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The Single Product Issue and the Computer Industry, 8 Computer L.J. 95 (1989)

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THE SINGLE PRODUCT ISSUE AND THE COMPUTER INDUSTRY

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INTRODUCTION

The computer industry is a very sophisticated field with highly technical and complicated machinery. Every computer is made up of thousands of smaller component parts. These parts change constantly because the computer industry is in a constant state of innovation.

All technological advancements affect the industry. Innovations that prove to be beneficial are either copied or similar versions are developed by competing firms. There is, however, at least some lag time between the developing firm's introduction of the innovation and the competing firms' development of their own version or copy. There is some fear that during this lag time the firm with the innovation will enjoy a significant amount of market power. The fear is that these firms will use this market power to violate the antitrust laws through illegal tie-in arrangements. These tie-in arrangements require purchasers of the innovation (the tying product) to also purchase something that they either do not want to buy or could buy elsewhere (the tied product).

An industry like the computer industry that is subject to constant innovation finds perhaps its greatest source of competition in those innovations. Each firm tries to keep one step ahead of the other firms. Any firm that constantly lags behind the others has a far smaller chance of being a successful competitor and faces the consequences of being an unsuccessful competitor. There are two generally recognized reasons why competition is encouraged. First, consumers benefit from this competition because cheaper and better products are constantly being produced. Second, the general philosophy of the antitrust law is that perfect competition is a desired goal. However, these factors must

be weighed against the potential anticompetitive effects that can result in the computer industry from innovations creating significant market power. These anticompetitive effects result from the lag time or the time required by the industry to catch up with the innovations of its competitors. During this time the innovator computer company will possess some market power because it has a monopoly on a product that consumers want to purchase.

Ensuring that the company does not abuse this market power is the role of antitrust law. The antitrust law should encourage innovation and the necessary market power that results from innovation while also ensuring that that market power is not misused.

This Note will examine one specific way in which that market power can be abused: illegal tie-in arrangements. Specifically this Note will deal with the single product issue in tie-in arrangements. This issue arises because no illegal tie-in can occur when a single product is sold. The question then is what exactly constitutes a single product? Computers are made up of thousands of individual parts and yet a large collection of such parts are referred to as a single product that we term the computer. If this were not the case, then whenever a company tried to sell any two components of a computer together they would be guilty of an illegal tie-in. When deciding exactly where to draw the line between one product and two distinct products, the desirability of encouraging innovation (which pushes towards a broader definition) and the need to minimize the potential anticompetitive creation of market power (which pushes towards a narrower definition) must be kept in mind. This Note will look at the current approaches and evaluate them in terms of the recent computer tie-in cases.

This Note will begin with a general review of tying arrangements. A short review of the history of the single product defense will follow. A review of the *Data General*¹ cases along with the other relevant cases dealing with tying arrangements in the computer industry will be next. Finally, a standard for the single product defense will be suggested specifically for the computer industry.

I. BRIEF REVIEW OF TYING ARRANGEMENTS

One must first be familiar with tying arrangements in general to understand the single product issue. A short history of tying arrangements is, therefore, in order.

A tying arrangement occurs when a person is forced to purchase or

1. *In re Data General Corp. Antitrust Litigation*, 490 F. Supp. 1089 (N.D. Ca. 1980), 529 F. Supp. 801 (N.D. Ca. 1981), *rev'd sub nom*, *Digidyne Corp. v. Data General Corp.*, 734 F.2d 1336 (9th Cir. 1984), *cert. denied*, 105 S. Ct. 3534 (1985), *reh'g denied*, 106 S. Ct. 18 (1985).

lease some product (the tied product) in order to purchase or lease some other product (the tying product) that he desires.² For example, if a buyer wants to purchase a computer from IBM, but IBM will only sell the computer to them if the buyer also agrees to purchase a typewriter, then this would be an illegal tying arrangement. The computer would be the tying product and the typewriter would be the tied product. These arrangements are deemed illegal under both Section 1 of the Sherman Act³ and Section 3 of the Clayton Act.⁴

The Supreme Court held that tying arrangements were *per se* violations of the antitrust laws in *International Business Machines v. United States*.⁵ The Court has developed several elements that must be present before an arrangement will be considered a tying arrangement. First the plaintiff must show that two distinct products are involved.⁶ Next the plaintiff must show the presence of "forcing."⁷ "Forcing" essentially means that the seller has enough market power to compel the purchaser to take the tied product with the tying product. The final requirement for a *per se* violation of the antitrust laws is that a seller "foreclose competitors from any substantial market"⁸ for the tied product. If all of these elements are shown then a *per se* violation of the antitrust laws is present. The defendant, however, may have an opportunity to present affirmative defenses.⁹ The Supreme Court has allowed several through the years. It has twice allowed the defense of goodwill, i.e., the defense that a seller has the right in certain situations to claim that the tie-in is necessary to protect the reputation of the company in terms of the quality of the product it produces.¹⁰ The Court has also affirmed a lower court's holding that a new product defense was valid. This defense contends that the buyers lacked the technological expertise needed to deal with the sellers' products and that their purchase of the products separately would deprive the new business of

2. *Jefferson Parish Hospital Dist. No. 2 v. Edwin Hyde*, 466 U.S. 2 (1984).

3. 15 U.S.C. § 1 (1982).

4. *Id.*

5. 298 U.S. 131 (1936).

6. *Northern Pacific Ry. Co. v. United States*, 356 U.S. 1, 5-6 (1958).

7. *Hyde*, 466 U.S. at 16-18. See also, Slawson, *A New Concept of Competition: Re-analyzing Tie-in Doctrine after Hyde*, 30 ANTITRUST BULL. 257, 261-63 (1985).

8. *International Salt Co. v. United States*, 332 U.S. 392, 396 (1947).

9. Theoretically the *per se* label means that if the elements are shown then a violation of the antitrust laws has occurred, but the Court has seemingly always allowed affirmative defenses to be presented. Slawson, *Are the Per Se Rules Absolute?* (Apr. 7, 1987).

10. *International Salt Co.*, 332 U.S. at 397-98; *International Business Mach. Corp. v. United States*, 298 U.S. 131, 139-40 (1936).

the opportunity to develop goodwill.¹¹ The Court has also allowed a cost justification defense. This defense applies where the sale of two products results in a substantial reduction in costs.¹² Finally, the Court has allowed the single product defense¹³ (which will be dealt with in detail later).

Despite these defenses, the Court has found several tying arrangements that violated antitrust laws. *International Business Machines v. United States*,¹⁴ was the Court's first *per se* treatment of a tie-in. Here, the Court found that IBM illegally restrained trade by requiring those who leased its computers to satisfy all of their computing card needs through IBM. The Court specifically rejected a goodwill defense by holding that anyone could make cards that met the specifications for IBM's computers.¹⁵ In *International Salt Co. v. United States*,¹⁶ the Court found an illegal tie-in when International Salt required buyers of its salt machines to purchase all of their salt requirements from them.¹⁷ The Court again disallowed a goodwill defense, holding that while the manufacturer could require the use of a specific grade of salt, anybody could supply that salt.¹⁸ In *Northern Pacific Railway Co. v. United States*,¹⁹ the railway required grantees or lessees of its lands to ship all of the products made on those lands on the railway's railroads.²⁰ The railway argued that its requirement did not decrease competition because the agreements allowed the lessees and grantees to use other railroads if their prices were cheaper.²¹ The Court, however, rejected this defense because the railway still had first choice at comparable prices.²² More recently the Court found an illegal tie-in in *Jefferson Parish Hospital District No. 2 v. Hyde*.²³ In this case a hospital required that all of its patients use specific anesthesiologists. The Court held that the tie-in of anesthesiological services with other services offered by the hospital was impermissible. This case was especially important because four members of the Court agreed in a concurring opinion that the *per se* rule for tying arrangements should be changed to a rule of reason

11. *United States v. Jerrold Elec. Corp.*, 187 F. Supp. 545, 556-58 (E.D. Pa. 1960), *aff'd*, 365 U.S. 567 (1961).

12. *United States v. Loews, Inc.*, 371 U.S. 38, 52-55 (1962).

13. *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1, 21-22 (1979).

14. 298 U.S. 131 (1936).

15. *Id.* at 138-39.

16. 332 U.S. 392 (1947).

17. *Id.* at 397-98.

18. *Id.*

19. 356 U.S. 1 (1958).

20. *Id.* at 11-12.

21. *Id.* at 12.

22. *Id.*

23. 466 U.S. 2 (1984).

analysis.²⁴

Before getting to the single product defense, it is important to consider why businesses try to tie the sale of one product to another. There are many reasons.

First, a firm may have monopoly power over one product by virtue of patent protection, strong product differentiation, or scale economies; and it may try to exploit this leverage in a second market where, without the tie, it could earn no more than a normal return. . . . Second and closely related, the profits attainable from coordinated monopoly pricing of two goods which, for example, are complements in use, will generally be higher than those realized by setting a monopoly price for each commodity separately. . . . Third, tying is sometimes a convenient way of discriminating in price according to demand. . . . Fourth, the producer of a technically complex machine may engage in tying to control the quality of materials and supplies used with its machine, so that the reputation of its product is not sullied by breakdowns caused through the use of faulty supplies. Fifth, certain economies may be realized by producing or distributing the tied and tying goods together. . . . Finally, tying contracts may be employed to evade governmental price controls . . .²⁵

II. BACKGROUND ON THE SINGLE PRODUCT DEFENSE

Two distinct products must be involved for an illegal tie-in to be present. No illegal tie-in is present if only one product is involved because there would be no tying or tied product. Therefore there cannot be any violation of the antitrust laws in such cases.

The single product defense can be viewed in two ways. One way is to see it as an affirmative defense. The other way is to view it as a means of showing that the tie-in rule does not apply in the first place. The analysis in either case is similar, so this Note will not deal with the two cases separately but will consider them together.

The Supreme Court has dealt with the single product question in four cases. First, in *Times-Picayune Publishing Co. v. United States*,²⁶ the Court held that advertising space in morning and evening newspapers was a single product because the spaces were sold to advertisers in the same market.²⁷ Second, in *United States v. Jerrold Electronics*

24. A rule of reason analysis means that the court considers all possible justifications for the alleged antitrust violation to determine if it unreasonably restrains trade. As a practical matter, rule of reason analysis almost always results in a finding that there was no illegal restraint of trade in violation of the antitrust laws. See also *Hyde*, 466 U.S. at 34-36 (O'Connor, J., concurring in judgment); Slawson, *supra* note 7, at 261-63.

25. F. M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 582-583 (1980).

26. 345 U.S. 594 (1953).

27. *Id.* at 613-14.

Corp.,²⁸ the Court affirmed a lower court holding that various components of an antenna system were all separate products²⁹ (but allowed the tie-in based on a new firm defense.)³⁰ Third, in *Fortner Enterprises v. United States Steel Corp.*,³¹ the Court held that prefabricated buildings were separate products from loans offered by the same company in excess of the amount needed to finance the buildings.³² Finally, in *Jefferson Parish Hospital District No. 2 v. Hyde*,³³ the Court found that anesthesiological services were a separate product from other services offered by the hospital.³⁴ This last case is the current authority on how to deal with the single product issue and will be dealt with more thoroughly after a review of lower court approaches to the issue.

The lower courts have taken many different approaches to the single product issue.³⁵ Among the factors considered by the lower courts are:

- (1) Whether selling the components together results in cost savings;³⁶
- (2) Whether the number of each component in the combination remains constant or varied;³⁷
- (3) The "function of the aggregation"—which includes at least the factors in (1) and (2);³⁸
- (4) Whether versions of the combination of the components differ significantly;³⁹

28. 187 F. Supp. 545 (E.D. Pa. 1960), *aff'd*, 365 U.S. 567 (1961).

29. *Id.* at 559.

30. *See supra* note 11.

31. 394 U.S. 495 (1968).

32. *Id.* at 507-08.

33. 466 U.S. 2 (1984).

34. *Id.* at 22-24.

35. *See Moore v. Jas. H. Matthews & Co.*, 550 F.2d 1207 (9th Cir. 1977); *Washington Gas Light Co. v. Virginia Elec. & Power Co.*, 438 F.2d 248 (4th Cir. 1971); *American Mfrs. Mut. Ins. Co. v. American Broadcasting-Paramount Theaters, Inc.*, 388 F.2d 272 (2d Cir. 1967), *cert. denied*, 404 U.S. 1063 (1972); *Associated Press v. Taft-Ingalls Corp.*, 340 F.2d 753 (6th Cir. 1965), *cert. denied*, 382 U.S. 820 (1965); *United States v. Mercedes-Benz of N.A., Inc.*, 517 F. Supp. 1369 (N.D. Cal. 1981); *Anderson Foreign Motors, Inc. v. New England Toyota Distribs., Inc.*, 475 F. Supp. 973 (D. Mass. 1979); *Kugler v. Aamco Automatic Transmissions, Inc.*, 337 F. Supp. 872 (D. Minn. 1971), *aff'd*, 460 F.2d 1214 (8th Cir. 1972); *United States v. Jerrold Elecs.*, 187 F. Supp. 545 (E.D. Pa. 1960), *aff'd*, 365 U.S. 567 (1961). *See also* authorities cited in L. Pasahow, *Tying and the Single Product Issue*, 54 ANTI-TRUST LAW JOURNAL 1219, 1220 (1985).

36. *Moore*, 550 F.2d at 1215; *Mercedes-Benz of N.A.*, 517 F. Supp. at 1379.

37. *Id.*

38. *Moore*, 550 F.2d at 1215; *Siegel v. Chicken Delight*, 448 F.2d 43 (9th Cir. 1971); *Mercedes Benz of N.A.*, 517 F. Supp. at 1379.

39. *American Mfrs. Mut. Ins.*, 338 F.2d at 282; *Anderson Foreign Motors*, 475 F. Supp. at 982.

- (5) Practices of others in the industry;⁴⁰
- (6) Whether the seller assigned different fees to the two components;⁴¹
- (7) Whether the seller ever sold either of the two components separately;⁴²
- (8) Whether the two components practically could be sold separately;⁴³ and
- (9) Whether the two components were sold in separate markets.⁴⁴

Despite the various criteria used by lower courts, the decisions were fairly consistent regarding what constituted a single product and what counted as more than one product. Thus, although several tests were used, the results were generally in accord.

The decision in *Jefferson Parish Hospital District No. 2 v. Hyde*,⁴⁵ clarifies how the Supreme Court thought these problems should be approached. The Court held that "the question whether one or two products are involved turns not on the functional relation between them, but rather on the character of the demand for the two items."⁴⁶ The Court went on to say that "it [is] clear that a tying arrangement cannot exist unless two separate product markets have been linked"—that is, there can be no tying arrangement unless one can identify a separate market in which it is efficient to market each product.⁴⁷ The Court does not clearly define what is "efficient". The Court does cite several lower court cases supporting its position.⁴⁸ At least one commentator has interpreted "efficiency," in light of these cases, to mean that the sale of the two products must decrease costs apart from sales costs and that it "probably only means that items that naturally should be sold together, e.g., cars with tires, are a single product."⁴⁹ This commentator further states that since (1) the court found that the services were "functionally integrated" with the rest of the hospital services and (2) the Court found there to be two distinct products, then "'functional integration' is not a relevant consideration in determining whether two

40. *American Mfrs. Mut. Ins.*, 388 F.2d at 282; *Anderson Foreign Motors*, 475 F. Supp. at 983; *Kugler*, 337 F. Supp. at 875; *Jerrold Elecs.*, 187 F. Supp. at 5559.

41. *Id.*

42. *American Mfrs. Mut. Ins.*, 388 F.2d at 282; *Taft-Ingalls*, 340 F.2d at 763.

43. *Taft-Ingalls*, 340 F.2d at 763; *Kugler*, 337 F. Supp. at 875; *Jerrold Elecs.*, 187 F. Supp. at 559.

44. *Washington Gas Light*, 438 F.2d at 253. See generally Pasahow, *supra* note 35, at 1220.

45. 466 U.S. 2 (1984).

46. *Id.* at 19.

47. *Id.* at 21.

48. *Id.* at 22, n.35.

49. Pasahow, *supra* note 35, at 1223-24.

items are a single product."⁵⁰ Thus, *Hyde* seems to establish a fairly strict test for finding a single product when a manufacturer sells items together. The *Hyde* decision was very close, however, with four concurring Justices (O'Connor, Burger, Powell, and Rehnquist)⁵¹ suggesting the abolition of a *per se* approach to tie-ins.⁵² Because the Court is likely to change in composition fairly soon, it is conceivable that the scrutiny of tie-in arrangements will be lessened especially in light of the recent advocacy for the abolition of the *per se* approach by many commentators.⁵³

III. THE *DATA GENERAL* CASES⁵⁴

Although the Supreme Court has found illegal tie-ins in many different circumstances, it has never found one in the computer industry. However, there have been several cases decided by lower courts in this area. Specifically, the *Data General* Cases concerned the issue of tying arrangements in the computer industry.

In these actions, the plaintiffs (Data General's competitors) claimed that: (1) Data General tied the licensing of its software to the sale of its central processing units; and (2) that Data General tied the sale of its central processing units to the sale of its memory boards.⁵⁵ The items at issue were the central processing units ("CPUs") and peripheral products, including memory devices and operating systems software. CPUs process data while peripheral products translate data from human-readable to machine readable form, and vice-versa, in conjunction with CPU data processing activities. Memory devices receive, store, and supply data. The CPUs, peripheral products, and the memory devices are all called "hardware" items. The operational software products are used to perform specific data processing tasks, essentially telling the hardware what to do.⁵⁶ Data General manufactured and sold all of these types of products. Data General's CPUs bore the trademark

50. Pasahow, *supra* note 35, at 1224.

51. *Hyde*, 466 U.S. at 32.

52. *Hyde*, 466 U.S. at 34-36.

53. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ABA ANTITRUST L.J. 135, 153 (1984); Freed, *Reconsidering the Per Se Approach to Tying Agreements*, 13 U. TOL. L. REV. 571, 583-85 (1982); Meehan, and Lerner, *A Proposed Rule of Reason for Vertical Restraints on Competition*, 16 ANTITRUST BULL. 195, 223-25 (1981). See Slawson, *supra* note 7.

54. *In re Data General Corp. Antitrust Litigation*, 490 F. Supp. 1089 (N.D. Ca. 1980), 529 F. Supp. 801 (N.D. Ca. 1981), *rev'd sub nom*, *Digidyne Corp. v. Data General Corp.*, 734 F.2d 1336 (9th Cir. 1984), *cert. denied*, 105 S. Ct. 3534 (1985), *reh'g denied*, 106 S. Ct. 18 (1985).

55. *Id.*

56. *Id.* at 1098.

"NOVA."⁵⁷ The plaintiffs also manufactured and sold CPUs that competed with NOVAs, but most of them did not manufacture software items.⁵⁸ What they did instead was to design their hardware to emulate the NOVAs so that Data General's software would be compatible with their products. One company also manufactured a memory board that could be used with NOVA and its emulators.⁵⁹

The litigation focused on Data General's marketing practices for its software. Data General engaged in three main practices. First, Data General licensed its software with an agreement that the purchaser could only use the software with hardware designated by Data General. (Data General only designated its own hardware.) Second, Data General required minimum purchases of its hardware or the payment of a fee. Third, Data General required minimum initial purchases of its CPUs to purchase its software.⁶⁰

The court discussed at length the question of whether a single product or several products were at issue. The court concluded that there were separate products at issue. The court first held that "the relevant inquiry was not whether the two items must be used together but whether they must come from the same seller."⁶¹ The court concluded that other manufacturers were perfectly capable of making the necessary hardware because so many of the plaintiffs were manufacturing emulators that could be used with Data General's software.

Data General, however, offered another reason that the two products should be viewed as a single product. It argued that its costs were lower because the CPUs and the software were developed together. Data General had invested the time and money necessary to develop hardware and software that worked well together; therefore, they should be allowed to sell the two products together. Presumably, the competitors waited for the innovation and then jumped into the market by copying Data General's hardware. Data General's argument was that it needed to sell the two together to protect their innovation and that the two things were developed as a single product and should, therefore, be allowed to be sold together. While the court appeared to hint that this was the proper inquiry, it never fully considered this argument.

For a complete background on tie-ins and the single product issue in the computer industry three other cases must be considered. The first is *ILC Peripherals Leasing Corp. v. International Business Ma-*

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.* at 1098-99.

61. *Id.* at 1104.

*chines Corp.*⁶² In this case a tie-in was alleged when IBM sold its disk drive unit and its head/disk assembly ("HDA") together as one unit. In this case the court adopted the single product/"function of the aggregation" test used in *Siegel v. Chicken Delight*.⁶³ Under this test, the products are considered two separate products unless there are "cost savings apart from those reductions in sales expenses and the like normally attendant upon any tie-in" or if "the items are normally sold or used as a unit with fixed proportions."⁶⁴ Specifically the court considered "whether integration of the HDA into the drive unit resulted in cost savings, and whether the HDA and the drive unit are normally sold or used as a unit with fixed proportions."⁶⁵ The court found there were reductions in cost and that the industry practice was to sell the integrated disks and the drives on which they operate for a single price. The court, therefore, concluded that the unit was a single product.⁶⁶ More importantly, the court concluded that "while it would be possible for IBM to sell the HDA for a separate price from the rest of the drive unit, just as it would be possible to sell many of the other components separately, IBM is not required to do so by Section 1 of the Sherman Act or Section 3 of the Clayton Act."⁶⁷

The second important case is *A.I. Root Co. v. Computer/Dynamics, Inc.*⁶⁸ In this case the court upheld a summary judgment finding no illegal tie-in. The arrangement called for Computer Dynamics to sell its Basic Operating Software System (BOSS)⁶⁹ to consumers who agreed to sign licensing agreements concerning other software.⁷⁰ The court found that two products did exist, but that the company lacked sufficient market power and that the tying product was not unique. It held, therefore, that no violation of the antitrust laws had occurred.

The final important case is *Telex Corp. v. International Business Machines Corp.*⁷¹ Although the court found IBM guilty of monopolization and unfair competition, it concluded that no unlawful tying arrangement was present. The plaintiff claimed that "the integration of additional memory and control functions in certain system 370 central

62. 448 F. Supp. 228 (N.D. Cal. 1978).

63. 448 F.2d 43 (9th Cir. 1971), *cert. denied*, 405 U.S. 955 (1972).

64. *Id.*

65. 448 F. Supp. at 231.

66. *Id.* at 233.

67. *Id.*

68. 615 F. Supp. 727 (N.D. Ohio 1985), *aff'd*, 806 F.2d 673 (6th Cir. 1986).

69. Software necessary to operate the computer generally and to enable the computer to utilize applications software or to perform specific data processing tasks.

70. *A.I. Root*, 615 F. Supp. at 730.

71. 367 F. Supp. 258 (N.D. Oklahoma 1973), *modified*, 510 F.2d 894 (10th Cir. 1975), *rev'd on other grounds*, 555 F.2d 1379 (9th Cir. 1977).

processing units" constituted a tying arrangement.⁷² The court found that there was only a single product involved and, therefore, there was no illegal tying arrangement.⁷³ Interestingly, the court held that, "where a court is dealing with what is physically and in fact a single product, Section 3 does not contemplate judicial dissection of that product into parts and the reconstitution of these parts into a tying agreement."⁷⁴ The court then admitted that when dealing with an industry that is extremely technical and constantly changing (specifically the computer industry) it is very difficult for the court to decide when integration of two parts should constitute a new single product.⁷⁵ "To rule otherwise would enmesh the courts with technical and uncertain inquiry into the technological justifiability of functional integration and cast unfortunate doubt on the legality of product innovations in serious detriment to the industry and without any legitimate antitrust purpose."⁷⁶

IV. COMPUTERS AND THE SINGLE PRODUCT ISSUE

The decisions of the courts on the single product issue in the computer context at first seem inconsistent. Upon closer inspection, however, it is clear that they reach different conclusions by making important distinctions. Both the *A.I. Root Co. v. Computer/Dynamics, Inc.* decision and the *ILC Peripherals Leasing Corp. v. International Business Machines Corp.* decision are correct. This is true even though two distinct products were found in the first case and only one product was found in the second. The decision in *Telex Corp. v. International Business Machines Corp.* also seems well reasoned and correct. The decisions in the *Data General* cases, however, seem wrong on this issue. The next part of this Note will be devoted to discussing the distinction between these cases and drawing some conclusions from those findings. The end result will be the development of a standard that could be applied to cases to help courts resolve the single product issue in the computer context.

A distinction between the first two cases is in the uses of the products involved. In *A.I. Root*, the products involved were both types of software. Although the uses of the two types of software are different, both are products that have many easily identifiable substitutes and both serve fairly similar functions. They are also products that are easy to separate not only from each other, but also from the computer. No

72. *Id.* at 346.

73. *Id.* at 347.

74. *Id.*

75. *Id.*

76. *Id.*

real claim could be made that the use of the two products resulted in a more efficient final product than if the BOSS unit were used in conjunction with a competitor's software. The advantage of the system as a whole was really nothing more than the advantage produced by the BOSS unit alone.

In *ILC Peripherals*, on the other hand, this was not the case. In fact the HDA when used in conjunction with the disk drive unit resulted in a "new technology [which] dramatically increase[d] the storage capacity of disk storage devices; in addition the integration of the disks into the drive resulted in lower manufacturing costs and lower costs per megabyte of storage to users."⁷⁷ It is also true that the actual physical integration of the two objects necessitated a finding that there was a single product.

In *Telex Corp.*, the court took the most reasonable position. The court concedes that the computer industry is very technical and that the products are extremely complex. "[The] technological progress in component miniaturization . . . made possible the integration of additional memory and control functions and such additional integration . . . made possible cost reductions and enhanced utility."⁷⁸ The court concludes that the best way to promote the policy behind the antitrust laws is to allow the companies to compete through innovations and to find no anticompetitive tie-in when the innovation can plausibly be considered a new, more efficient product.

The court in the *Data General* cases did not seem to do as good a job as the courts in the other cases. In this case, the court purported to use the "function of the aggregation" test that was used in *ILC Peripherals*. The court first considers the question of whether the operating systems software is a distinct product from the CPU. The court admits that, "it is clear that neither item can function without the other", but then states that, "the relevant inquiry is not whether the two items must be used together but whether they must come from the same seller."⁷⁹ The court goes on to say that there is no evidence that the items "must necessarily be manufactured by the same company."⁸⁰ Under this standard, it appears that even something as simple as a car would not be considered a single product. For example, when one buys a car, the seller requires that wheels be purchased with it. Surely the body of the car and the wheels do not necessarily have to be manufactured by the same company. An even more extreme example that demonstrates that the *Data General* court's interpretation surely cannot be

77. 448 F. Supp. at 233-34.

78. 367 F. Supp. at 347.

79. 490 F. Supp. at 1104.

80. *Id.*

the correct single product test is a sandwich purchase. Clearly the bread and the filler need not come from the same manufacturer, but it is unlikely that anyone would claim that the sandwich was not a single product.

The court was also incorrect in rejecting Data General's second argument. The second argument was that because Data General did its research and development ("R&D") projects for both items together, and since they were specifically designed to function together efficiently, it should be allowed to market the two items together. The court held, however, that "the question is not whether joint R&D is more economical than separate R&D, but whether joint R&D calls for joint marketing."⁸¹ The court seems to miss the point here as well. Data General's claim is that it has been able to create a more efficient product by developing the two together and, therefore, it should sell the two together. The court even recognized that "Data General establishes beyond dispute that joint R&D yields technological benefits in the initial design and gradual perfection of both CPUs and related software."⁸² Despite the technological efficiency of selling the two items together, the court held that the two objects constituted two new products.

The court then considers whether the CPUs and the memory devices are a single product. Again the court found that "neither a CPU nor a memory board can function independently of the other. Yet they are physically distinct items; each is located on a separate circuit board which is plugged into the chassis in which the computer system is housed."⁸³ Again the court concluded that the proper inquiry was whether both must be manufactured by the same company.⁸⁴ The issue of whether the two must come from the same manufacturer was not addressed. Here, the court focused on the fact that the items were distinct and located on different parts of the computer. This again does not survive any thoughtful analysis and has been specifically rejected by at least one court.⁸⁵ Virtually nothing is manufactured today that is not comprised of numerous distinct products that are not located in the same place when put together. For example, a simple radio is comprised of hundreds of physically distinct parts that are separated by at least some space. Surely this cannot be the factor that determines whether something is a single product or two distinct ones.

The court also argued that the memory boards and CPUs are not

81. *Id.* at 1106.

82. *Id.* at 1105-06.

83. *Id.* at 1107.

84. *Id.*

85. The goal was not to prohibit the sale of "physically separable objects, but rather . . . [to prohibit] the use of a dominant desired product to compel the purchase of a second distinct commodity." *Moore*, 550 F.2d at 1214.

normally sold or used as a unit with fixed proportions.⁸⁶ The court found that "the amount of 'main memory' which [Data General] sold together with its CPUs has varied over time" and that "Data General [sold] 'add-on memory' to enable customers to expand their memory capacity. . . ."⁸⁷ Again the court seems to miss the point of the function of the aggregation test. The test focuses on whether a memory board and a CPU are normally sold together and not whether a memory board with a specific capacity is always sold with a CPU. If the court's interpretation of the test is correct, then an illegal tie-in will occur every time a person sold a standardized item rather than something that was tailored to the customer's personalized specifications. To pass this part of the test, it is only necessary that a CPU and a memory board are normally sold on a one to one ratio. Data General made the same argument about joint research and development in this context as it did above and the court again rejected it.

Although the *Data General* court chose the appropriate test, they misapplied it. The function of the aggregation test focuses on whether selling the two components together results in real cost savings or whether the items are normally sold or used as a unit with fixed proportions.⁸⁸ Since the joint R&D resulted in two products that yielded benefits when used together and resulted in cost savings, the court should have found that only a single product was involved. The same is true for the CPUs and the memory devices. Because selling the two together resulted in an efficient new product, there is no reason for the court to find two distinct products.

V. THE APPROPRIATE TEST IN THE COMPUTER CONTEXT

Underlying policy considerations should guide the choice of the applicable legal test. For the computer industry, the applicable test should be one that reflects the fast pace of innovation, takes into account the technological complexity of the items involved, promotes competition, and takes into account the composition industry.

Since computer technology is complex and innovation the norm, it is important that the applicable test does not stifle innovation. This is especially true since innovations are the major source of competition. The test should promote innovations that will ultimately benefit the consumer, by producing cheaper and better products while ensuring that anticompetitive behavior is minimized.

It is important to remember that the computer industry is booming. There is a constant flow of new companies as well as several established

86. 490 F. Supp. at 1109.

87. *Id.*

88. See *supra* note 64 and accompanying text.

giants. The great number of competitors in the industry lessens the fear of anticompetitive behavior. The similar items offered by many competitors make it unlikely that consumers will be compelled to buy any product from any specific manufacturer. This is only true, however, for the more generalized items and not for very new products since only one manufacturer provides the product.

It is only in the context of unique products that tie-ins merit concern. If a manufacturer tried to tie products together that were generally available, then the consumer would simply go to that manufacturer's competitor to buy the desired products. That is why the *ILC Peripherals* and *Telex Corp.* cases were decided correctly. Both cases concerned an alleged tie-in of products that were generally available in the industry but were simply being offered together in an attempt to create a better and cheaper product. This was not true in *A.I. Root* where the manufacturer developed a new product and attempted to tie it to other products.

The best approach is that used in the *ILC Peripherals* and *Telex Corp.* cases. Courts should focus on whether the new item claimed to be a single product is really simply a new way to package and sell items that are available in the industry or whether it is some clearly distinct new product (like a new program) that is being used to tie-in something completely different. The true test is the market. If the new product is competitively superior, then it will prove that in the market and will soon be offered by competitors in the same manner of packaging. If not, then the competitors will soon offer the products separately.

The best test is very intuitive. The bottom line, however, is whether the manufacturer can legitimately argue that the use of the two products together results in a more efficient or cheaper final product. Moreover, the advantage of the combined products should not derive from just one of the products, but rather from the products being used in conjunction with each other. If this is the case, then the combined products should be considered a single product and no illegal tie-in arrangement should be found.

Dean Weddall

