003).

178. *See Research In Motion*, 418 F.3d at 1322 (citing Standard Havens Prods., Inc. v. Gencor Indus., Inc., 953 F.2d 1360, 1374 (Fed. Cir. 1991) as "holding that the sale in the United States of an apparatus for carrying out a claimed process did not infringe the process claim under § 271(f) where the customer practiced the process abroad"); Synaptic Pharm. Corp. v. MDS Panlabs, Inc., 265 F. Supp. 2d 452, 463-64 (D. N.J. 2002) (supplying "cells, membrane preparations, validation studies, protocols and laboratory equipment" used to perform patented test processes do not ascribe liability under § 271(f)); *Standard Havens Prods.*, 953 F.2d at 1374 (ascribing no liability for export of an asphalt machine

Many of the limitations listed above bounding the scope of § 271(f) liability were called into question by statements in the Federal Circuit's *Eolas* decision.[179] En route to its holding that executable computer code constitutes a component of a patented software invention, the court declared that the statutory language of 35 U.S.C. §§ 100(a) and 101

> did not limit [§] 271(f) to patented "machines" or patented "physical structures." Rather every form of invention eligible for patenting falls within the protection of [§] 271(f). By the same token, the statute did not limit [§] 271(f) to "machine" components or "structural or physical" components. Rather every component of every form of invention deserves the protection of [§] 271(f).[180]

These statements may signal the court's intention to expand § 271(f) application into areas that had previously been excluded. The court went on to say that "this court accords the same treatment to all forms of invention. This court cannot construct a principled reason for treating process inventions different than structural products."[181] The previous remarks leave the impression that, left unrestrained, the Federal Circuit may continue to expand the scope of liability under § 271(f).

### D. *The Application of § 271(f) to AT&T v. Microsoft*

#### 1. The Enigmatic Intangible Component

The three-judge panel in *AT&T v. Microsoft* unanimously found that an intangible, in this case software, qualified as a "component" under § 271(f).[182] That same year, the court had already reached this conclusion in *Eolas v. Microsoft*.[183] In *AT&T v. Microsoft*, the panel extended the *Eolas* holding to include electronic transmissions of software[184] because Microsoft

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used to practice a patented method of making asphalt).

179. Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325 (Fed. Cir.), *cert. denied*, 126 S. Ct. 568 (2005).

180. *Id.* at 1339.

181. *Id.* (citation omitted).

182. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1369, 1372 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056). The Federal Circuit further obscures the issue of the intangible component by stating in a later case that the component at issue in *Eolas* was a computer disk with code. Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 425 F.3d 1366, 1379 (Fed. Cir. 2005). This begs the question: Was the court saying that the disk itself was part of the exported component?

183. 399 F.3d at 1341.

184. *AT&T Corp.*, 414 F.3d at 1370-71.

sometimes used encrypted software transmissions to deliver masters to foreign OEMs.[185]

The pre-transmission encryption of an intangible information component of a patented invention raises an interesting question about intangible information components that the court will eventually have to answer. What forms of information qualify as a § 271(f) component? The *Eolas* court ruled that "the 'computer readable program code' [of the patent at issue] is a part or component of that patented invention."[186] If transmitted and received in encrypted form, information supplied from the United States is not directly usable as a component of a patented invention. While it undoubtedly contains the information required to reconstruct a given component, arguably it is not the component itself. This illustrates the difficulty in determining what forms of intangible information constitute a component under § 271(f). An encrypted file containing all the information contained in the executable only becomes useful when the proper tool is applied to decrypt the file.[187] The intangible information comprising a software component can take many forms, such as executables, unlinked or partially linked object code, textual source code, and graphical source.[188] The same information is embodied in physical form in a compact disc "stamper."[189] Had Microsoft supplied a "stamper" used to

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185. Encryption is the "[p]rocess of disguising information as 'ciphertext,' or data that will be unintelligible to an unauthorized person." *Encyclopædia Britannica, available at* http://www.britannica.com/ebc/article-9362292 (Mar. 3, 2007). Decryption is "the process of converting ciphertext back into its original format, sometimes called plaintext." *Id.* [hereinafter Definition of decryption].

186. *Eolas*, 399 F.3d at 1339.

187. *See* Definition of decryption, *supra* note 185.

188. Steven C. Tietsworth, Comment, *Exporting Software Components—Finding a Role for Software in 35 U.S.C. § 271(f) Extraterritorial Patent Infringement*, 42 SAN DIEGO L. REV. 405, 442-43 (2005). Linking is the process of combining one or more object modules, either code or data, into a single executable file. *See* Matt Pietrek, *Under the Hood: Linkers in Microsoft's Visual Basic 5.0 Application Development Software*, 12 MICROSOFT SYS. J. 77 (1997). "An object module is the output from a program that takes human-readable text and translates it into machine code and data that a CPU [i.e. a compiler or assembler] can understand." *Id.* "The primary components of an object module are machine code and data." *Id.* Unlinked object code is not computer executable, and therefore is arguably not a component of a patented invention involving a computer. *See* Chris Edwards, *Standards Movement Seeks Automatic Code Generation from Tools—Ad Hoc Effort Seeks to Make UML Executable*, ELECTRONIC ENGINEERING TIMES, Nov. 27, 2000. The Unified Modeling Language (UML) is an example of a graphical programming language. *See id.* Originally developed as a modeling and simulation tool, numerous tool vendors now include code generation in their UML products. *See id.*

189. A stamper is a die used to manufacture compact discs. *See* Ian G. Masters, *The Lowdown on How CDs Are Made*, TORONTO STAR, July 13, 1995, at H5; *see also* MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 347 (11th ed. 2003) (defining "die"); Edward A. LeMaster, *Compact Disc Manufacturing Procedures and Processes*, Mar. 5, 1994,

produce numerous master disks abroad, would Microsoft have supplied a § 271(f) component? Each of the above mentioned forms contain the same information and will generate the same executable "component" given the proper tools.

Commentators run the gamut of opinion regarding classifying information as a component under § 271(f). In its *Eolas* certiorari petition, Microsoft concluded that as a result of categorizing information as a "component," transmission of a patent itself to a foreign destination may infringe § 271(f).[190] One commentator opined that because all objects contain the requisite information to enable duplication by a properly configured tool, the logical, but absurd, result is that export of any patented invention replicated abroad infringes under § 271(f).[191] On the other hand, another commentator suggested that as computer aided design processes proliferate, the need for manufacturing expertise is minimized, and export of any level of computerized design information should implicate § 271(f).[192]

The court should endeavor to maintain a narrow definition of a § 271(f) "component." Only operable parts or constituent elements of a system should qualify as components.[193] Design information, from which a component can be produced, should be excluded from the definition of "component." This construction is consistent with the Federal Circuit's holding in *Pellegrini v. Analog Devices, Inc.*[194] By holding in *Pellegrini* that Analog Devices' foreign manufactured integrated circuits were not supplied from the United States when the integrated circuit designs were provided from the United States, the court established that design information does not constitute a

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http://gcwebtw.com/Knowhow/CD-R-RW/CD-R-RW information.htm (last visited Mar. 7, 2007) (explaining more thoroughly the CD manufacturing process). The stamper itself could not be a component of the patented invention, but contains all the information of the software component. *See id.* With the proper tools, the stamper can be used to create many compact discs containing computer readable executable code. *See id.*

190. *See* Petition for Writ of Certiorari at 14, Microsoft Corp. v. Eolas Techs. Inc., 126 S. Ct. 568 (2005) (No. 05-288), 2005 WL 2132316. Microsoft argued that the executable code supplied to foreign OEMs was design information, and the Federal Circuit's ruling extends to all design information including patents themselves. *Id.*

191. *See* Andrew F. Knight, *Software, Components, and Bad Logic: Recent Interpretations of Section 271(f)*, 87 J. PAT. & TRADEMARK OFF. SOC'Y 493, 512 (2005).

192. *See* William R. Thornewell II, Note, *Patent Infringement Prevention and the Advancement of Technology: Application of 35 U.S.C. § 271(f) to Software and "Virtual Components,"* 73 FORDHAM L. REV. 2815, 2855-56 (2005).

193. One dictionary defines "component" as "a constituent part." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 255 (11th ed. 2003).

194. *See* 375 F.3d 1113, 1118 (Fed. Cir. 2004) (holding that although the devices were designed in the United States, there was "no evidence that any Defendant 'supplied or caused to supply' any component of a patented invention in or from the United States.").

"component" under § 271(f).[195] This rule should apply to all types and forms of information transfer from the United States. Only information directly operable as an element of patented device should be considered a component under § 271(f). This basic rule might be slightly extended by including information components meeting the rule's requirements when the component is "made"[196] in the United States and modified prior to shipment from the United States such that it is no longer an operable component because it is easily restored to component form after shipment. This modification to the basic rule encompasses transmission of modified data, such as the encrypted executable discussed above.[197]

### 2. The Mysterious Meaning of "Supply in or from the United States"

After disposing of Microsoft's objection to software as a component of a patented invention, the court turned its attention to Microsoft's second objection, a question of first impression[198] "with profound ramifications for Microsoft and other United States software manufacturers":[199] "whether software replicated abroad from a master version exported from the United States—with the intent that it be replicated—may be deemed 'supplied' from the United States for the purposes of § 271(f)."[200] Microsoft argued simply that because the executable software instances installed abroad came into being outside the United States, they were not "supplied in or from the United States."[201]

Because Congress neglected to define the term "supplied" in the statute, the court was obliged to explore the term in all its obscurities.[202] The court began its analysis by considering the "ordinary, contemporary, common meaning" of the word "supplied."[203] It then added to the established interpretive rule

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195. *Id.*

196. In the software context, a component would be "made" when source code is compiled to form object modules, and the object modules are linked to form an executable. The executable combined with the appropriate computer hardware forms a patentable invention.

197. *See* discussion *supra* Part III.D.1.

198. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1369 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056).

199. AT&T Corp. v. Microsoft Corp., No. 01 Civ. 4872 (WHP), 2004 U.S. Dist. LEXIS 3340, at *2 (S.D.N.Y. Mar. 5, 2004), *aff'd*, 414 F.3d 1366 (Fed. Cir. 2005).

200. *AT&T Corp.*, 414 F.3d at 1369.

201. *Id.*

202. *See id.*

203. *Id.* (quoting Williams v. Taylor, 529 U.S. 420, 431 (2000)). "A fundamental canon of statutory construction is that, unless otherwise defined, words will be

that the word's meaning depends on its context.[204] By this, the court meant not the term's statutory context, but the factual context in which the law is applied, in this case "the context of software distribution."[205] The court then summarily concluded that where software is concerned, copying is part of the process of supplying.[206] The court provided an example to illustrate its conclusion: the fact that a single instance of software on a server can produce "any number of exact copies."[207] While this is undeniably true, the court's example does not explain how the source of the software is any geographic location other than the location of the server. It seems clear that any number of software copies downloaded from a server located in the United States were supplied from the United States. It is not clear, however, why software copies downloaded from a server in Japan were found to be supplied from the United States.[208] Section 271(f) requires supply "in or from the United States."[209] The court's example illustrated nothing more than that a server, a tool, can and is used to produce a copy of a component. It seems counter-intuitive to conclude that the copy of the component is produced anywhere other than the location of the tool that produced the copy.

The court concluded that all copies are supplied from the United States when the nature of the technology under examination allows the supply of a single instance of a component "that may be replicated" abroad, at less expense than if separate copies of the component were supplied.[210] This seems to indicate that if computer technology were less advanced, making it more costly and inefficient to replicate software abroad, copies of software made in Japan or Germany would have been supplied from Japan or Germany rather than the United States. Perhaps if Microsoft had exported a freighter load of punch cards[211] for replication rather than a compact disc, the

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interpreted as taking their ordinary, contemporary, common meaning." Perrin v. United States, 444 U.S. 37, 42 (1979). Note that in *Perrin*, the Supreme Court "look[ed] to the ordinary meaning of the term . . . at the time Congress enacted the statute." *Id.* Although the *AT&T* court referenced the legislative history of § 271(f), it made no mention of the meaning of "supplied in or from the United States" at the time Congress passed § 271(f) in 1984. *See AT&T Corp.*, 414 F.3d at 1371.

204. *AT&T Corp.*, 414 F.3d at 1369.

205. *Id.* at 1370 n.2.

206. *Id.* at 1370.

207. *Id.*

208. *See id.* at 1373 (Rader, J., dissenting).

209. 35 U.S.C. § 271(f)(1)-(2) (2000).

210. *AT&T Corp.*, 414 F.3d at 1370.

211. Punch cards are "rectangular pieces of stiff paper with a matrix of data

court would have absolved Microsoft of liability.

The court's language itself indicated that the components were not wholly supplied from the United States.[212] In forming its novel definition of "supply," the court stated that "copying . . . is part and parcel of software distribution" and that "the act of copying is subsumed in the act of 'supplying.'"[213] These two phrases make essentially the same point: making a copy of a previously existing instance is a part or portion of the activity of supplying. This definition bifurcates the act of supplying into a U.S. portion and a foreign portion. The act of supplying, beginning in the United States with the shipment of a golden master disk, is completed only when new instances of the component are created abroad. This multi-stage definition of "supplying" requires foreign activity for completion of "supply," and thus contradicts the court's *Waymark* holding discounting foreign activity as a § 271(f) consideration.[214] It seems much more natural to attach liability to "supplying" as an act that must occur in its totality "in or from the United States," [215] rather than a process whose steps can be spread across multiple nations.[216] When interpreting a statute, the court should "avoid . . . unreasonable results whenever possible."[217]

As Judge Rader pointed out in his dissent in *AT&T v. Microsoft*, the majority's decision rested largely on the relative ease with which software is replicated using modern tools.[218] The effort required to replicate a given component depends in large part on the tools available, and manufacturing often

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positions defined by columns and rows" used to store computer data and programs. George Dyson, *The Undead,* WIRED, Mar. 1999, at 143, 145. Punch card technology remained in use at least through the end of the twentieth century. *Id.*

212. *See AT&T Corp.*, 414 F.3d at 1370.

213. *Id.* "Part and parcel" is an idiom meaning "an essential feature or element." OXFORD DICTIONARY OF IDIOMS 259 (1999). To "subsume" is "to include." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 1246 (11th ed. 2003).

214. *See* Waymark Corp. v. Porta Sys. Corp., 245 F.3d 1364, 1368 (Fed. Cir. 2001). In his dissent, Judge Rader stated that *Waymark* held "that liability under § 271(f) attaches with the mere shipment of the component from the United States and does not consider the presence or absence of acts occurring abroad." *AT&T Corp.*, 414 F.3d at 1374 (Rader, J., dissenting).

215. 35 U.S.C. § 271(f) (2000).

216. *See Waymark*, 245 F.3d at 1368 ("If § 271(f)(2) required actual assembly abroad, then infringement would depend on proof of infringement in a foreign country. This requirement would both raise the difficult obstacle of proving infringement in foreign countries and pose the appearance of 'giving extraterritorial effect to United States patent protection.'").

217. Am. Tobacco Co. v. Patterson, 456 U.S. 63, 71 (1982); *see also* Leocal v. Ashcroft, 543 U.S. 1, 9 (2004) ("When interpreting a statute we must give the words their 'ordinary or natural' meaning.").

218. *See* 414 F.3d at 1374 (Rader, J., dissenting).

involves duplication of components.[219] Businesses should be aware that technical advances which make duplication of their products and related components easier and more efficient may leave them prey to the court's "technology" variant interpretation of § 271(f). Field programmable gate array[220] programs and microcontroller firmware[221] exported in program form or as programmed devices amenable to replication now look like low hanging fruit, ripe for the picking by patentees with an appetite for extraterritorial pome. One commentator also foresees the possibility of the court's § 271(f) expansion saddling biotechnology companies with liability for cells cloned abroad from a U.S. supplied cell.[222]

Having formulated its creative definition of "supply," the court turned to § 271(f)'s legislative history for support. The panel majority extracted two statements from the Congressional Record to buttress its construction.[223] The first statement cited by the court is quite general, and sheds little light on the amendment's purpose:[224] "[without these housekeeping-oriented measures], 'the patent system would not be responsive to the challenges of a changing world and the public would not benefit from the release of creative genius.'"[225] It merely indicated that the patent code needed an update. The court relied on this

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219. *Id.* at 1373.

220. A field programmable gate array ("FPGA") is an integrated circuit containing programmable logic elements surrounded by programmable interconnect. *See* JAMES O. HAMBLEN & MICHAEL D. FURMAN, RAPID PROTOTYPE OF DIGITAL SYSTEMS 38-39 (Kluwer Academic Publishers 2002). FPGAs can be configured to perform many of the functions traditionally performed by microprocessors or dedicated logic devices. *See id.* Because programmed FPGAs are easily replicable, their use to implement patented functionality may give rise to § 271(f) liability.

221. Firmware is "[s]oftware that is embedded in a hardware device that allows reading and executing the software, but does not allow modification." Telecommunications: Glossary of Telecommunications Terms, http://www.its.bldrdoc.gov/fs-1037/fs-1037c.htm (last visited Mar. 3, 2007). Everything from automobiles to televisions and toasters contains firmware.

222. Bruce A. Lehman et al., *With* Eolas *Decision, Federal Circuit Makes a Big Reach on Liability for Foreign Acts*, LEGAL TIMES IP MAG., July 11, 2005, at 25.

223. *See AT&T Corp.*, 414 F.3d at 1371.

224. The Patent Law Amendments of 1984 affected such diverse topics as import of products produced abroad using a U.S. patented process, § 271(f), statutory invention registrations, foreign filings, prior art, joint inventors, interferences, maintenance fees, and establishment of a National Commission on Innovation and Productivity. *See* Patent Law Amendments Act of 1984, Pub. L. No. 98-622, 98 Stat. 3383 (codified as amended in scattered sections of 35 U.S.C.).

225. *AT&T Corp.*, 414 F.3d at 1371 (quoting 130 CONG. REC. 28,069 (1984) (statement of Rep. Kastenmeir)). Congressman Kastenmeir may have been referring to plant patent maintenance fees in his statement regarding "the challenges of a changing world." *See* 130 CONG. REC. 28,069 (1984) (statement of Rep. Kastenmeir).

language, however, to support its expansion of § 271(f).[226] The court reasoned that if § 271(f) does not include copying abroad, § 271(f) is not "responsive to the challenges of a changing world"[227] and its legislative purpose is subverted.[228] However, extraterritorial application of U.S. law requires a clear expression of congressional intent.[229] The quoted language fails to support that end.

The second phrase cited by the court stated that § 271(f) responds to the Supreme Court's desire for a "'[l]egislative solution to close a loophole in patent law.'"[230] Thus, in the remedial nature of the amendment, the court found additional justification for defining "supply" to include overseas replication.[231] Without question, § 271(f) is remedial; it provides a previously non-existent remedy, but a remedy for actions occurring where?

Although the court claimed "Congress obviously intended the statute to have an extraterritorial effect,"[232] the legislative history supports the proposition that § 271(f) targets only activities within the United States and evidences no congressional intent toward extraterritorial effect. Congressman Kastenmeir, chairman of the House Judiciary Subcommittee on Courts, Civil Liberties, and the Administration of Justice, the House subcommittee responsible for the amendment, described the measure to the House as protecting the patentee against "the manufacture of component parts within the United States for assembly outside the United States."[233] In other words, domestic creation of components with the intention that they be assembled abroad infringes the patent. The domestic actions, not the foreign actions, are the focus of the statute, and the domestic actions trigger liability. This view of congressional purpose comports well with the plain meaning of "supplies in or from the United States." The court's interpretation necessarily predicates liability on foreign activities, a result unsupported by the amendment's legislative history.

The court's novel interpretation of "supply" results in an

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226. *AT&T Corp.*, 414 F.3d at 1371.

227. 130 CONG. REC. 28,069 (1984) (statement of Rep. Kastenmeir).

228. *See AT&T Corp.*, 414 F.3d at 1371.

229. EEOC v. Arabian Am. Oil Co., 499 U.S. 244, 248 (1991).

230. *AT&T Corp.*, 414 F.3d at 1371 (quoting 130 CONG. REC. 28,069 (1984)).

231. *See id.* The court reasoned that because of its remedial nature, the amendment "'should be construed broadly to effectuate its purposes.'" *Id.* (quoting *Tcherepnin v. Knight*, 389 U.S. 332, 336, 88 S.Ct. 548, 19 L.Ed.2d 564 (1967)).

232. *Id.*

233. 28 PAT. TRADEMARK & COPYRIGHT J. (BNA) 737 (1984).

unsanctioned extraterritorial expansion of the patent laws. As previously discussed, U.S. laws in general, and the patent laws in particular, are without effect outside the United States and its territories.[234] The Federal Circuit recognized this principle as applicable to § 271(f) in *Waymark v. Porta Systems.*[235] In *Waymark*, the court refused to consider foreign activities in an infringement action under § 271(f)(2) because doing so would "pose the appearance of 'giving extraterritorial effect to United States patent protection.'"[236] This principle applied equally well to the interpretation of § 271(f) in *AT&T v. Microsoft* and that court should have ruled accordingly.

3. The "Parade of Horribles"

The *AT&T v. Microsoft* opinion closed by refusing to consider "a parade of horribles that may befall the domestic software industry—such as the relocation of manufacturing facilities overseas."[237] The court postulated that Congress enacted § 271(f) even though it "could have been . . . thought to result in the export of jobs."[238] While one might hypothesize about Congress's concern with loss of jobs due to § 271(f), Congress made it clear that § 271(f) was enacted "to avoid encouraging manufacturing outside the United States."[239] It seems appropriate for the court to consider whether its construction thwarts that purpose.[240] If American companies do the bulk of their business overseas, the prospect of reduced profits due to licensing or infringement liability could encourage them to relocate offshore.[241] The court should have taken congressional purpose into account and tailored its decision to give effect to that purpose. Clearly, motivating companies to move abroad does not effectuate the objective of § 271(f).

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234. *See* discussion *supra* Part III.A-B.

235. 245 F.3d 1364 (Fed. Cir. 2001).

236. *Id.* at 1368 (quoting Paper Converting Mach. Co. v. Magna-Graphics Corp., 745 F.2d 11, 17 (Fed. Cir. 1984)).

237. *AT&T Corp.*, 414 F.3d at 1372.

238. *Id.*

239. 130 CONG. REC. H10,525 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5827.

240. Statutory interpretation should effectuate rather than contravene congressional purpose. *See* Bigelow v. Forrest, 76 U.S. 339, 352 (1869).

241. *See Patient Overhaul: Hearing Before the Subcomm. on the Courts, the Internet, and Intellectual Property of the H. Comm. on the Judiciary*, 109th Cong. (2005), *available at* 2005 WL 1010522 (statement of Nathan P. Myhrvold, Chief Executive Officer, Intellectual Ventures) (advising the subcommittee that software companies receive most of their revenue from sales outside the United States).

### 4. The Ramifications of *AT&T v. Microsoft*

The Federal Circuit's decision in *AT&T v. Microsoft* presents both profound challenges and opportunities for American and foreign businesses. On the positive side, it greatly enhances the value of American software patents by extending liability of U.S. software manufacturers to include activities conducted in foreign countries.[242] This extension is especially valuable to software patentees because many foreign patent regimes do not recognize software as patentable subject matter.[243] The possibility of protection against U.S. competitors in those countries where protection was previously unavailable should make U.S. software patents very attractive.[244]

On the other hand, the decision is also bad news for U.S. software companies, who should carefully consider the possible liability involved with sending executable code out of the United States for replication.[245] Under *Pellegrini*, it may be safe to export non-executable forms of code and to generate the executable code abroad,[246] but that result is not guaranteed. Finally, there is the scenario advanced by Microsoft: software companies may move development activities offshore to avoid the uncertainty of further expansion of the "supply" and "component" terms of § 271(f).[247]

The court's reasoning also gives U.S. manufacturing businesses in general good reason to reconsider sending

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242. *See* Pensabene & Berschadsky, *supra* note 33, at 23 (noting the decision has "given worldwide patent protection vis-à-vis its U.S. competitors based solely on the issuance of a U.S. patent.").

243. *See* Aaron D. Charfoos, Comment, *How Far Have We Come, and Where Do We Go From Here: The Status of Global Computer Software Protection Under the Trips Agreement*, NW. J. INT'L L. & BUS. 261, 283-84 (2002).

244. *See* Philippe Signore & Pierre Michon, *The Impact of US Patents on International Business: US Patent Laws Are Increasingly Affecting Activities Taking Place outside the US*, 144 EUROMONEY INSTITUTIONAL INVESTOR 28 (2004) (suggesting that the expansion of § 271(f) makes acquisition of U.S. patents attractive to companies doing no business in the United States because it provides protection against U.S. competitors).

245. For example, Microsoft's liability in *Eolas* came to $520 million, more than sixty-four percent of which was due to foreign sales. Petition for Writ of Certiorari at 4, Microsoft Corp. v. Eolas Techs Inc., 126 S. Ct. 568 (2005) (No. 05-288), 2005 WL 2132316.

246. *See* Pellegrini v. Analog Devices, Inc., 375 F.3d 1113, 1118-19 (Fed. Cir. 2004) (absolving semiconductor manufacturer of § 271(f) liability for devices designed in the United States, but manufactured abroad).

247. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1372 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056); *see, e.g.*, David A. Kalow & Milton Springut, *Outside Counsel: The Increasingly Long Arm of U.S. Patent Law*, 234 N.Y. LAW J. 4 (2005) (concluding that *AT&T Corp. v. Microsoft Inc.* "will undoubtedly cause the computer industry to reexamine its global operations, including where it conducts business"); Pensabene & Berschadsky, *supra* note 33, at 27 (positing that expansion of § 271(f) appears to be "encouraging software companies to move operations outside the U.S.").

components of patented inventions abroad for replication.[248] Although Judge Rader thought it unlikely that overseas copying of physical components would result in liability under § 271(f),[249] and the opinion appears to limit liability to software components,[250] the court's emphasis on industry practices and adapting § 271(f) to accommodate technical and business innovation lend little certainty to that conclusion.[251] American businesses should be aware of the potential for further expansion of § 271(f) liability and plan their operations accordingly.

Subsequent to the *AT&T v. Microsoft* decision, the Federal Circuit again examined § 271(f). In *Union Carbide v. Shell Oil*, the court considered whether a chemical used to practice a patented method constituted a component under § 271(f).[252] Guided by its conclusion in *Eolas* that § 271(f) applies to all forms of invention,[253] the court ruled that the catalysts in question did qualify as components,[254] once again expanding the scope of § 271(f) liability. This expansion appeared to some members of the court to directly conflict with the court's precedent in *Standard Havens*,[255] which held that method inventions had no components amenable to § 271(f).[256] The court's willingness to reverse precedent in order to expand

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248. *See The Patent System Today and Tomorrow: Panel Three of a Hearing of the Intellectual Prop. Subcomm. of the S. Comm. on the Judiciary*, 109th Cong. (2005) [hereinafter *Sen. I.P. Hearings*] (testimony of Michael Kirk, Executive Director, American Intellectual Property Law Association) (questioning whether the court's expansion of § 271(f) might affect tangible components as well as software).

249. *See AT&T Corp.*, 414 F.3d at 1375-76 (Rader, J., dissenting) (expressing doubt that liability would attach in a hypothetical situation involving key replication).

250. *See id.* at 1370 (majority opinion).

251. Judge Rader reduced the "nature of the relevant technology and business practices" reasoning to a question of whether the court believed the component was "cheaper or more convenient to replicate abroad than to ship from the United States." *Id.* at 1374 (Rader, J., dissenting). Considering overseas labor costs, this reasoning could implicate most components sent overseas for reproduction.

252. Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co., 425 F.3d 1366, 1379 (Fed. Cir. 2005).

253. Eolas Techs. Inc. v. Microsoft Corp., 399 F.3d 1325, 1339 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 568 (2005).

254. *Union Carbide*, 425 F.3d at 1379.

255. Standard Havens Prods., Inc. v. Gencor Indus., Inc., 953 F.2d 1360, 1374 (Fed. Cir. 1991).

256. *See* Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co., 434 F.3d 1357, 1358-59 (Fed. Cir. 2006) (Lourie, J., dissenting) (dissenting from the denial of rehearing en banc and arguing that the panel's holding is contrary to both statute and precedent); *see also* NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1322 (Fed. Cir. 2005) (explaining that "it is difficult to conceive of how one might supply or cause to be supplied all or a substantial portion of the steps of a patented method in the sense contemplated by the phrase 'components of a patented invention' in [§] 271(f)," and citing to *Standard Havens* as holding that the export of apparatus used to practice a patented process abroad fails to implicate § 271(f)), *cert. denied*, 126 S. Ct. 1174 (2006).

§ 271(f), in conjunction with unlimited liability for foreign reproduction of components, counsels American businesses to proceed with the utmost caution where liability under § 271(f) may appear to be even a remote possibility.

### 5. The Prospects for Rectification

The panel concluded by opining that "'[t]he remedy for any dissatisfaction with the results . . . lies with Congress.'"[257] Indeed, the Supreme Court rarely hears patent cases, and more Federal Circuit patent decisions have been overturned than affirmed.[258] The Court denied Microsoft's petition for certiorari in *Eolas*,[259] in which Microsoft failed to raise the issue of "supply" separately but included it instead in its certiorari petition as a facet of whether the software installed overseas met the § 271(f) definition of a component.[260] However, almost one year after its denial of certiorari in *Eolas*, the Court granted certiorari in *Microsoft v. AT&T*.[261] There is hope, therefore, that the Court will hold the Federal Circuit's interpretation of "supply" from the United States to be yet another "unprecedented feat of interpretive necromancy."[262] Otherwise, hope for rectifying the Federal Circuit's statutory distortion does lie with Congress

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257. AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1372 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056) (quoting Griffin v. Oceanic Contractors, Inc., 458 U.S. 564, 576 (1982)), *cert. granted*, 127 S. Ct. 467 (2006). The opinion also previously quoted *Griffin* when stating that the panel applied § 271(f) per congressional intent. *Id.* These quotes are somewhat ironic because in *Griffin*, the Supreme Court applied a literal interpretation of the statute in question, in spite of its harshness. *See Griffin*, 458 U.S. at 575-76. In its eyes, the Federal Circuit applied an expansive interpretation to achieve the same result. *See AT&T Corp.*, 414 F.3d at 1371.

258. The Supreme Court denies certiorari in the majority of patent cases; thereby deferring to the Federal Circuit's patent law jurisprudence. This has led some commentators to refer to the Federal Circuit as the "supreme court of patents." Marc D. Janis, *Patent Law in the Age of the Invisible Supreme Court*, 2001 U. ILL. L. REV. 387, 387 (2001). A Jan. 6, 2007 search of Westlaw's database "SCT" for the terms "DA(AFT 1983) & patent & "federal circuit" & affirmed vacated reversed % (certiorari /s denied)" returned nineteen cases; seven of which substantively implicate patent law. Of those seven, five were overturned and two affirmed: eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837 (2006), *vacating* 401 F.3d 1323 (Fed. Cir. 2005); Talbert Fuel Sys. Patents Co. v. Unocal Corp., 537 U.S. 802 (2002), *vacating* 275 F.3d 1371 (Fed. Cir. 2002); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722 (2002), *vacating* 234 F.3d 558 (Fed. Cir. 2000); J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l Inc., 534 U.S. 124 (2001), *aff'g* 200 F.3d 1374 (Fed. Cir. 2000); Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17 (1997), *rev'g* 62 F.3d 1512 (Fed. Cir. 1995); Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996) *aff'g* 52 F.3d 967 (Fed. Cir. 1995); Dennison Mfg. Co. v. Panduit Corp., 475 U.S. 809 (1986), *vacating* 774 F.2d 1082 (Fed. Cir. 1985).

259. Microsoft Corp. v. Eolas Techs. Inc., 126 S. Ct. 568 (2005).

260. Petition for Writ of Certiorari at 9 n.2, *Microsoft*, 126 S. Ct. 568 (No. 05-288).

261. Microsoft Corp. v. AT&T Corp., 127 S. Ct. 467 (2006).

262. Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 833 (2002).

alone. The draft Patent Act of 2005, as initially proposed by the House Subcommittee on Intellectual Property, included a provision to correct the Federal Circuit's interpretive lapse.[263] Unfortunately, subsequent revisions deleted the provision.[264] The Senate version of patent reform, the Patent Reform Act of 2006, reinstated repeal of § 271(f).[265] Currently, both industry and legal groups are actively lobbying Congress for repeal or modification of § 271(f).[266] Considering, however, that Congress waited twelve years after *Deepsouth* to enact § 271(f), the congressional cavalry may be slow to arrive. In the meantime, U.S. manufacturing interests should consider the implications of the court's *AT&T* decision and plan accordingly.

## IV. CONCLUSION

United States patent laws have no effect outside the United States and its territories.[267] An infringement action cannot be based on events occurring entirely in a foreign country.[268] Congress recognized this principle by predicating § 271(f) infringement on supply of components "in or from the United States."[269] Nevertheless, in its zeal to protect patent rights, the Federal Circuit held Microsoft liable under § 271(f) for actions performed wholly outside the United States by foreign businesses.[270]

Until such time as Congress or the Supreme Court corrects the course of § 271(f), patent holders can exult in the expansion of their rights. Conversely, American manufacturers should

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263. Patent Act of 2005, Comm. Print of H.R. ____ (proposed), 109th Cong. § 10 (2005), *available at* http://www.ipo.org/AM/Template.cfm?Section=Search&section=109th_Congress&template=/CM/ContentDisplay.cfm&ContentFileID=3103. This version of the bill contains § 271(f) modifications at page 49.

264. Patent Reform Act of 2005, H.R. 2795, 109th Cong. (2005), *available at* http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:h2795ih.txt.pdf. This version of the bill contains no § 271(f) modifications. *See id.*

265. Patent Reform Act of 2006, S. 3818, 109th Cong. § 5 (2006).

266. *See Sen. I.P. Hearings*, *supra* note 248 (testimony of Michael Kirk, Executive Director, A.I.P.L.A.) (suggesting repeal of § 271(f)); *Patent Law Revision: Hearing on H.R. 2795 Before the Subcomm. on Courts, the Internet, and Intellectual Property of the H. Comm. on the Judiciary*, 109th Cong. 6 (2005) (testimony of Emery Simon, Counsel, Business Software Alliance) (requesting that repeal of § 271(f) be included in the Patent Act of 2005); *Patent System Review Hearings*, *supra* note 7 (suggesting repeal of § 271(f)).

267. Brown v. Duchesne, 60 U.S. 183, 195-96 (1856).

268. Dowagiac Mfg. Co. v. Minn. Moline Plow Co., 235 U.S. 641, 650 (1915).

269. 35 U.S.C. § 271(f) (2000). Had Congress intended to create an infringement action based on extraterritorial actions, the phrase "in or from the United States" would be unnecessary. *See* AT&T Corp. v. Microsoft Corp., 414 F.3d 1366, 1375 (Fed. Cir. 2005), *cert. granted*, 127 S. Ct. 467 (2006) (No. 05-1056) (Rader, J., dissenting).

270. *See AT&T Corp.*, 414 F.3d at 1372.

export components for replication abroad at their own risk. By increasing the risk of liability, the court motivates manufacturers to relocate their operations outside § 271(f)'s reach. Manufacturers should carefully consider § 271(f) liability when planning their foreign operations.

The scope of the Federal Circuit's reading of § 271(f) remains uncertain. The forms of information qualifying as "components" are undetermined. The risk of liability for replicating tangible components abroad may increase as technical advances simplify the reproductive process. The increasingly global business environment will likely produce a corresponding increase in § 271(f) actions.

For the time being, the Federal Circuit's encounter with the golden master affords software a singular place of honor in the court's hall of extraterritorial horrors. Other technologies need not feel slighted. Unless the Federal Circuit's § 271(f) interpretation is reformed, other technologies will likely find themselves joining the golden master, trapped in the horror of extraterritoriality.

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