COMMENTS

APPLYING UNIFORM SALES LAW TO INTERNATIONAL SOFTWARE TRANSACTIONS: THE USE OF THE CISG, ITS SHORTCOMINGS, AND A COMPARATIVE LOOK AT HOW THE PROPOSED UCC ARTICLE 2B WOULD REMEDY THEM

I. INTRODUCTION

In 1969, IBM, the largest manufacturer of computer equipment in the world, made the unprecedented announcement that it was separating

the sale of its software from the sale of its hardware.[1] Previously, large computer manufacturers sold hardware and software together as a package deal.[2] Eventually, the software industry grew strong enough to assert itself through antitrust claims.[3] As a result, this bundling of hardware and software became illegal under U.S. antitrust laws.[4] Thus, computer hardware and software developed as separate industries.[5] This inspired a plethora of questions regarding the legal status of computer software, including taxability, tangibility, and protection as intellectual property.[6]

In the two decades that followed, the computer software industry changed faster than the law did. One of the more frustrating questions from a legal standpoint was whether computer software could be deemed a "good" with regard to uniform sales law.[7] In the United States, commentators disputed this issue with regard to Article 2 of the Uniform Commercial Code (UCC or Code) and, notwithstanding a few persistent dissenters,[8] they eventually agreed that computer software fit the Code's definition of a "good"[9] and was thus governed by UCC Article 2 from both a practical and legal standpoint.[10] Although courts varied in their treatment of the issue,[11] the Third Circuit Court of Appeals finally settled any ambiguity in 1991, by adopting the majority position held by

---

1. *See* James A. Mogey, *Software as UCC Goods: A Critical Look*, 34 HOW. L. J. 299, 299-300 (1991) (citing *In re* Protest of Strayer, 716 P.2d 588, 590 (1986)); *see also* John G. Martin, Note, *The Revolt Against the Property Tax on Software: An Unnecessary Conflict Growing Out of Unbundling*, 9 SUFFOLK L. REV. 118, 123 (1974).

2. *See* L. Scott Primak, *Computer Software: Should the U.N. Convention on Contracts for the International Sale of Goods Apply? A Contextual Approach to the Question*, 6 COMPUTER L.J. 197, 214 n.123 (1991).

3. *See id.* For more recent developments in software antitrust issues, see generally Melissa Hamilton, *Software Tying Arrangements under the Antitrust Laws: A More Flexible Approach*, 71 DENV. U. L. REV. 607 (1994); Allan M. Soobert, *Antitrust Implications of Bundling Software and Support Services: Unfit to be Tied?*, 21 DAYTON L. REV. 63 (1995).

4. *See* Telex v. IBM, 510 F.2d 894, 915-26 (10th Cir. 1975), *cert. dismissed*, 423 U.S. 802 (1975); *see also* Martin, *supra* note 1, at 118 n.1.

5. *See* Martin, *supra* note 1, at 123.

6. *Cf.* Mogey, *supra* note 1, at 299.

7. *See generally id.*; *see also* Bonna Lynn Horovitz, *Computer Software as a Good Under the Uniform Commercial Code: Taking a Byte Out of the Intangibility Myth*, 65 B.U. L. REV. 129, 130 (1985).

8. *See generally* Mogey, *supra* note 1; Primak, *supra* note 2; Martin, *supra* note 1.

9. *See* Uniform Commercial Code (U.C.C.) § 2-105.

10. *See* Advent Systems Ltd. v. Unysis Corp., 925 F.2d 670, 676 n.2 (3d Cir. 1991) (finding that computer software transactions were governed by UCC Article 2 legally, and not merely by analogy). The Third Circuit cited six different commentators supporting this view. *See id.* at 676.

11. *See* Mogey, *supra* note 1, at 300.

commentators; namely, that software was explicitly governed by UCC Article 2.[12]

On the other hand, the legal status of computer software on the international front is less concrete.[13] The drafter of international software transactions is forced to look to UCC Article 2's international counterpart. On January 1, 1988, the United Nations Convention on Contracts for the International Sale of Goods (CISG or Vienna Convention) entered into force. Although there are similarities between the CISG and UCC Article 2, the input of numerous negotiating parties and years of compromise[14] resulted in a final product which differed substantially differed from the American law—which raises the first major question of this inquiry: does the Vienna Convention apply to transactions in computer software? Otherwise stated, does computer software fit within the scheme of applicability of the CISG? Is it a "good" under the CISG and is that even relevant?

This Comment addresses these questions by first reviewing the general CISG provisions on applicability, then discussing both the importance and the difficulty of the issue in light of the unique nature of computer software and the reasons that its status as a "good" is so problematic. Further, this Comment addresses the relevancy of the UCC, first by exploring whether its use as a guiding analogy is legitimate under the provisions of the Vienna Convention, and second by reviewing UCC case law and its development. This inquiry then discusses the conclusions drawn by CISG commentators regarding applicability to software sales, licensing agreements, and database transactions. It ventures further into the somewhat uncharted issue of software transactions taking place electronically (exclusively on-line). Additionally, this Comment weighs general policy arguments against the stated objectives of the Convention; makes some predictions for the future; and discusses the most recent development in the law, namely the January 1997 draft of the proposed UCC Article 2B.[15] Finally, the actual provisions of UCC Article 2B are discussed and the proposal's

---

12. *See Advent Systems*, 925 F.2d. at 676.

13. *See* Arthur Fakes, *The Application of United Nations Convention on Contracts for the International Sale of Goods to Computer, Software, and Database Transactions*, 3 SOFTWARE L.J. 559, 561 (1990).

14. *See generally* JOHN HONNOLD, DOCUMENTARY HISTORY OF THE UNIFORM LAW FOR INTERNATIONAL SALES 1 (1989) [hereinafter DOCUMENTARY HISTORY].

15. PROPOSED U.C.C. ARTICLE 2B, LICENSES (National Conference of Commissioners on Uniform State Laws, Jan. 1997, Draft with Notes) (visited Feb. 19, 1997) <http://www.law.upenn.edu/bll/ulc/ucc2/ucc2bjar.htm> [hereinafter PROPOSED U.C.C. ART. 2B].

revolutionary implications for both national and international software transactions are presented.

II. THE GENERAL SCOPE OF APPLICABILITY

For the international practitioner, the Vienna Convention can be a useful and reliable resource in drafting international sales transactions because it provides for greater predictability of the law than would the observation of the respective domestic laws of the home countries of individual contracting parties.[16] There are problems, however, in that the CISG is fairly recent in its enactment and, thus, there is very little case law in the United States or elsewhere which interpret its provisions.[17] So despite a valid attempt to increase predictability in the law, the CISG still produces uncertainty because some of the more elusive issues escaped specific treatment within its text.[18] The legal status of computer software is one such issue and differing views on the subject persist in the various signatory states as is discussed subsequently. As always, the first step in investigating such an issue should be analysis of the text to see exactly what is and is not covered by the scope provisions of the CISG.[19]

The scope of application of the Vienna Convention is found in Articles 1 through 6. Article 1(1) provides that the Convention applies to "contracts of sale of goods between parties whose places of business are in different states (a) when the states are contracting states; or (b) when the rules of private international law would result in the application of the law of a contracting state."[20]

For the purposes of this discussion, it is important to note that Article 2 expressly excludes six categories of goods from the scope of the Vienna Convention. It reads:

> This Convention does not apply to sales:
> (a) of goods bought for personal, family or household use, unless the seller, at any time before or at the

16. *See generally* DOCUMENTARY HISTORY, *supra* note 10.

17. There have been only eight individual CISG-related cases in the United States. For a complete listing of all CISG cases worldwide, see Pace University School of Law, CISG Database, Country Case Schedule (visited Mar. 31, 1997) <http://www.cisg.law.pace.edu/cisg/text/casecit.html>.

18. *See generally* Primak, *supra* note 2; Fakes, *supra* note 13.

19. *See* Final Act of the United Nations Conference for the International Sale of Goods, Apr. 10, 1980, U.N. Doc. A/CONF. 97/18 (1980), *reprinted in* 19 I.L.M. 668 [hereinafter CISG], arts. 1-6.

20. *Id.* art. 1(1)(a), 1(1)(b).

> conclusion of the contract, neither knew nor ought to have known that the goods were bought for any such use;
> (b) by auction;
> (c) on execution or otherwise by authority of law;
> (d) of stocks, shares, investment securities, negotiable instruments or money;
> (e) of ships, vessels, hovercraft or aircraft;
> (f) of electricity.[21]

Because the CISG did does not expressly define the term "good," and because there is no attempt to define the term in the legislative history,[22] Article 2's residuary definition is the only indication of what constitutes a good under the Convention—seemingly anything that does not fall within one of the six stated categories. This approach creates ambiguity and has lead to interpretative difficulties.[23]

Conversely, the UCC in section 2-105(1) does provide such an express definition: "'Goods' mean all things (including specially manufactured goods) which are movable at the time of identification to the contract of sale."[24] It is noteworthy, however, that despite this express definition, the determination that computer software is a "good" under the UCC remained a daunting legal problem for two decades.[25]

Most notably, the subsection (a) exclusion of goods "bought for personal, family, or household use" limits a potentially vast realm of computer software transactions from the scope of the Vienna Convention.[26] However, if these "consumer goods" are bought for a commercial purpose, then the sale is covered by the Vienna Convention.[27] For example, the purchase of a single automobile by a dealer for the purpose of resale would be covered.[28]

An interesting but often overlooked Article 2 exception, for the purpose of this inquiry, is the subsection (f) exclusion of electricity. While it is expressly excluded from the CISG, it is expressly included under European Union law in the EEC Directive on Liability for

---

21. *Id.* art. 2.
22. *See* Primak, *supra* note 2, at 221; *see generally* DOCUMENTARY HISTORY, *supra* note 14.
23. *See* Bradley J. Richards, *Contracts for the International Sale of Goods: Applicability of the United Nations Convention*, 69 IOWA L. REV. 209, 224-25 (1983).
24. U.C.C. § 2-105(1).
25. This problem began with IBM's announcement in 1969 and concluded with the Third Circuit's ruling in *Advent Systems*. *See supra* note 10.
26. *See generally* Arthur Fakes, *supra* note 13.
27. *See id*. at 579.
28. *See id*.

Defective Products.[29] This becomes relevant in the subsequent discussion of computer database and on-line, electronic transactions.

Article 3 of the Vienna Convention illustrates the crucial differentiation between goods and services:

> (1) Contracts for the supply of goods to be manufactured or produced are to be considered sales *unless the party who orders the goods undertakes to supply a substantial part of the materials* necessary for such manufacture or production.
>
> (2) This Convention does not apply to contracts in which *the preponderant part* of the obligations of the party who furnishes the goods consists in the supply of labour or other services.[30]

These two subsections provide separate approaches to deducing the true nature of a transaction for the purposes of the CISG. However, both approaches are often relevant when evaluating a transaction. Most software transactions are, in fact, combinations of sales and service provisions.[31]

For example, Buyer, an office manager, contracts for software to computerize all office files onto a user-friendly, in-house database. Buyer's files constitute the content, while the seller supplies the database software ($5,000 value), which he customizes to contain all of Buyer's data ($1,200 value in labor cost for the data-entry). One first applies subsection (1) of Article 3, and should note that Buyer is supplying a component of the transaction—the data. However, although the software is customized by the introduction of Buyer's data, the data is not so fundamental to the product that the seller would not have a marketable product should he choose to sell to another party. Another office could just as easily purchase the same customized software from the seller. Thus, the component that Buyer supplied is not a substantial part of the materials necessary for production and accordingly is not violative of subsection (1). If a transaction withstands the first element of the Article 3 test, one applies subsection (2) of Article 3. Both a good (the software) and a service (the data-entry) are fundamental to this hypothetical transaction. Article 3(2) looks to the preponderant part of the seller's

---

29. Council Directive 85/374/EEC on the Approximation of Laws, Regulations and Administrative Proceedings of the Member States Concerning Liability For Defective Products, 1985 O.J. [L 210] 29, art. 2. "Product includes electricity." *Id.*

30. CISG art. 3, *supra* note 19 (emphasis added).

31. *See generally* Primak, *supra* note 2.

obligations to determine which aspect wins out. Professor John O. Honnold points out that the monetary value of each is an effective indicator.[32] Here, the software is clearly the preponderant part because it is valued at $5,000 as opposed to $1,200 for the data-entry.

Article 6 of the Vienna Convention allows parties to exclude the application of the Convention or to vary the effect of any of its provisions. Thus, "like the UCC, the CISG is interstitial in nature—it will govern only to the extent that the parties have not clearly addressed an issue in their agreements,"[33] allowing contracting parties to opt out of virtually any provision.[34] It is important to note, however, that there is no express provision that either allows or disallows Vienna Convention application to transactions falling outside the scope of Articles 1 through 5. This raises the obvious question: can parties simply agree within the provisions of their contracts to be bound by the CISG and ignore, or "vary," the first five articles of the CISG? This is a question which the drafters debated and which involves some of the broader issues of treaty interpretation. Several delegations feared that this would allow parties to avoid domestic consumer protection laws. Therefore, it was decided in a compromise that parties should not be barred from so opting into the Vienna Convention application, as long as the policy behind the excluding provision is not contravened.[35] Commentators argue that, because haggling parties sometimes use choice-of-law clauses to select a neutral third state's law regardless of whether either party is familiar with it, it is more desirable in the interest of party autonomy and uniformity of legal rules to allow application of the CISG.[36]

It is apparent that Chapter I of the CISG, relating to its sphere of application, neither expressly or implicitly bars the Vienna Convention's application to computer software transactions. While the Vienna Convention fails to expressly define the term "good," it also fails to bar application to computer software in Article 2's list of six exclusions. Thus, the Article 1(1) requirement that the contract be one for the sale of goods appears on its face to be a fairly general one. In light of conflicting

---

32. *See* JOHN O. HONNOLD, UNIFORM LAW FOR INTERNATIONAL SALES UNDER THE 1980 UNITED NATIONS CONVENTION (Kluwer 1982) [hereinafter HONNOLD, UNIFORM LAW].

33. Paul R. Gupta et al., *New Rules for International Sales of Computer Hardware and Software*, 5 COMPUTER LAW. 22, 22 (1988).

34. *See* Kevin Bell, *The Sphere of Application of the Vienna Convention on Contracts for the International Sale of Goods*, 8 PACE INT'L L. REV. 237, 250 (1996).

35. *See id*.

36. *See id*. (citing B. Blair Crawford, *Drafting Considerations Under the 1980 U.N. Convention on Contracts for the International Sale of Goods*, 8 J.L. & COM. 169, 189 (1988).

definitions, internationally, this view is more realistic than the suggestion that there was so broad an agreement among the drafters that they felt it unnecessary to define the term.[37] Article 3 provides a two-part test to distinguish service contracts from contracts for the sale of goods. While it is clear that some software transactions would certainly be excluded under this provision, it is evidently not dispositive of such transactions where the software, as a product, constitutes the "preponderant part" of the transaction. However, should subsequent analysis expose computer software to be a service rather than a good, then Article 3 would bar CISG application. Finally, Article 6 allows parties to opt out of or vary almost any provision of the Convention. The drafters also agreed that, within the scope of the policy behind provisions which exclude certain kinds of transactions, parties are not barred from opting into the CISG when their transaction would normally fall outside the Convention's scope. Thus, the sphere of application seems to allow for application to computer software and, in the alternative, the Convention appears flexible enough to allow for such coverage even if software was found to be outside the CISG's scope.

III. THE UNIQUE NATURE OF COMPUTER SOFTWARE: WHY IS IT A PROBLEM?

On the surface, this appears to be a timely topic. Computer software sales are on the up-swing and are becoming increasingly global in nature.[38] It is natural to desire some consistency with regard to what law governs such transactions. Despite the option to vary or opt into CISG coverage, parties often do not specify or even consider governing law of a contract until after a dispute has arisen.

Application of the Vienna Convention, like Article 2 of the UCC, hinges upon whether the transaction can be classified as one for the sale of goods.[39] The unique nature of computer software eludes ordinary legal classification as either a good or an intangible.[40] The peculiar nature and technology of the software industry is such that transactions often resemble service contracts.[41] Further, in the interest of protecting the author or manufacturer's intellectual property rights, software

37. *See id*. at 250.

38. *See* Interviews with Kent D. Larson, Senior Programmer Analyst for American Savings, Irvine, California (Oct. 22, 1996, and Nov. 28, 1996) [hereinafter Kent Larson Interviews].

39. *See id*.

40. *See* Horovitz, *supra* note 7, at 130.

41. *See id*.

transactions increasingly take the form of nontraditional sales[42] such as licensing agreements,[43] casting yet another ingredient into this complex equation. Thus, a reasoned analysis of the applicability of uniform sales law such as the CISG to these transactions is essential because its provisions significantly alter the rights and remedies available to contracting parties.[44]

Unlike most other products, computer software mixes characteristics of goods, services, intangibles, and intellectual property. These issues overlap and are difficult to separate for the purpose of legal analysis. When inquiring into the applicability of the CISG to software, it is useful to consider the character of the property (whether it is tangible or intangible),[45] the character of the transaction (whether it is predominantly for a good or a service), the form of the transaction, (whether it is a sale, lease, or license), and the compatibility of software with the goals and effects of the uniform law.[46]

Beginning with the fundamental nature of computer software, it is necessary to wrestle with the issue of tangibility. According to one commentator, "[a]lthough software has both tangible and intangible elements, the dominant purpose or essence of every software transaction—the thing of value contracted for—is the intangible program."[47] Most computer software is transferable in the form of a physical medium—usually a disk, a CD-ROM, or a Digital Audio Tape (DAT).[48] However, the medium should not be confused with the message. The program is the thing of value—an intangible set of instructions to one's computer enabling it to perform certain functions. Thus, the essence of the software is the program—the directing tool of encoded instructions—and the medium is merely incidental and of little value on its own.[49]

---

42. *See id*. at 130, 132-34. Frequently, software is one component of larger transactions involving turn-key systems, bundled contracts, straight leases, and software agreements tied with hardware leases. *See id*. at 133-34.

43. *See id*. at 130, 162-63; *see generally* Thomas L. Lockhart & Richard J. McKenna, *Software Licensing Agreements in Light of the U.C.C. and the Convention on the International Sale of Goods*, 70 MICH. B. J. 646 (1991).

44. *See* Horovitz, *supra* note 7, at 131.

45. *See id*. at 149 (citing U.C.C. § 2-105 (expressly excluding certain types of intangibles from coverage)).

46. *See id*.

47. *Id*. at 132.

48. *See id.* at 133 n.2.

49. *See id*. at 133.

Crossing into the realm of intellectual property, another commentator points out that "these instructions may exist in the mind of their developer, in the memory of a computer, flowing through a low-voltage telephone line, or in all three places at once . . . . [Software is therefore] an intangible intellectual property rather than a manufactured end product."[50] However, this view was rejected by U.S. courts which recognized that, while computer programs are the result of an intellectual process, they are subsequently implanted onto a medium which is widely distributed to computer owners, at which point the software becomes a good.[51] By way of analogy, U.S. courts point to musical compact disks, which contain the intellectual property of the composer which, by transferal to a medium, becomes a merchantible commodity.[52] A similar analogy is a professor's lecture which becomes a good once it is transcribed.[53] Thus, the fact that a computer program is copyrightable intellectual property does not preclude it from classification as a good.[54]

Both musical compact disks and books provide useful analogies which courts have utilized.[55] But commentators have noted that the analogy holds true on a superficial level only.[56] It breaks down on the level of the purchaser's objective.[57] Admittedly, a customer buying a musical CD really wants the music, not the medium.[58] Similarly, a software purchaser buys a floppy disk, but really wants the program.[59] The information on the musical CD is protected by copyright laws just as the program on the disk may be protected by copyright, patent, or trademark laws.[60] But the musical CD, clearly a tangible good and covered by the UCC and CISG,[61] is only warranted as to flaws in the medium.[62] Thus, a cracked CD would provide a purchaser with a cause of action against the seller or manufacturer. It is clear that such a flaw in a computer software medium, such as a floppy disk, would similarly be

---

50. Mogey, *supra* note 1, at 308-09, 312.
51. Advent Systems Ltd. v. Unysis Corp., 925 F.2d 670, 675 (3d Cir. 1991).
52. *See id.*
53. *See id.*
54. *See id.*
55. *See id.*
56. *See* Horovitz, *supra* note 7, at 150-51.
57. *See id.*
58. *See id.*
59. *See id.*
60. *See id.* at 151.
61. *See* U.C.C. § 2-105; CISG art. 2(2) (a CD is a good as long as it was sold for commercial, not consumer, purposes).
62. *See* Horovitz, *supra* note 7, at 151.

covered.[63] But the real concern of a software purchaser would be against flaws in the computer program itself. It is unlikely under any existing uniform sales law that a plaintiff could successfully sue an artist performing on a CD for hitting a flat note or for some other sort of musical error,[64] nor does a reader have a cause of action against an author for writing an anti-climatic ending for a novel. In software transactions, however, protecting the vendor from such "flat notes" is a primary concern. A word-processing program containing an error which results in written documents being randomly and permanently erased from the computer's hard drive could result in severe hardship to a business or an educational institution. This highlights a necessary inquiry as to whether warranty provisions of the uniform law address only the medium on which the program is encoded—the tangible element—or the actual information encoded on the medium—the intangible essence of the program.[65] Despite this provocative difference, however, U.S. courts stand by the CD/book analogy.[66]

One additional facet of the CD analogy is that a musical CD's contents often originate as acoustical music, but are translated to binary, a complex sequence of ones and zeros read electronically, which are translates back into music by the CD player.[67] Similarly, computer programs are written in various codes or programming languages, which are subsequently translated into binary by the computer and executed to run the program.[68] It is therefore conceivable, though uncommon, that a CD master recording could contain a flawed binary translation of the music affecting each subsequent CD copied from the master, resulting in a similar warranty problem as in the case of a computer program with a flaw in the source code.[69] At first glance it would appear that a book would not suffer the same danger. Yet, books are increasingly recorded on tape or on compact disk and sold as goods. Additionally, entire libraries are available on computer CD-ROM, and could plausibly suffer the same problems. These contingencies suggest that potential difficulties

---

63. *See id*.

64. *See id*.

65. *See id*. This raises the issue of appropriateness—whether the CISG adequately addresses common software-related issues, which will be discussed subsequently, as will proposed UCC Article 2B's express warranty provision tailored to meet these concerns.

66. *See* Advent Systems Ltd. v. Unysis Corp., 925 F.2d 670, 676 (3d Cir. 1991).

67. *See* Kent Larson Interviews, *supra* note 38.

68. *See id*.; *see also* Horovitz, *supra* note 7, at 131-32 (citing Davidson, *Protecting Computer Software: A Comprehensive Analysis*, 3 JURIMETRICS J. 339, 341 (1983)).

69. *See* PROPOSED U.C.C. ART. 2B, *supra* note 11, § 2B-404 (discussing a warranty provision dealing with such an event).

are symptomatic of electronic goods in general and not strictly computer software.

Inevitably, the inquiry returns to the question of whether software is a good or a service. As discussed, the CISG contains no definition for "good." The UCC section 2-105 definition of goods, "all things . . . moveable at the time of identification to the contract for sale,"[70] would seem to apply to computer software as it is usually boxed, packaged, and easily moveable. However, commentators argue that drafters of the UCC Article 2 were primarily "concerned with codifying the law applicable to items of property which normally flow in commerce and which are portable at the time they are set aside for sale."[71] Thus tangibility is not the critical issue and is secondary to these more express concerns.[72] Commentator Bonna Lynn Horovitz summed up the issue:

> [t]he fact that a computer program cannot be seen or felt should not preclude UCC coverage, as the UCC does not make those qualities the test for exclusion. The type of intangibility meant to be excluded from Article 2, that of choses in action, is different from the type of intangibility characteristic of software. The fact that program instructions are intangible does not rule out UCC applicability, because programs can be identified, moved, transferred, and sold in the same manner as other pieces of personal property classified as goods.[73]

While this analysis is helpful, technology and business move faster than the law and commentaries. For example, Internet technology now facilitates on-line software transactions that allow a buyer to simply purchase and down-load computer programs over the phone lines.[74] When software arrives to a customer via Internet connection, there is no box or packaging, only a stream of electrons carrying encoded information.[75] In such a transaction, the buyer often merely purchases a serial number which is used to activate the down-loaded software.[76] This process completely circumnavigates the use of a tangible, physical

---

70. U.C.C. § 2-105.
71. Horovitz, *supra* note 7, at 151.
72. *See id*.
73. *Id*. at 151-52.
74. *See* ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1451-52 (7th Cir. 1996).
75. *See id*.
76. *See id*.

medium to transport or embody the program. Thus, tangibility becomes an even more elusive factor for evaluating software as a good.

In light of this direction which software transactions have taken, it is useful to note some of the fundamental aspects which markedly distinguish software from other, more conventional goods. One copy of a computer program, whether obtained in the form of a physical medium or through an on-line transaction, can be copied onto the hard drive[77] of multiple computers and used simultaneously. However, the same is not true of computer hardware or most other forms of goods. For example, a mouse[78] can only be plugged into one computer at any given time, and thus, can only be used by one user on one system. Therefore, software appears atypical from traditional goods and computer hardware components, such as a mouse, in its ability for simultaneous use.

Software's anomalous nature, combined with the difficulties encountered with on-line transactions, could be interpreted to suggest that software is ill-suited for classification as a good. However, these developments do not, of themselves, prevent software from being "moveable at the time of identification to the contract for sale."[79] Nor do they alter the CISG's broad scope of applicability. For these reasons, one senior programmer analyst suggests recognition of software as a "virtual good."[80] Software has the actual impact and function of a good but encounters classification difficulty because of its unique properties and form. Thus, the lack of physical tangibility could be addressed, and in essence disposed of, by classifying software as a "virtual good" which would be treated as a conventional good under the law. This is an approach which UCC case law has taken in practice, though drafters have not adopted the term as an additional classification.[81]

It is important to note that the fact that the UCC applies to software is hardly dispositive of applicability under the CISG. For the purposes of this inquiry, the UCC has been used as an example to discuss the difficult issues surrounding software itself. Inevitably, it becomes necessary to explore how relevant and applicable the UCC analogy is in both a legal and precedential sense.

---

77. A "hard drive" refers to the device containing the computer's permanent memory.

78. A "mouse" is a hand-held computer accessory which directs the cursor movements on screen.

79. U.C.C. § 2-105.

80. Kent Larson Interviews, *supra* note 38.

81. *See ProCD*, 86 F.3d at 1451-52.

IV. APPLYING THE UCC: WHETHER IT IS APPROPRIATE AND WHERE ITS CASE LAW STANDS

There is no case law discussing whether the Vienna Convention applies to computer software transactions.[82] Inevitably, deciding the issue will involve interpretation of the Convention. One of the greatest difficulties involved in this is the lack of a single tribunal or organization with jurisdiction to interpret the Convention's provisions and settle troublesome issues.[83] Thus, the courts of various member countries are technically not required to follow the interpretations of other member countries.[84] However, interpreting treaties often reveals a phenomenon called the *Homeward Trend*, which is defined by commentators as:

> the inclination of people to assimilate new ideas by relating them to the old ideas with which they are most familiar. Here, it indicates the likelihood that many people will read the text of the Convention as a mirror image of article 2 of the United State's Uniform Commercial Code. Such reflexive action is to be discouraged.[85]

Thus, commentators discourage the *Homeward Trend*, advocate staying within the text and stated objectives of the Vienna Convention, and promote the observance of scholarly writings as well as legislative histories, before resorting to domestic law.[86]

Taking this approach requires analysis of the text of the CISG. Specifically, the focus should be on Article 7 which reads:

> (1) In the interpretation of this Convention, regard is to be had to its *international character* and to the need to promote uniformity in its application and the observance of good faith in international trade.
>
> (2) Questions concerning matters governed by this Convention which are not expressly settled in it *are to be settled in conformity with the general principles* on which it is based *or*, in the absence of such principles,

82. *See* Fakes, *supra* note 13, at 563.
83. *See id*. at 562.
84. *See id*.
85. Primak, *supra* note 2, at 205 (citing DOCUMENTARY HISTORY, *supra* note 14, at 1-2).
86. *Id*. at 204-06; *see also* DOCUMENTARY HISTORY, *supra* note 14, at 2.

> in conformity with the law applicable *by virtue of the rules of private international law*.[87]

For the purposes of this inquiry, Article 7 provides a fair indication that Member States should not give in to the temptation to follow the *Homeward Trend*. Article 7 "discourages any resort to domestic legal concepts and tries to free judges . . . from the iron chains of precedents, thus permitting them to examine foreign cases as well in order to attain uniformity in the application of the Convention."[88]

Similarly, the United States Supreme Court has stated: "[t]reaties are to be construed more liberally than private agreements . . . . The analysis must begin, however, with the text of the treaty and the context in which the written words are used."[89] Thus, Article 7 would seemingly be observed by a U.S. court. In contrast, however, the Second Circuit Court of Appeals, when faced with the need to interpret the Convention, expressed its willingness to apply UCC case law to such analyses.[90] In *Delchi Carrier v. Rotorex Corporation*, the Second Circuit held that where CISG case law is lacking, in addition to following the general principles of the Convention, case law interpreting analogous provisions of the UCC may inform a court where the language of the relevant CISG provision tracks that of the UCC.[91] However, the court did specifically point out that such "UCC case law 'is not *per se* applicable.'"[92] This indulgence in a *Homeward Trend* ruling by a U.S. court sends a signal to other signatories to do the same. By not staying within the express text of the Convention and its underlying principles, U.S. courts have, in essence, opened the doors for other nations to compliment the CISG with their commercial statutes as well. This deprives the collective signatories of the predictability and reliability of law which the CISG was meant to create. In order for the CISG to truly live up to the purpose for which it was created, interpreting courts must stay within the strict boundaries of Article 7. Instead, U.S. courts have paid lip service to Article 7 but in the end have been quick to apply domestic case law where it appears relevant.

---

87. CISG, *supra* note 19, art. 7 (emphasis added).

88. Primak, *supra* note 2, at 207 (quoting Kazuaki Sono, *The Vienna Sales Convention: History and Perspective*, *in* INTERNATIONAL SALE OF GOODS: DUBROVNIK LECTURES 1, 7-8 (P. Sarcevic & P. Volken eds. 1986)).

89. Air France v. Saks, 470 U.S. 392, 396-97 (1985) (quoting Choctaw Nation of Indians v. United States, 318 U.S. 423, 431-32 (1943)).

90. *See* Delchi Carrier S.p.A. v. Rotorex Corp., 71 F.3d 1024, 1028 (2d Cir. 1995).

91. *See id*.

92. *Id.* (quoting Orbisphere Corp. v. United States, 726 F. Supp. 1344, 1355 (Ct. Int'l Trade 1989)).

Despite this possible problem, their decisions make it necessary to understand exactly where U.S. courts stand on software transactions under the UCC.

In 1991, the Third Circuit Court of Appeals held in *Advent Systems Ltd. v. Unysis Corp.*[93] that computer software is a good falling under Article 2 of the UCC.[94] The court analogized software to books and musical recordings, finding that while intellectual property value exists in them, they are relegated to the status of goods at the moment they are transferred onto a mass-produced physical medium.[95] The court further pointed out that "[t]he fact that some programs may be tailored for specific purposes need not alter their status as 'goods' because the Code definition includes 'specially manufactured goods.'"[96] Thus, customized software is not precluded from falling under the UCC. However, such a transaction must still withstand the evaluation of goods as opposed to services.[97] It is noteworthy that the court in *Advent Systems* utilized the preponderant purpose test in deciding the nature of the transaction.[98] Its analysis and procedure tracks that of CISG Article 3, which requires that the preponderant part of the transaction be for goods.[99] Thus, under the rule in *Delchi Carriers*, a U.S. court would likely find that computer software falls under the CISG in a case of first impression.

V. CISG APPLICABILITY TO SOFTWARE IN GENERAL: DOES IT REALLY FIT SOFTWARE TRANSACTIONS?

CISG Article 7 prescribes a procedure in which questions of interpretation are to be settled "in conformity with the general principles on which [the Convention] is based."[100] However, one commentator points out that

> [t]he underlying policy of the Convention, the United States,[101] and the EEC [European Economic

93. 925 F.2d 670 (3d Cir. 1991).
94. *See id.*
95. *See id*. at 675.
96. *See id*.; *see also* U.C.C. § 2-105.
97. *See* U.C.C. § 2-105. If the product is found to be merely a service, it would not meet the requirements of the § 2-105 definition of a "good."
98. *See Advent Systems*, 925 F.2d at 676.
99. *See* CISG, *supra* note 19, art. 3(2) (stating that CISG does not apply to contracts in which the preponderant part of the obligations are for services).
100. CISG, *supra* note 19, art. 7(2).
101. Primak, *supra* note 2, at 214 (citing AMERICAN BAR ASS'N, THE CONVENTION FOR THE INTERNATIONAL SALE OF GOODS: A HANDBOOK OF BASIC MATERIALS 47 (R. Kathrein & D. Magraw

> Community][102] is to promote the development of international trade. To the extent that this policy is substantially representative of the policies of a majority of countries in the world, the Convention should be applied wherever it may positively affect international commercial transactions and enhance the development of international commercial law as it applies to software.[103]

Similarly, Professor Andrew Rodau points out:

> [d]isagreement exists about whether software is a good because of the confusing and contradictory usage of terminology in the computer industry. Rapid advances such as the unbundling of hardware and software[104] and the reduced need for custom software have led to the formation of independent software producers who create and mass-market over-the-counter or canned software which is often usable on more than one computer.[105]

For these reasons, L. Scott Primak argues the need to apply overriding community goals where long term precedential value of judicial decisions are limited.[106] Applying the CISG to computer software transactions would enhance uniformity and predictability in the law of international trade.

However, CISG application hinges upon whether software is a good under CISG Article 2.[107] The list of exclusions in Article 2 could potentially lead a court to reason that an item traditionally governed by

---

ed. 1987)). In a 1983 "Letter of Transmittal," U.S. President Ronald Reagan concluded that "[e]nhancing legal certainty for international sales contracts will serve the interests of all parties engaged in commerce by facilitating international trade." *See id.* at 214 n.20..

102. The sources of this EEC goal are the Single European Act of 1986 (SEA) and Articles 85 and 86 of the Treaty of Rome. *See id.* at 225. Primak argues

> [a]lthough there are other regions of the world in which community goals may differ, the goals of the European Community are representative of a combination of common law, civil law, and hybrid systems. Thus their system of decision-making and resultant policies will be closely analyzed to understand their "community goal."

Id.

103. *Id.* at 214.

104. *See* Mogey, *supra* note 1, at 299-300 (discussing this unbundling or separation).

105. Primak, *supra* note 2, at 214-15 (citing Andrew Rodau, *Computer Software: Does Article 2 of the UCC Apply?*, 35 EMORY L.J. 853, 861 (1986)).

106. *See id*. at 215.

107. CISG article 2 provides a list of exclusions. *See supra* note 21 and accompanying text. CISG article 3 also provides an exclusion. *See* discussion *supra* note 98.

special rules, offering unique problems, or which is not certain to be classified as a good in all legal systems should therefore be excluded.[108] In response, Primak argues "such a reading would render the Convention impotent, and such a result was not intended by the framers. Furthermore, such a conclusion discounts overriding community goals."[109]

Article 3 provides a framework which seems to allow coverage of a class of software transactions.[110] It has been read by some commentators to be more inclusive than the UCC since it specifically defines the Convention's scope to include hybrid goods/service contracts, so long as those contracts are not predominantly based on labor or services.[111]

Perhaps a more difficult question is whether the provisions of the CISG truly encompass computer software which is somewhat unique and is likely to pose new problems as technology advances. For example, the provisions requiring delivery of the goods, namely Articles 30 to 40, appear to pose no real problems when applied to software transactions, as long as the transaction is for packaged software in the form of a physical carrier medium.[112] Arguably, the shipment of packaged software would be no different from the shipment of any other conventional good. However, these provisions may be impossible to apply in their entirety to software transactions taking place on-line and involving no medium to deliver. The Article 30 requirement that the seller hand over all documentation to the buyer could, in that case, pose a problem.[113] This could be remedied, however, by simply faxing such documentation to the buyer simultaneously when transferring the actual software on-line.[114]

---

108. *See* Primak, *supra* note 2, at 222.

109. *Id.*

110. *See* CISG, *supra* note 19, art. 3.

111. *See* Thomas L. Lockhart & Richard J. McKenna, *Software License Agreements In Light of the UCC and the Convention On the International Sale of Goods*, 70 MICH. B. J. 646, 652-53 (1991).

112. *See* CISG, *supra* note 19, arts. 30-40.

113. CISG article 30 requires that: "The seller must deliver the goods, hand over any documents relating to them and transfer the property in the goods, as required by the contract and this Convention." CISG, *supra* note 19, art. 30.

114. Because the CISG excludes consumer transactions, no discussion is required here about the feasibility of consumer protections, which would require consumers to purchase a fax machine in order to enjoy the protection under the CISG. Arguably, most commercial entities conducting international transactions, especially in the computer industry, are equipped to facilitate such transfers by fax or telex.

Article 41, however, states that "[t]he seller must deliver goods which are free from any right or claim of a third party, unless the buyer agreed to take the goods subject to that right or claim."[115] The rationale for this rule appears to be that of imposing accountability on the seller for knowledge of intellectual property rights in the goods he vends; the buyer should not have to face expensive litigation based on such lack of knowledge.[116] The buyer's agreement to accept such goods may be express or implied.[117] Thus, Article 41 is used by commentators to argue that if the buyer can agree to accept goods subject to a third party's claims, then a buyer could similarly agree to accept goods subject to the seller's right to title.[118] Thus, at a minimum, a seller may utilize Article 41 as a loop-hole for allowing licensing agreements for computer software to be covered under the CISG.[119]

Article 41 further requires that sales of goods subject to a third party's intellectual property rights be governed by Article 42, which places an Article 41-type requirement on the seller except in cases where "at the time of the conclusion of the contract the buyer knew or could not have been unaware of the right or claim."[120] This requirement could presumably be met quite easily by posting a notice of copyright on the software's packaging or on the title page of the program itself,[121] making it fairly difficult for the buyer to claim a lack of notice of the intellectual property protection.[122] Thus, the delivery provisions do not conflict with application to software sales and, in fact, they seem to facilitate the CISG's application to software licensing transactions.

VI. CISG APPLICATION TO THE VARIOUS KINDS OF SOFTWARE TRANSACTIONS

As previously noted, transactions in computer software are quite varied in their forms and functions. For the purpose of this discussion, there are four main categories of software transactions which should be examined. The first, and perhaps the most straight-forward, is an actual sale of software. As discussed, the express provisions of the Vienna

115. CISG, *supra* note 19, art. 41.
116. *See* Fakes, *supra* note 13, at 580.
117. *See* DOCUMENTARY HISTORY, *supra* note 14, at 425-26.
118. *See* Primak, *supra* note 2, at 224.
119. *See id*.
120. CISG, *supra* note 19, art. 42(2)(a).
121. The title page of the program is the first image shown on one's computer screen when running the program.
122. *See* Fakes, *supra* note 13, at 581.

Convention appear to provide no bar to its application to the sale of computer software, at least when the transaction involves a packaged carrier medium to be shipped to the buyer. It is noteworthy that under Article 3(2), custom-designed software, or an extensively modified pre-written program for which the creation or modification involves separate international contracts, may not be covered if it fails the Article 3(2) "preponderant part" test.[123] United States courts which recognize specially-manufactured goods under the UCC[124] may come in conflict with foreign courts on interpretation of this issue. "On the other hand, minor alterations to pre-written programs should not be enough labor to satisfy the 'preponderant part' test,"[125] and thus will likely be covered by the Vienna Convention without much dispute.

Any software transaction falling under Article 2(a), which bars CISG application to personal, household, or consumer transactions, would be excluded from coverage under this sale category. Examples of software most likely to fall into this category are entertainment and home-education programs. However, it is common for companies to purchase such programs in bulk for the purpose of resale. These transactions would be covered by the Convention.[126]

VII. LICENSING AGREEMENTS

The second, and potentially more difficult category is a software licensing agreement. This is most often utilized by sellers who license their programs rather than sell them in order to prevent unauthorized duplication.[127] For example, if software is sold and not licensed, the buyer is entitled to resell it, give it away, or destroy it without infringing on the copyright of the software owner.[128] These buyers' rights can substantially affect a software publisher's profit and infringe on its ability to maintain the confidentiality of the software.[129]

---

123. *See id*. at 582.

124. *See, e.g.*, Advent Systems v. UNYSIS Corp., 925 F.2d 670, 675 (3d Cir. 1991).

125. Fakes, *supra* note 13, at 583.

126. *See* CISG, *supra* note 19, art. 2(a); DOCUMENTARY HISTORY, *supra* note 14, at 50-52. Honnold explains that it is the purpose of the buyer that determines whether the transaction is for consumer or commercial purposes. Thus, purchasing for the purpose of resale is commercial in nature and governed by CISG article 2.

127. Primak, *supra* note 2, at 219.

128. *Id*. at 221 (citing B. SOOKMAN, COMPUTER LAW: ACQUIRING AND PROTECTING INFORMATION TECHNOLOGY 2-48 (1989)).

129. *Id.*

In the United States, the Copyright Act (Act)[130] provides protection for all "original works of authorship fixed in any tangible medium of expression,"[131] but does not protect ideas, concepts, or processes. Thus, the Act has been interpreted to provide protection for source code as well as individual screen displays of computer software.[132] Under the Act, an "owner" of copyrighted software has the right to or may authorize others to copy the work, prepare derivative works, and distribute copies of the copyrighted work to the public by sale, rental, lease, or other transfer of ownership.[133] Thus the copyright owner "exhausts rights to control the use of the copy [of her program when she] transfers ownership of the copy of a work or upon the first sale of the copy. The person to whom the copy is transferred is entitled to dispose of it by sale, rental, or any other means."[134] The result is that the copyright holder must closely control all individual copies of the copyrighted work. In essence, "the software developer cannot '*sell*' the copy of the software and also prohibit copying. Therefore, the developer *typically transfers only the right to use the software through a licensing agreement*."[135]

Although software licensing is not an actual sale because the manufacturer retains title to the software, it does have many of the characteristics of a sale.[136] For example, when a customer pays a one-time licensing fee and acquires the indefinite use of the program, a perpetual license has been conferred.[137] It can therefore be argued that "the software is effectively sold despite retention of title where the producer has no realistic expectation of ever getting the software back."[138] Arthur Fakes argues that the characteristics of a software sale implicate Vienna Convention application:

> For example, if a license grant is perpetual, if the agreement contains an indefinite term, or if the term is undefined, the door is open for an argument that the copy of software referenced in the so-called license agreement

130. 17 U.S.C. §§ 101-810, 1001-1010 (as amended 1976).
131. *Id.* § 102(a).
132. *See* Lockhart & McKenna, *supra* note 43, at 646.
133. *See* 17 U.S.C. § 106.
134. Lockhart & McKenna, *supra* note 43, at 646 (citing H.R. REP. NO. 94-1476, 79 (1976)).
135. *Id.* at 648 (emphasis added).
136. *See* Primak, *supra* note 2, at 221.
137. *See id.*
138. *Id.*

> has in fact been sold to the user. This argument is strengthened if a one-time fee is charged the user.[139]

Fakes points out that such arguments are weakened by clauses indicating continued ownership of the licensed copy by the licensor. One example of this is a reversion clause which demands the return of the software upon breach by the user. However, Fakes notes that such clauses do not, on their own, necessarily defeat the application of the Convention.[140]

Even a well-drafted licensing agreement lacking the characteristics of a sales agreement may be defeated by actions of the licensor that are inconsistent with the license transaction.[141] One such example is a program marketed with a "shrink-wrap license." Shrink-wrap licensing, and other forms of licensing restrictions are based on the institution of contract.[142] A box or package containing a product, in this case computer software, comes with printed restrictions stated in an enclosed license.[143] This license is also encoded in the program, the physical medium, and often appears on the user's screen when running the software.[144] Though the forms and particulars of software licenses vary, they usually aim to limit the licensee's rights regarding use of the program. One example is a shrink-wrap license that restricts the user from duplicating a word-processing program for the purpose of sale, lease, or use by a third party. Typically, it will allow installation onto a user's computer, duplication onto a floppy disk for back-up purposes (for the same licensee/user only), and indefinite use by the user.[145] These agreements increasingly limit a consumer's use of the program to personal use and charge a higher fee (and sometimes require different terms) if the purchase is for commercial or business purposes.[146] Although they were the subject of controversy for years, shrink-wrap licenses were found by U.S. courts to be valid in *ProCD Inc. v. Zeidenberg* in 1996.[147] In that case, as with many programs, running the program required the user to first click on the screen indicating acceptance of the terms of the license agreement. The program would not

---

139. *Id.*
140. *See id*. at 584-85.
141. *See id*. at 585.
142. *See* ProCD Inc. v. Zeidenberg, 86 F.3d 1447, 1450 (7th Cir. 1996).
143. *See id.*
144. *See id.*
145. *See, e.g.*, MICROSOFT CORP., INTRODUCING MICROSOFT WINDOWS 95 (manual included with all new personal computers installed with Windows 95).
146. *See* Kent Larson Interviews, *supra* note 38.
147. *ProCD*, 86 F.3d at 1451-53.

proceed until this was done. The court found these to be valid contractual agreements under the UCC.[148] Somewhat surprisingly, the European Union allows for software licensing agreements[149] and implicitly allows for shrink-wrap agreements.[150]

To illustrate actions of a seller which are inconsistent with a license agreement, consider this hypothetical: a business application program marketed with a shrink-wrap license was sold by the licensor to a wholesaler who then sold it to a retailer from whom the user acquired it. Either of the prior sales would appear to nullify any restrictions in the shrink-wrap license on the user.[151] It is interesting to note that Microsoft has termed its shrink-wrap license agreement for *Windows 95* an "End-User License Agreement."[152]

Application of the Vienna Convention to software licensing agreements should be analyzed in light of Articles 4, 30, 41, and 42.[153] Article 4, dealing with the substantive coverage of the Convention, could lead, if taken literally, to the conclusion that licenses are covered by the CISG.[154] It states:

> This Convention governs only the formation of contracts for *sale* and the rights and obligations of the seller and buyer arising from such a contract. In particular, except as otherwise expressly provided in this Convention, it is not concerned with: . . . (b) the affect which the contract may have on property in the goods sold.[155]

Subsection (b) refers to the time at which property passes not whether it passes at all.[156] Thus, CISG Article 4 does not require the passing of title. However, Article 30 arguably does.[157] It clearly states "[t]he seller must deliver the goods, hand over any documents relating to them and

148. *Id.* Note that U.C.C. section 2-204(1) allows contracts to be formed "in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract."

149. *See* Council Directive 91/250 on the Legal Protection of Computer Software, 1991 O.J. (L 122) 42, arts. 4(c), 5.

150. *See* BRIDGET CZARNOTA & ROBERT HART, LEGAL PROTECTION OF COMPUTER PROGRAMS IN EUROPE: A GUIDE TO THE EC DIRECTIVE 59-62 (1991).

151. *See* Fakes, *supra* note 13, at 585.

152. INTRODUCING MICROSOFT WINDOWS 95, *supra* note 143.

153. *See* Primak, *supra* note 2, at 223.

154. *See id.*

155. CISG, *supra* note 19, art. 4 (emphasis added).

156. *See id.*

157. *See id.*

transfer the property in the goods . . . ."[158] This provision, without qualification, could lead to the conclusion that licenses which retain title in the seller would be outside the scope of the Vienna Convention. However, as mentioned in the previous section, CISG Article 41 states that "[t]he seller must deliver goods which are free from any right or claim of a third party, unless the buyer agreed to take the goods subject to that right or claim."[159] Therefore, because the buyer's agreement to accept such goods may be express or implied,[160] Article 41 allows a purchaser to accept goods subject to the seller's right to title. Thus, Article 41 provides an avenue for allowing licensing agreements for computer software to be covered under the CISG.[161] Arthur Fakes argues that the individual factors of a license agreement and the determination of the Convention's applicability to it will require analysis on a case-by-case basis.[162]

VIII. DATABASE TRANSACTIONS AND ON-LINE SOFTWARE TRANSFERS

A third category of transactions involving software is a database transaction which may involve software sales. Most computer databases, such as LEXIS, reside in computer memory and are accessed through remote dial-in connections for the purpose of retrieving information.[163] Such on-line services often involve software in that the search engines are driven by computer programs.[164] Further, they often include a sale or license of access software which the user installs on a computer and therefore is able to dial in and interact with the on-line database.[165]

The interesting and somewhat unique problem posed by such an on-line transaction under the CISG is Article 2(f)'s explicit exclusion of electricity from the scope of the Vienna Convention. Therefore, electronic transmissions would not qualify for Convention coverage. This exclusion should be taken seriously in light of the fact that the EU expressly included electricity in its list of "products" covered by its

158. *Id.* art. 30 (emphasis added).
159. *Id.* art. 41.
160. *See* DOCUMENTARY HISTORY, *supra* note 14, at 425-26.
161. *See* discussion *supra* notes 115-122 and accompanying text.
162. *See* Fakes, *supra* note 13, at 586.
163. *See id.*
164. *See id.*
165. *See id.* at 587.

directive addressing products liability and consumer protection.[166] There, the EU categorized electricity as a good with regard to personal injury liability but not property damage[167]—which would facilitate sale-of-goods purposes. The EU regulated electricity conversely from the CISG, providing an example of an approach that the CISG could have taken had the drafters chosen to. As a result of the electricity exclusion, Fakes concludes that "a signed license agreement for copies of the database and its access software would argue for the conclusion that the Convention did not apply to the transaction."[168] Databases on CD-ROM, which come with application software but which require no on-line service are more likely to be covered by the Vienna Convention because they are essentially software. In a recent directive, the European Union reached the same conclusion, legislating that on-line database transactions "come within the field of services," as opposed to independent CD-ROM databases which are "an item of goods."[169]

Finally other forms of software transaction taking place exclusively on-line, or via the Internet would seem to be barred by the same provision because there is no physical packaging or carrier medium to transport it. In *ProCD*, a U.S. court described an on-line transaction as "a stream of electrons" which transfer to a buyer by down-loading it over the phone lines.[170] When software arrives to a customer by a wire, there is no box or packaging, only encoded information carried electronically.[171] Generally, the buyer merely purchases a serial number which activates the down-loaded software's features.[172] It is difficult to argue that a program housed in a physical medium like a disk is a good, while at the same time arguing that electricity should not be viewed as the medium of an electronically transmitted program. This mode of software transaction was addressed in dicta by the court in *ProCD* which hinted that it was covered by the UCC.[173] Incidentally, this is an area which has

166. *See* Council Directive 85/374 on the Approximation of Laws, Regulations and Administrative Provisions of the Member States Concerning Liability for Defective Products, 1985 O.J. (L 210) 29, art. 2. "Product includes electricity." *Id.*

167. That is, personal injury claims will succeed under the Directive, while personal property damages will not.

168. Fakes, *supra* note 13, at 587.

169. Council Directive 96/229 on the Legal Protection of Databases, 1996 O.J. (L 77) 1, art. 33. Interestingly, the directive explains that the access software for the database is covered not by the directive but is instead covered under the Software Directive 91/250, *supra* note 147. *Id.*

170. ProCD Inc. v. Zeidenberg, 86 F.3d 1447, 1451-52 (7th Cir. 1996).

171. *See id*.

172. *See id*.

173. *See id*. at 1452.

been more thoroughly addressed in the proposed revisions of the UCC (namely the proposed Article 2B) which was also noted in that case[174] and is addressed in the final sections of this Comment.

The exclusion of electricity could, on the other hand, be countered by alleging that the electricity is not the product or good but merely the carrier medium for the good which is the software. Other developments may also dampen the effect of CISG Article 2(f). Fiber-optics are replacing electrical connections for on-line computer transactions.[175] Thus, these light sensors, which are not electricity based, could render electronic on-line transactions obsolete—especially in the commercial realm.[176] Another question is raised by cell-phone connections. If computer modems are connected to each other through a cellular connection, this too could be found to circumnavigate any ban on such transactions which CISG Article 2(f) may place on the Vienna Convention application because the transfer would not use electricity as a medium.[177]

IX. CONCLUSIONS ON CISG-GOVERNED TRANSACTIONS AND IMPLICATIONS FOR THE FUTURE

As the U.S. court in *Advent Systems* noted, commentators debated the question of whether software was a good under the UCC and settled the issue before the courts followed suit by embracing the commentators' interpretation.[178] Similarly, commentators agree that the Vienna Convention applies to many transactions in computer software.[179] It is likely that CISG case law will follow suit and similarly embrace many of the commentator's conclusions. Because it has not yet been heard in court, it will be a case of first impression. Thus, the first state to try a case on this point has the opportunity to set an important precedent regarding whether or not to allow its own domestic slant taint its interpretation of the CISG.[180] It is crucial that such a court refrain from applying its own

174. *See id*.

175. *See* Interview with Richard M. Exnicious, Laboratory Technician, Principle Research Engineering Lab of Systems and Techniques, Georgia Institute of Technology (Dec. 3, 1996).

176. *See id*.

177. *See id*.

178. Advent Systems v. Unysis Corp., 925 F.2d 670, 675-76 (3d Cir. 1991).

179. *See generally* Primak, *supra* note 2; Fakes, *supra* note 13.

180. That is not to suggest that a CISG case decided in one signatory state has binding precedential power over another state's ruling. Lacking a single tribunal there is no such precedential constraints.

law, as the U.S. court did in *Delchi*,[181] and instead apply the interpretive provisions of the Vienna Convention. In light of CISG Article 7's emphasis on international character and general principles, coupled with commentator arguments against the invocation of the *Homeward Trend*, courts in the future will be pressured to observe the precedent set by other signatory states that remain true to the Convention. In the alternative, if the first cases result in the forum state using domestic law as a basis for their interpretation, then other nations may follow suit.[182] This would further damage predictability in the law both because of the various results that would incur, and because CISG Article 7 would pressure later courts to ignore earlier *Homeward Trend* decisions.

Inevitably, different nations have different views on the issue. The position of the United States is quite clear. Despite the problems of predictability that it causes in following a *Homeward Trend* rather than the spirit of CISG Article 7, a U.S. court, under the rule in *Delchi Carriers*, would likely find that most forms of computer software transactions fall under the CISG by applying UCC case law by analogy. As discussed, U.S. case law has a fairly expansive view of "sale" and has clearly recognized license agreements and even shrink-wrap licensing to fall within the scope of the UCC.[183] Thus under *Delchi*, this view could also be applied to the CISG by U.S. courts.

The United Kingdom, however, although not a signatory to the Vienna Convention, has taken a more restrictive view of what constitutes a good which may or may not be indicative of how other signatories will view the issue.[184] Although the British court declined to directly decide the issue, it was persuaded against finding software to be a good because of the claim that intellectual property rights, once attached to or embodied in a physical medium, divest that medium of its status as a good, thereby swallowing the rights attached to goods.[185] It should be noted that

---

181. *See* Delchi Carrier S.p.A. v. Rotorex Corp., 71 F.3d 1024, 1028 (2d Cir. 1995).

182. Each nation should follow the dictates of Article 7 and the underlying principles, respecting the international character of the Convention. Then, the signatory states could be guided by another nations interpretation since it was true to the Convention. Even then, the precedent would be read as persuasive but not binding.

183. *See* ProCD Inv. V. Zeidenberg, 86 F.3d 1447, 1451-52 (7th Cir. 1996).

184. *See* Primak, *supra* note 2, at 216 (citing Andrew Scott, *Software as Goods: Nulum Simile Est Idem*, 3 COMPUTER L. & PRAC. 133 (1987)).

185. *See id.* at 217 n.138 (citing Eurodynamic Systems Plc. v. General Automation Ltd., 1983 B. B. 2804 (1988)).

subsequent European Union legislation overruled this reasoning in the context of international trade.[186]

Under the law of the European Union, the carrier medium is generally considered to be an item falling within the system of free circulation of goods,[187] without considering its purpose as a distributor of a work an intellectual property.[188] Thus, it is argued that at least the sale of mass-produced software products will likely be covered by a decision in a Member State of the European Union.[189] A recent EU Directive on the Legal Protection of Databases distinguished a service-based computer transaction (namely an on-line database transaction) from a goods-based transaction (involving CD-ROM software),[190] which at the very least strengthens the argument that software is a good from an EU perspective. Although the EU's position on shrink-wrap licensing is less concrete, shrink-wrap licensing is implicitly considered a sale of a good under the Directive for the Protection of Computer Programs.[191]

It is clear that nonconsumer software sales will receive CISG coverage. The verdict on licensing is less clear. Policy arguments vary from strict interpretation to liberal reading. Perhaps the most compelling policy argument on this topic stems from the general principle of promoting uniformity and predictability in the law, namely, the prevention of new and unnecessary laws. It is argued that the failure to recognize license agreements under the CISG will result in just that—new domestic laws which complicate the very international transactions which the Convention seeks to simplify.[192] Interestingly, exactly such a law has been drafted and is under consideration as the proposed Article 2B of the UCC.

---

186. *See* Council Directive 91/250 on the Legal Protection of Computer Programs, *supra* note 147; Council Directive 96/229 on the Legal Protection of Databases, *supra* note 168.

187. *See* Primak, *supra* note 2, at 215 (citing Scott, *Software as Goods: Nulum Simile Est Idem*, 3 COMPUTER L. & PRAC. 133 (1987)).

188. The intellectual property rights in computer software are governed by Council Directive 91/250 on the Legal Protection of Computer Programs, *supra* note 147.

189. *See* Primak, *supra* note 2, at 215.

190. *See* Directive 96/229 on the Legal Protection of Databases, *supra* note 168, art. 33.

191. *See* Council Directive 91/250 on the Legal Protection of Computer Programs, *supra* note 147; Czarnota & Hart, *supra* note 148, at 59-62.

192. *See* Czarnota & Hart, *supra* note 148, at 218 (citation omitted).

X. 2B OR NOT 2B: THE BACKGROUND AND SCOPE OF A DRAFT PROPOSAL OF REVOLUTIONARY PROPORTION

On January 20, 1997, the American Law Institute and the National Conference of Commissioners on Uniform State Laws released an updated draft proposal for Article 2B of the UCC: Licenses.[193] In essence, the legal uncertainties surrounding licensing agreements and software transactions inspired American drafters to attempt a scheme of uniform law which would be tailored specifically to this unique area.

Both Article 2 of the UCC and the predecessors of the CISG[194] were spawned in the 1950s when manufacturing was the epicenter of the modern economy.[195] The modern economy has shifted from manufacturing to a services orientation with information technology playing a prominent role.[196] According to the Task Force Chairman of the American Bar Association's UCC Subcommittee on Software Contracting, "[t]reating information licensing in the same body of law that governs the sale of a toaster appears misplaced."[197] Rather than focusing on the sale of a tangible item, UCC Article 2B emphasizes the right to use information or a software product as opposed to the good's delivery. By its very nature, the licensing of information and computer software does not fit neatly into either UCC Article 2 or the CISG. Instead it has been forced into the mold of those uniform laws both expressly, in the case of the UCC, and to a more limited degree with the CISG, as the previous analysis has explained. Although this course of events might be necessary in the interest of judicial economy, this Comment has thus far demonstrated that the more technologically advanced the transaction (e.g., an exclusively on-line transaction), the more difficulty uniform sale of goods laws will have in applying and regulating those transactions, especially in international contracts under the CISG. Thus, after several years of preliminary studies by committees from the American Bar Association (ABA), the National Conference of Commissioners on Uniform State Laws (NCCULS), and representatives

193. PROPOSED U.C.C. ART. 2B, *supra* note 15.

194. *See generally* HONNOLD, UNIFORM LAW, *supra* note 32.

195. *See* Arnold Brian Dengler, *UCC Article 2B: Drafting a New Law to Govern Information Licensing*, HIGH TECH (visited Feb. 19, 1997) <http://www.wgl-hightech.com/feature/069mtlr-text2.html>.

196. *See id*.

197. *Id.*

of the software industry, the NCCULS embarked on the drafting of Article 2B in July of 1995.[198]

The draft embraces the general UCC theme of contractual freedom and serves as a provider of default rules to play a gap-filling function in the event that parties make no agreement on the subject of a rule.[199] Accordingly, its framers strove to make it reflect commercial practice or usage of trade as widely as possible.[200] Most interesting, for the purpose of this inquiry, is the scope of 2B. Unlike UCC Article 2 or the CISG, 2B does not force information licenses into the pre-existing "sale of goods" mold. Instead it recognizes: (1) that most transactions involve licenses; (2) most of these transactions involve an on-going relationship between parties (posing the danger of being labeled a service contract); and (3) that remedies, warranties, and delivery provisions suitable for the sale of goods may not be suitable for information technology.[201] The scope of Article 2B has been defined as follows in section 2B-103:

> (a) This article applies to *licenses of information and software contracts* whether or not the information exists at the time of the contract, is expected to come into being after the contract is formed, or is to be developed, discovered, compiled, or transformed, and even if the expected development, discovery, compilation or transformation does not in fact occur. The article also applies to any agreement related to a license or a software contract in which a party is to provide support, maintain, or modify information.[202]

Subsection (a) of 2B-103 covers software contracts, with no limitation to any certain form or mold, and licenses of information; therefore, the Article is not limited to just software but keeps open information services such as LEXIS and others. Further, the NCCULS drafting committee explicitly chose to keep the scope to "licenses of all information and software contracts" rather than limit the scope to "coded, digital, or electronic" transactional subject matter.[203] Perhaps even more

198. *See* Raymond T. Nimmer, *Article 2B Issues: Meeting the Information Age* (visited Feb. 19, 1997) <http://www.lawlib.uh.edu/ucc2b/0503/nat_issu.html>.

199. *See id*. at 2; Dengler, *supra* note 194, at 1.

200. *See id*.

201. *See* Dengler, *supra* note 194, at 1.

202. PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-103(a).

203. *See id.* § 2B-103, Committee Votes ¶¶ (a), (b); *id.* § 2B-103, Reporter's Note 2.

provocatively, 2B-103 claims to cover maintenance or modification agreements "related to," not just incidental to, the transaction. Thus the CISG Article 3 differentiation between a transaction for goods as opposed to services seems here to be deleted. Basically, if a transaction falls under 2B, the "preponderant part" test is irrelevant. Another traditionally contentious issue is disposed of in the first sentence. UCC section 2-105's definition of "good" which requires both existence and "mobility *at the time of the contract*"[204] has also been abolished in these transactions. This abolition may be due to the fact that Article 2B addresses software and licenses of information, specifically, and thus status as a "good" is immaterial for its purposes. Of course, computer hardware, like any other form of good would continue to fall under the existing UCC Article 2.

Subsection (c) of section 2B-103 addresses the very difficulty which computer database transactions for information have traditionally faced, namely, deciphering between goods and information.

> (c) If a transaction involves both information and goods, this article applies to the information and to the copies of the information, its packaging, and documentation, but Article 2 or 2A governs standards of performance of the goods other than the copies, packaging, or documentation pertaining to the information . . . .[205]

There still exists some question among the drafters of how far to stretch the definition of "information," and whether or not authors' contracts in the publishing industry should be excluded from the scope of information covered by UCC Article 2B.[206] Presently, information is defined by the Article as "data, text, images, sounds, computer programs, software, databases, mask works, or the like, or any associated intellectual property rights or other rights in information."[207] Reporter's notes to § 2B-103 clarify this point as far as print media is concerned, stating "the article does not deal with sales of books, newspapers, or traditional print media sold over the counter since, except for transactions involving computer software, the scope of the article is limited to licenses."[208] It thus distinguishes between licenses and the sale of a copy when dealing with

204. U.C.C. § 2-105 (emphasis added).
205. PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-103(c).
206. *See id.* § 2B-103, Selected Issues (a) (comments to § 2B-103).
207. *Id.* § 2B-102(18).
208. *See id.* § 2B-103, Reporter's Note 1.

information other than computer software.[209] In summary, the general rule of applicability is, "except for transactions involving computer software, the article is limited to licenses."[210]

Early reporter's notes to § 2B-103 clarify other problems for both Article 2 of the UCC and for the CISG.

> The Committee . . . determined to focus on the scope as defined by licensing of information and transactions involving computer software contracts, *whether conceived of as a license or a sale*. Within this scope are the various forms of on-line services contracts relating to information, all software transactions and other forms of licensing. Common to all of these transactions is that the focus of the transaction concerns information (rather than goods) and that there are conditions on use or access either express or implied in the transaction.[211]

Thus, the distinction between sale and license of software is rendered irrelevant. All on-line software purchases and database transactions are specifically included regardless of any previous concern about tangibility. The arguments which critics once raised, that physical carrier mediums of computer programs were incidental and over-shadowed or even swallowed by the "information" that was the program, is now dismissed.[212]

According to Chairman Dengler of the ABA Subcommittee on Software Contracting, a list of examples of transactions that would be governed by Article 2B would include: "custom software licensing, mass market licenses (pre-packaged software such as Lotus Notes obtained through retailers or downloaded from the Internet), 'access contracts' (such as WESTLAW or CompuServe), and systems integration contracts."[213]

XI. OPTING INTO ARTICLE 2B AND CHOICE OF LAW CLAUSES

Article 2B appears to have, on its face, a more flexible applicability scheme than the CISG. It is applicable to other transactions

209. *See id.* § 2B-103, Reporter's Note 3.

210. *Id.* § 2B-103, Reporter's Note 1.

211. *See* PROPOSED U.C.C. ART. 2B, *supra* note 15 (Sept. 6, 1996, draft), Reporter's Note 1 (subsequently rewritten but not materially altered according to the most recent draft, January, 1997).

212. *See generally* Scott, *supra* note 183.

213. Dengler, *supra* note 194, at 2.

by agreement (outside its scope), thus it takes the approach of CISG Article 6 a step further.[214] This refers to the previous discussion of the CISG Article 6 in this Comment that highlights the compromise which the drafters of the CISG reached regarding opting into the Vienna Convention from the position of being outside its scope of applicability.[215] Article 2B's approach takes this a step further because it contains a provision explicitly ruling this in, while the CISG does not. It should be noted in either case, however, that both the CISG and the UCC (both Article 2 and the proposed 2B) are default rules. Thus, with a few exceptions,[216] basic freedom of contract principles would allow most contracting parties to simply adopt certain provisions of any of these uniform laws and transcribe them into the language of their own individual contractual provisions.

According to the drafters, a contractual election to apply UCC Article 2B is analogous to a choice of law term selecting the law of a particular state. For example, parties can agree that the warranty rules of Article 2B are more appropriate to their transaction (e.g., a service contract) than common law warranties or those of UCC Article 2, and thus can utilize Article 2B provisions so long as there are no "fundamental policy barriers" precluding use of these rules.[217] This policy exception is reminiscent of the compromise struck by the CISG drafters allowing parties to similarly elect to apply the CISG so long as the policy behind the excluding provision is not contravened.[218]

For a practitioner drafting an international software contract, a crucial aspect of the transaction is the choice of law clause. Draft section 2B-106 shows that the drafters are divided as to which way to proceed. Either it will read (Alternative A) "A choice of Law term in a contract is enforceable" with nothing further, or (Alternative B) which will attach to this same text numerous provisions limiting such freedom in order to protect consumers from shrink-wrap licensing agreements which choose an unlikely third state (e.g., Alaska) law for the purpose of denying the state licensing protection afforded in the home states of either party.[219]

---

214. *See* PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-105.

215. *See* CISG, *supra* note 19, arts. 1-6.

216. An exception would be that under UCC arts. 2 and 2B, parties cannot opt out of the "unconscionability" provisions. U.C.C. § 2-302; PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-109.

217. *See id.* § 2B-105, Reporter's Note 2.

218. *See* Bell, *supra* note 34, at 250.

219. *See* PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-106 (Alternatives A and B); *id.* § 2B-106, Reporter's Notes.

The blanket validation of Alternative A conforms to commercial law concepts and other uniform law in the United States, while Alternative B makes a limited incursion on the freedom of contract.[220] The drafters provide the following example of a situation invoking the Alternative B exception:

> [America On-Line] provides on-line services throughout the United States and has its chief offices in Virginia. Under the proposed draft, in a contract with a consumer who resides in Oklahoma, the contract may choose the law of Virginia (licensor location) or Oklahoma (licensee residence). If it purports to choose Alaska law, that choice of law is enforceable except to the extent that it denies the licensee fundamental protections that would be available to it under Virginia or Oklahoma law.[221]

Another example of Alternative B at work addresses a potentially sticky problem: what law governs when the transaction takes place exclusively on-line? especially if its between two different countries? Section 2B-106 (Alternative B) (b)(1) creates a presumptive choice of law based on the location of the licensor (referring to the location of the licenser's chief executive office, not that of the up-loading computer).[222] Thus, an on-line vendor who, by definition, provides direct marketing to the entire world through the Internet would, under any other formulation, have to comply with the laws of fifty states and 168 countries.[223] Further, section 2B-106 (Alternative B) (c) provides a protective rule in cases of foreign choices of law where the effect of using the licenser's location would be to place the choice of law in a harsh, underdeveloped, or otherwise inappropriate location. This rule is intended to protect against both conscious selections of location designed to disadvantage the other party, and forum shopping by U.S. companies which have virtually free choice as to where to locate. This is especially important in the global Internet context.[224]

Eventually, the drafters will by necessity choose one alternative or the other regarding Article 2B's choice of law provision. The more accommodating the final draft is to the consumer protection laws of individual countries, the more likely Article 2B will be viewed favorably

---

220. *See id*.
221. *Id.*
222. *See* PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-106, Reporter's Note 5.
223. *See id*.
224. *See id.* § 2B-106, Reporter's Note 10.

by the international community (potentially looking to 2B as a model for an international convention on computer software and information licensing) which, as a rule, avoids agreements or conventions that either dampen their consumer protection laws, or provide avenues for their circumnavigation. For this reason as well as the apparent benefit of predictability attained by its presumption of choice of law based on the location of the licensor in Internet transactions, Alternative B is the preferable choice from the international practitioner's standpoint.

XII. HOW ARTICLE 2B AFFECTS A SOFTWARE TRANSACTION

As discussed previously, the Vienna Convention requires delivery of goods under Article 30. UCC Article 2B, on the other hand, abandons the concept of delivery and instead phrases performance obligations as a "transfer of rights."[225] "Transfer of rights" is a defined term under section 2B-102(39) which includes "a grant of a contractual right or privilege as between the parties for the transferee to have access to . . . information." Section 2B-501(b) reads "[t]ransfer of title to or possession of a copy[226] of information does not transfer ownership of intellectual property rights in the information."[227] Thus it codifies the basic principle behind a software licensing agreement to which it adds the following guidelines:

> (a) If a licensee receives title to a copy from the owner of intellectual property rights or an authorized person, the licensee receives all of the rights of an owner of a *copy* under federal law.
>
> * * *
>
> (c) In a license, the following rules apply to copies of information:
>
> (1) A licensee's right to possession or control of a copy is governed by the contract and does not depend on title to the copy.
>
> (2) Title to the copy is determined by the contract.
>
> (d) If the parties intend to transfer title to a copy and the contract does not specify when title transfers: In the absence of contractual provisions:

225. *See id.* § 23-102(39); Dengler, *supra* note 194, at 2.

226. A "copy" is defined in 17 U.S.C. § 109 (Limitations on Exclusive Rights: Effect of Transfer of Particular Copy or Phonorecord).

227. PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-501(b).

> (1) If the copy remains in the presence of the licensor, title to the copy remains in the licensor.
> (2) Physical transfer of a copy from the licensor to the licensee under a mass market license or otherwise transfers title to the copy on delivery to the licensee.
> (3) Delivery transfer of a copy *by electronic means* to the licensee transfers title of the copy if the transfer constitutes a first sale under copyright law.[228]

Drawing on the United States Copyright Act, section 2B-501 distinguishes between title to the copy and ownership of the intellectual property rights and further provides a gap-filler scheme for the potentially troublesome problem of passage of title.[229] With regard to this separation between intellectual property rights and rights to a copy, section 2B-501 is Article 2B's equivalent to CISG Articles 41 and 42, only it is more clearly tailored to fit computer software and information transactions.

Modern software and information licensing transactions are not concluded in one instantaneous transaction but instead require performance over time. Therefore, except when dealing with mass-market licensing transactions, Article 2B rejects the "perfect tender rule" which has been limited to UCC Article 2 transactions involving the initial transfer of goods in a sales contract without installments. The more recent 2B drafts have included a UCC Article 2-styled perfect tender rule with regard to sales contracts without installments because, by their nature, they tend to be one-time transactions.[230] But the general standard employed by Article 2B is found in section 2B-601, which embraces a "material breach" standard for most transactions that is defined interchangeably with "substantial performance."[231] As the Reporter's Notes to that section explain, "The concept is simple: A minor defect in the transfer does not warrant rejection of performance or cancellation of the contract. Minor problems constitute a breach of contract, but the remedy is compensation for lost value."[232] Thus, under this approach the injured party is entitled to compensation but is not relieved of the obligation to perform. This concept is particularly relevant to transactions

228. *Id.* § 2B-501 (emphasis added).
229. *See id.*
230. *See id.* § 2B-601.
231. *See id.* § 2B-601, Reporter's Notes 1, 2, 4, and 5.
232. *Id.* § 2B-601, Reporter's Note 5.

in software and information because software, especially when customized, often contains imperfections.[233] Also, the use of information services, electronic or otherwise, often entails incompleteness and minor inaccuracies.[234] Thus, Article 2B allows for on-going software and information-based transactional relationships while still granting the ability to utilize the UCC Article 2 perfect tender approach to mass-market software licensing transactions.

This "material breach" standard brings UCC Article 2B in line with both common law and international sales law. The CISG adopts the same position, calling it "fundamental breach" which it describes a breach that "results in such detriment to the other party as substantially to deprive him of what he is entitled to expect under the contract, unless the party in breach did not foresee and a reasonable person . . . would not have foreseen such a result."[235] Similarly, the UNIDROIT Principles of International Commercial Law state: "A party may terminate the contract where the failure of the other party to perform an obligation under the contract amounts to fundamental non-performance."[236]

XIII. TRANSACTIONS UTILIZING SHRINK-WRAP LICENSING

Standard forms and shrink-wrap licenses have been directly authorized by Article 2B. Although shrink-wrap licenses were held valid in *ProCD*, 2B's authorization of them arguably was in response to a 1991 case in which the Third Circuit used UCC section 2-207 to hold that shrink-wrap licenses in software packages delivered after a telephone contract had been concluded, did not become part of the sales contract.[237] "Standard forms" are defined as "a record consisting of multiple contractual terms prepared by one party for general competitive use which is used in a transaction without negotiation . . . ."[238] Article 2B further defines this area in its definition of "mass-market license" which it describes as "a standard form prepared for and used in a retail market for information which is directed to the general public as a whole under substantially the same terms for the same information . . . . The term

233. *See* Dengler, *supra* note 194, at 2.

234. *See id*.

235. CISG, *supra* note 19, art. 25.

236. INTERNATIONAL INSTITUTE FOR THE UNIFICATION OF PRIVATE LAW, PRINCIPLES OF INTERNATIONAL COMMERCIAL CONTRACTS (UNIDROIT PRINCIPLES) art. 7.3.1(1) (1994).

237. Step-Saver Data Systems, Inc. v. Wyse Technology, 939 F.2d 91, 102-04 (3d Cir. 1991).

238. PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-102(35).

includes consumer contracts."[239] The drafters focused on facilitating small retail transactions with a goal of predictability in application and contemplation of a marketplace of pre-packaged products and generally similar terms.[240] Thus, it excludes many more specifically tailored business transactions from this category.[241]

Section 2B-308 specifically addresses mass-market licensing first by focusing on the previously contentious issue of assent. "[A] party adopts the terms of a mass market license if the party agrees or manifests assent to the mass-market license before or in connection with the initial use or access to the information."[242] This refers to several different forms of shrink-wrap licenses, including those in which a user assents to the contract by breaking the seal of the package. Another example is a "boot-screen license," which is becoming more prevalent on the Internet. These require the licensee to indicate assent by clicking a box on the screen which allows the program to commence. The general rule under 2B-308(b) is that terms of such a license apply regardless of a knowledge or understanding of them by the assenting party. However, the section does supply several exceptions to this. Namely, such a license cannot be used to impose an affirmative obligation on the licensee and, thus, there is a reasonable person standard which would bar enforcement of a term that the licensor should know would cause an ordinary individual to refuse. Further, there is a bar on provisions which are contrary to previous negotiations between parties, though the latter seems unlikely in consumer, mass-market transactions.[243]

The manifestations of assent mentioned above are covered specifically by 2B-112, which first requires that the party has had opportunity to review the standard form[244]—basically requiring the provisions to be made available in a manner designed to call attention to it. This allows the recipient to review it either before acquisition, before the rights transfer, or in the normal course of the initial use or preparation to use the information.[245] Section 2B-112 provides that assent is manifested if the licensee "authenticates the record or term, or engages in other affirmative conduct that the record conspicuously provides or the circumstances clearly indicate will constitute acceptance of the record or

239. *Id.* § 2B-102(25).
240. *See id.* § 2B-102(25), Reporter's Notes.
241. *See id.*
242. *Id.* § 2B-308(a).
243. *See id.* § 2B-308(b)(1) and (2).
244. *See id.* § 2B-112(a).
245. *See id.* § 2B-113.

term."[246] It further requires that the licensee has an opportunity to decline after such opportunity to review. Subsection (2)(b) points out that the mere retention of the information or product does not constitute manifestation of assent. This is one reason boot-screen licenses are a wise avenue for software producers to follow because the program will not run until assent is indicated.

The drafters are careful to point out that there is a distinction between the concept of offer and acceptance as opposed to the manifestation of assent to a licensing agreement. In this shrink-wrap context, manifesting assent is designed to "provide procedural protections to ensure fairness in the use of standard forms."[247] The provision requires no proof that the party actually read the individual terms, but simply requires an affirmative act to signify assent which comes after an opportunity to review.[248] These are reasonably low hurdles for the licensors to meet.

XIV. A BRIEF LOOK AT WARRANTIES AND REMEDIES UNDER ARTICLE 2B

Although the warranties and remedies provided in proposed Article 2B justify a study unto themselves, it is important for the purposes of this inquiry to briefly highlight certain provisions in the draft in order to evaluate if and why the provisions of Article 2B are more fitting for software transactions in these areas than those of the Vienna Convention. Article 2B retains some of the time-honored UCC models relating to express warranties, implied warranties of merchantibility, and implied warranties of fitness for a particular purpose.[249] In the aggregate, however, Article 2B shifts the overall focus from warranties of results (as in UCC Article 2) to warranties of performance.[250] Section 2B-405 uses both approaches in its treatment of implied warranties of fitness. If the contract is for a fixed price that will not be paid if the product is not suitable for the stated purpose, then there is an implied warranty that the resulting product will be fit for such purpose.[251] On the other hand, if the licensor is paid for the amount of time put into the project (e.g., paid by the hour), regardless of the suitability of the end product, then "there is an

246. *See id.* § 2B-112(a)(1).
247. *See id.* § 2B-112, Reporter's Note 2.
248. *See id.* § 2B-112, Reporter's Note 3.
249. *See id.* §§ 2B-402, 2B-403, 2B-405, respectively.
250. *See* Dengler, *supra* note 194, at 2.
251. *See* PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-405(1).

implied warranty that the licensor will make a workman-like effort to achieve the licensor's purpose."[252]

Section 2B-401 provides an implied warranty that the licensor has the authority to make the transfer of rights involved in the transaction without infringing any intellectual property interests. Even more relevant for the purposes of this inquiry is 2B-404 which warrants "that there is no inaccuracy, flaw, or other error in the informational content caused by failure to exercise reasonable care and workman-like effort in its performance in collecting, compiling, transcribing, or transmitting the information."[253] It is noteworthy that this warranty is not breached merely because the information is inaccurate or incomplete. The Reporter's Notes to this section explain that this provision codifies case law on information contracts and quotes the New York Court of Appeals stating:

> [Those] who hire experts for the predominant purpose of rendering services, relying on their special skills, cannot expect infallibility. Reasonable expectations, not perfect results in the face of any and all contingencies, will be ensured under a traditional negligence standard of conduct . . . unless the parties have contractually bound themselves to a higher standard of performance.[254]

In light of earlier discussion of flaws in the physical medium of a computer program (such as a disk or CD-ROM) as opposed to the traditionally more elusive problem of flaws in the source code of a program or the binary transmissions that encode a compact disk with its musical content, it is interesting to note that Article 2B has ventured beyond other uniform law in regulating this gray area and has applied to it a negligence standard. This, in and of itself is an indication that Article 2B's specific focus is needed to adequately address the subtleties of transactions in information technology. Warranty disclaimers and modifications follow the more traditional Article 2 model and require the use of explicit and conspicuous language.[255]

Similar to the approach taken with regard to warranty provisions, Article 2B's remedies attempt to specifically tailor themselves to information contracts. For example, 2B-703 protects a party's interest in

---

252. *Id.* § 2B-405(2).

253. *Id.* § 2B-404(a).

254. *Id.* § 2B-404, Reporter's Note 1 (citing Milau Associates v. North Avenue Development Corp., 368 N.E.2d 1247 (1977)).

255. *See id.* § 2B-406.

information, providing damages if one party, such as the licensee, reveals confidential information, such as a trade secret, of the licensor. The aggrieved party may, according to that section, recover consequential damages "as measured in any reasonable manner that compensates it for any loss of or damage to, the parties interest or right in that information."[256]

One of the more controversial remedy provisions is 2B-7112, Self Help. This provision regulates a licensor's ability to use "electronic self-help" means to enforce contracts and any property rights it has in the information (e.g., remote lock-out of a computer program). It allows such self-help only in restricted circumstances where there has been material breach of a licensing agreement, notice, and preconditions allowing such a remedy.[257]

XV. ELECTRONIC CONTRACTING AND OTHER INTERESTING ASPECTS OF ARTICLE 2B

Contracting electronically is a relatively new phenomenon. Proposed Article 2B includes numerous provisions which attempt to lend predictability and fairness to this somewhat uncharted legal frontier. These provisions include 2B-111, which provides a risk allocation scheme responding to the anonymous nature of electronic commerce and which pertains to both the creation of an enforceable relationship and reliance on performance.[258] Within this scheme, 2B allows for "electronic agents," defined in 2B-102 as "a computer program or similar device designed . . . to initiate or respond to electronic messages or performance without review by an individual [human]."[259] According to 2B-111 electronic agents can contract and bind their principle so long as that party affirmatively created the agency.[260] Section 2B-206 provides the actual guidelines governing formation of a contract through electronic messages (whether initiated by humans or by electronic agents). This is complimented by 2B-207 which covers acknowledgment of electronic messages.

Another indication of the changing state of modern contracting is embodied in 2B-3138 which presents rules for governing liability incurred as a result of an electronic virus. Sub-section (a) provides:

---

256. PROPOSED U.C.C. ART. 2B, *supra* note 15, § 2B-703.
257. *See id.* § 2B-7112, Reporter's Notes.
258. *See id.* § 2B-111, Reporter's Notes 1, 2.
259. *See id.* § 2B-102(12).
260. *See id.*

> [u]nless circumstances clearly indicate that no duty of care could be expected, a party must exercise reasonable care to ensure that, when it completes a particular electronic performance or message, [it] did not contain an undisclosed virus that may be reasonably expected to damage or interfere with the use of data, software, or operations of the other party.[261]

Reporter's Note 3 to that section points out that "reasonable care" does not equate to absolute liability. However, as technology progresses, the scope and bite of computer torts will likely increase dramatically.

XVI. CONCLUSIONS

Undoubtedly, the proposed Article 2B can and will be the subject of many in-depth inquiries and debates by commentators. At this point it has not even been adopted by the American Law Institute, much less enacted into statute by the several states. For the purposes of this Comment, Article 2B is an indication of where uniform law can and must go in order to keep current with advancing technology. While conclusions have been drawn on the applicability of Article 2 of the UCC as well as the CISG to computer software, serious questions remain regarding the status of exclusively electronic transactions and how these would be handled by a court—especially a non-American court.

This Comment explored the likely outcomes of several different types of software transactions under the Vienna Convention. However, a fair amount of speculation persists. Although many forms of software transactions fit within the scope of the CISG, the fit is not an easy one. In reality, the CISG and its predecessors, the Hague Convention and the UNIDROIT Principles, did not predict the need for special legal rules to govern rapidly increasing technology, and in the attempt to do so, they appear to be obsolete. The remedies provided by the CISG fit manufactured goods well enough, but fail to compare to the specifically tailored remedies provided in the proposed UCC Article 2B.[262]

The Vienna Convention's fundamental goals include uniformity and predictability in the law. The fact that so much speculation persists on these issues suggests that those stated goals have not yet been reached. Article 2B's approach, adoption of an entire class of transactions, relieves

---

261. PROPOSED U.C.C. ART. 2B, *supra* note 15 § 2B-3138.

262. *Compare* CISG, *supra* note 19, arts. 45-52 and 74-77, *with* PROPOSED U.C.C. ART. 2B, *supra* note 15 §§ 2B-701 to 2B-7157.

contracting parties and courts from the burdens of such speculation. Thus, it would be desirable for the member states of the Convention to adopt such an approach, perhaps by a joint addendum to the current Convention, modeled after the Proposed UCC Article 2B. For the sake of uniformity and predictability this would be wise. In its Software Directive, the EU stated that "the Community is fully committed to the promotion of international standardization" with regard to computer software regulations[263] which could indicate a willingness to accommodate such standardization on the part of many of the signatories to the CISG. Yet, the drafting history of the CISG suggests[264] that concluding international agreements such as these is a long and difficult process. The largest hurdle to such an addendum to the CISG is its exclusion of consumer goods from its scope. Since consumer software is a vast component of the software industry, it would be illogical to exclude such a major portion of relevant transactions from the scope of an international agreement governing software contracts and licensing agreements. Forcing an addendum to the CISG raises the specter of consumer goods being relevant to the Vienna Convention—which is a highly unlikely prospect in light of its drafting history.[265] Therefore, the logical course is the pursuit of an international convention on computer software transactions and information licensing which would be a separate entity from the CISG. This distinction will allow the drafters to include consumer transactions in this convention without tinkering with the existing CISG provisions. In the meantime, should Article 2B be adopted and codified in the United States, and providing that its application proves to accomplish its goals, it is certainly likely that parties contracting for computer software or database transactions internationally, will select, by contract, to be bound by Article 2B, or will simply adopt its individual provisions as opposed to those of the CISG or other law.

For more conventional, prepackaged software transactions, the Vienna Convention is predictable and probably adequate to satisfy both parties as well as the goals of its drafters. As transactions involve more technologically advanced means of transferring software, and as the line between goods and services, or sales and licenses continues to blur, parties will likely find the CISG unsuitable and will look to a legal framework which better fits their given transaction. Until the

263. Council Directive 91/250 on the Legal Protection of Computer Programs, *supra* note 147.

264. *See generally* DOCUMENTARY HISTORY, *supra* note 14.

265. *See generally id.*

international community drafts a software and information licensing convention of its own, the proposed Article 2B of the UCC may, in fact, be their answer.

MARCUS G. LARSON