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Tangible or Intangible - Is That the Question - Conflict in the Texas Tax Classification System of Computer Software Comment.

Christine E. Reinhard

TANGIBLE OR INTANGIBLE—IS THAT THE QUESTION? CONFLICT IN THE TEXAS TAX CLASSIFICATION SYSTEM OF COMPUTER SOFTWARE

CHRISTINE E. REINHARD

I. INTRODUCTION

Assume that Jones Manufacturing Company, a high technology firm, requires new computer software to meet its expanding business needs and asks its corporate counsel for advice regarding the legal consequences of the transaction.[1] If the corporate counsel advises Jones that there will be no legal consequences and Jones subsequently purchases

1. *See* Marc S. Friedman & Lindsey H. Taylor, *State and Local Taxation of Software: A Trap for Computer Counsel*, COMPUTER LAW., June 1990, at 20 (providing a similar hypothetical), *available in* Westlaw, 7 No. 6CLW20.

various types of software from a vendor,[2] this attorney may later be confronted with an angry client who has just received an expensive tax bill for the software.[3] Frequently, counsel for buyers or licensees of software, such as the attorney in this hypothetical, will overlook the state and local tax consequences of the transaction.[4] This mistake can be quite costly as taxes can add thousands of dollars in extra expenses.[5] In order to avoid such a mistake, attorneys must be aware of the current tax law.[6] However, having an understanding of current tax law and its applicability is not enough—the tax lawyer must also be aware of the origin and evolution of the law of taxation.[7]

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2. *See id.* (providing various actions the firm might take based on advice given by counsel).

3. *See id.* (recognizing the consequences of a lawyer overlooking software taxes).

4. *See id.* (noting that the attorney in this case failed to advise the client on the state and local tax consequences of the transaction); Joseph X. Donovan, *Sizable Liabilities Await the Unwary: Impact of State and Local Taxes Is Often Overlooked*, LAW FIRM PARTNERSHIP & BENEFITS REP., Jan. 1997, at 9 (suggesting that businesses and law firms can no longer dismiss local and state taxes as a "minor inconvenience"), *available in* Westlaw, 2 No. 12 LFPBR 9.

5. *See* Marc S. Friedman & Lindsey H. Taylor, *State and Local Taxation of Software: A Trap for Computer Counsel*, COMPUTER LAW., June 1990, at 20 (claiming that a transaction involving software can entail a significant amount of extra expenses due to sales and property taxes imposed on computer software), *available in* Westlaw, 7 No. 6CLW20; *see also* General Bus. Sys., Inc. v. State Bd. of Equalization, 208 Cal. Rptr. 3d 374, 374 (Cal. Ct. App. 1984) (evaluating the validity of sales tax levied on computer software that totaled $50,256.27); International Bus. Machs. Corp. v. Director of Revenue, 765 S.W.2d 611, 612 (Mo. 1989) (deciding whether to grant refund requests, equaling $25,926.28 and $1,424,662, for sales tax imposed on computer software); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 468 (R.I. 1992) (addressing a dispute over a $17,000 personal property tax bill for computer software); *Companies Fight Software Tax Bite*, CHI. TRIB., June 9, 1996, at 7 (discussing a disagreement over a property tax levied on computer software, which according to attorney Mark Holcombe "involve[s] hundreds of thousands of dollars"), *available in* 1996 WL 2679556.

6. *See* Baird v. Pace, 752 P.2d 507, 509 (Ariz. Ct. App. 1987) (mandating lawyers to utilize standard research techniques to discover rules of law); Van Norden v. Schindler, 545 N.Y.S.2d 462, 463 (N.Y. Sup. Ct. 1989) (holding attorney liable for failure to conduct appropriate research to ensure that current law was being relied upon); *see also* MODEL RULES OF PROFESSIONAL CONDUCT Rule 1.1 (1983) (requiring attorneys to provide competent representation that includes reasonable legal knowledge).

7. *Cf.* Robert Araujo, S.J., *The Virtuous Lawyer: Paradigm and Possibility*, 50 SMU L. REV. 433, 450–51 (1997) (arguing that a virtuous lawyer must not only comprehend the case at hand or the rules of law that apply to it, but also the history of the law and the particular rule's role in the evolution of the law); M.H. Hoeflich, *Plus Ca Change, Plus C'est Le Meme Chose: The Integration of Theory & Practice in Legal Education*, 66 TEMP. L. REV. 123, 141 (1993) (contending that lawyers should understand the theory of the law in addition to the law itself); Chief Justice Randall T. Shepard, *Foreward: The Importance of Legal History for Modern Lawyering*, 30 IND. L. REV. 1, 1 (1997) (arguing that the legal profession operates on the basis of history).

The history of taxation can be described as the continuous battle among individuals and groups to achieve their particular goal.[8] Specifically, many individuals and groups demand lower taxes while others insist on additional governmental expenditures.[9] State and local governments are continually entangled in this struggle as they attempt to raise enough revenue dollars to meet the demands of their constituents.[10] Taxing authorities have repeatedly relied on property, or ad valorem,[11] taxes as a

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8. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 187 (1996) (tracing the history of taxation to conflicts among individuals focusing on their own goals); *cf.* Walter Hellerstein, *Political Perspectives on State and Local Taxation of Natural Resources*, 19 GA. L. REV. 31, 31–32 (1984) (describing the continual debate over state and local taxation of natural resources); Agnes Palazett, *Indians Win Sales Tax Battle: Pataki Orders Repeal of Rule on Gas, Cigarette Levy*, BUFF. NEWS, May 23, 1997, at A1 (discussing the battle between the state of New York and its Indian business over the sales taxation of gasoline and cigarettes to non-Indians on Indian reservations), *available in* 1997 WL 6437715.

9. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 206–07 (1996) (attributing the complexity of the tax system to competing interests). A number of people suggest that there should be a balance between lowering taxes and increasing governmental expenditures. *See* Stephen Goldsmith, Editorial, *The Best Way to Pay for Library Expansion*, INDIANAPOLIS STAR, July 3, 1997, at A15 (discussing the increased demand of government services in light of property taxes), *available in* 1997 WL 2890586; Ann O'Hanlon, *Some Va. Cities Find Freedom Too Costly: Several Consider Rejoining the Ranks of Towns*, WASH. POST, Feb. 24, 1997, at B3 (arguing that if taxes are lowered then additional expenditures cannot be funded), *available in* 1997 WL 9336516; Jesse E. Todd, Jr., *Demand Fewer Services and Less Regulation If You Really Want Lower Taxes*, SUN-SENTINEL FT. LAUDERDALE, Oct. 23, 1997, at 23A (contending that if lower taxes are demanded, then fewer services must be demanded), *available in* 1997 WL 16079757; Erick M. Weiss, *Good News About Property Tax: 41 Percent of State's Towns Show Stable of Lower Tax Rates*, HARTFORD COURANT, Oct. 3, 1997, at A1 (reporting that taxpayers usually request more services and lower taxes), *available in* 1997 WL 14674503.

10. *See* Arthur D. Lynn, Jr., *The Institutional Context of Property Tax Administration* (indicating that state and local governments are consistently under fiscal strains due to various program expansions), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 3, 12 (Arthur D. Lynn, Jr. ed., 1969); James S. Haney, *Wisconsin Business Pays Fair Share to State's Tax Base and to Education*, MILWAUKEE J. SENTINEL, Apr. 5, 1996, at 17 (stating that property taxes permit government spending), *available in* 1996 WL 11320263.

11. *See* Rio Algom Corp. v. San Juan County, 681 P.2d 184, 194 (Utah 1984) (stating that the ad valorem tax literally means "according to value" and "is used to designate an assessment of taxes against property at a certain rate"); BLACK'S LAW DICTIONARY 51 (6th ed. 1990) (defining an ad valorem tax as a tax imposed on the value of property); STATE TAX CASES REP. § 20–001 (Commerce Clearing House, Inc. 1993) (describing an ad valorem tax as a tax "imposed upon the ownership or use of property, or upon the property itself, and measured by the value of the property taxed"). Although an ad valorem tax is more commonly imposed on real estate, it can and has been imposed on personal property. *See, e.g.*, GA. CODE ANN. § 48–5–3 (1997) (imposing an ad valorem tax on personal property); KY. REV. STAT. ANN. § 91.260 (Michie 1996) (permitting an ad valorem tax to be imposed on personal property); TEX. TAX CODE ANN. § 11.01 (Vernon 1992) (levying an ad valorem tax on all tangible personal property).

revenue source.[12] In fact, in the United States, local governments derive more than three-fourths of the tax revenue from property taxes.[13]

State and local governments tax both real and personal property.[14] However, of the two, personal property is taxed less often.[15] The reason it is taxed less frequently is because one category of personal property, intangible property,[16] is generally not subject to taxation.[17] Intangible

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12. *See* Harold M. Groves, *Is the Property Tax Conceptually and Practically Administrable?* (revealing that traditionally states have relied on the property tax as a major source of revenue), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 15, 22 (Arthur D. Lynn, Jr. ed., 1969); STATE TAX CASES REP. § 20-001 (Commerce Clearing House, Inc. 1993) (stating that ad valorem or property taxation is the principle source of revenue in every state).

13. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 4 (1996) (noting that in local United States governments, property taxes still provide three-fourths of the tax revenue). Local, not state, governments impose a majority of property taxes. *See id.* at 5. In the past century, states have turned to other types of taxes, particularly sales and income taxes, in order to raise enough revenue to meet their needs. *See id.*

14. *See* BLACK'S LAW DICTIONARY 1216 (6th ed. 1990) (defining property as commonly used to denote everything which is real or personal); *see, e.g.*, ARIZ. REV. STAT. ANN. § 42-202 (West 1991) (subjecting all property to property taxation); MICH. COMP. LAWS ANN. § 211.1 (West 1986) (imposing a property tax on all property); NEV. REV. STAT. § 361.045 (West 1995) (taxing all property); N.J. STAT. ANN. § 54:4-1 (West 1998) (providing for property taxation of all real and personal property).

15. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 4 (1996) (noting that "[i]n 1986, locally assessed personal property made up only 10.1 percent of the property tax base in the United States"). Traditionally, real property, not personal property, has been the "backbone" of the property tax system. STATE TAX CASES REP. § 20-001 (Commerce Clearing House, Inc. 1993); *see id.* at 205 (contending that "real estate now makes up the bulk of the tax base in most states").

16. *See* BLACK'S LAW DICTIONARY 1216-17 (6th ed. 1990) (extending the definition of property to include anything of value including tangible or intangible personal property). Under the Texas Tax Code, tangible personal property is defined as "personal property that can be seen, weighed, measured, felt, or otherwise perceived by the senses, but does not include a document or other perceptible object that constitutes evidence of a valuable interest, claim, or right and has negligible or no intrinsic value." TEX. TAX CODE ANN. § 1.04(5) (Vernon 1992). Conversely, intangible personal property is defined as "a claim, interest (other than an interest in tangible property), right, or other thing that has value but cannot be seen, felt, weighed, measured, or otherwise perceived by the senses, although its existence may be evidenced by a document." *Id.* § 1.04(6).

17. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 163, 165-66 (1990) (stating that as a general rule, most jurisdictions do not tax intangible property); Janet Fairchild, Annotation, *Property Taxation of Computer Software*, 82 A.L.R.3d 606, 608 (1978) (indicating that most jurisdictions do not tax intangible property). Only 14 states levy a tax on intangible property. *See Intangibles Assessment Date*, STATE & LOC. TAX WKLY., Nov. 25, 1996, at 8-9 (listing the assessment dates of states that tax intangible property as well as the type of intangible property taxed). These states are Alabama, Florida, Iowa, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Ohio, Pennsylvania, Rhode Island, Tennessee, Texas and West Virginia. *See id.* at 8. Under its Constitution, Texas permits its legislature to tax

property embraces such items as stocks, bonds, promissory notes, and copyrights.[18] Conversely, tangible property, which is typically taxable, includes items such as animals, clothes, furniture, jewelry, and motor vehicles.[19]

Classifying property as tangible or intangible is a key issue in determining whether personal property will be taxed.[20] Classification of software became an important issue shortly after IBM revolutionized the world of computers by pricing software separately from computer hardware.[21] Prior to IBM's 1969 policy change, computer software was furnished free of charge because it was considered an inseparable component of the computer system.[22] Thus, IBM's "unbundling" of its computer systems not only shattered the general perception that hardware and software

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intangible property. *See* TEX. CONST. art. VIII, § 1(c) (enumerating that the legislature may tax intangible property). The tax code, however, only provides for a tax on intangible property of a transportation business or intangible property governed by the Insurance Code or the Texas Savings and Loan Act. *See* TEX. TAX CODE ANN. § 11.02(b) (Vernon 1992) (stating that intangible property, unless exempt by law, is taxable if Texas has jurisdiction to tax those intangibles).

18. *See* BLACK'S LAW DICTIONARY 1217 (6th ed. 1990) (stating that corporeal or tangible personal property includes animals, furniture, and merchandise).

19. *See id.* at 809 (considering certificates of stock, bonds, promissory notes, copyrights, and franchises as intangible property).

20. *See, e.g.,* Wal-Mart Stores, Inc. v. City of Mobile, 696 So. 2d 290, 291 (Ala. 1996) (concluding that computer software was *tangible* property subject to a gross receipts tax); Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 689 (Conn. 1989) (holding that computer software was *intangible* personal property therefore not subject to property tax); South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1241 (La. 1994) (finding computer software to be *tangible* property thus subject to sales tax).

21. *See* State v. Central Computer Serv., 349 So. 2d 1160, 1163 (Ala. 1977) (Maddox, J., dissenting) (indicating that the problems of classification of computer software began with IBM's 1969 announcement of separate pricing). The first case addressing whether computer software constituted tangible or intangible property was *District of Columbia v. Universal Computer Associates, Inc.*, decided in 1972. *See* District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615, 617 (D.C. Cir. 1972) (determining whether software stored punched cards were tangible personal property). In that case, the court concluded that computer software should be deemed intangible property. *See id.*

22. *See Central Computer Serv.*, 349 So. 2d at 1164 (explaining that prior to 1969 computer software was "bundled" with computer hardware and furnished at no extra cost); *In re* Protest of Strayer, 716 P.2d 588, 590 (Kan. 1986) (asserting that until IBM announced its separate pricing policy computer software was viewed as "an integral part of the computer hardware"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom., Inc. v. City of Wallingford, 23 CONN. L. REV. 161–62, 166 (1990) (indicating that prior to "unbundling" computer hardware and software were treated as a single property unit by computer sellers and purchasers).

were inseparable, but it also led to the creation of a new and distinct form of property—computer software.[23]

In recent years, state and local taxing authorities have targeted computer software to enhance their tax bases.[24] Of course, such taxation has been met with strong disapproval from many corporations.[25] For these businesses, classifying computer software as tangible or intangible is quite significant because the classification could either save or cost them vast amounts of tax dollars.[26] For example, if computer software is deemed

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23. *See* John G. Martin, Note, *The Revolt Against the Property Tax on Software: An Unnecessary Conflict Growing out of Unbundling*, 9 SUFFOLK U. L. REV. 118, 123 (1974) (explaining that IBM's announcement of separate pricing resulted in computer software being considered a separate and distinct entity); *see also* Andrew Rodau, *Computer Software: Does Article 2 of the Uniform Commercial Code Apply?*, 35 EMORY L.J. 853, 873–74 (1986) (asserting that computer software is now viewed as distinct from computer hardware).

24. *See* William B. Bierce, *New Rules on Sales and Use Tax for Software: Agencies Update Use of Technology*, N.Y. L.J., Aug. 27, 1991, at 1 (emphasizing the importance of computer software as a new source of tax revenue); Thomas M. Findley, *The Application of Florida's Sales Tax to Software and Electronic Computer Transmissions*, FLA. B.J., Nov. 1994, at 63 (1994) (noting that the "Florida Department of Revenue has cast a hungry eye toward the potential tax revenues to be obtained from the computer industry"); Richard Raysman & Peter Brown, *State Sales Taxation of Software*, N.Y. L.J., Feb. 19, 1991, at 3 (asserting that state sales tax statutes have purposefully been broadened to include computer software).

25. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 162 (1990) (revealing the "tug-of-war" between "state and local governments against corporate computer users over the property taxation of computer software"); Janet Fairchild, Annotation, *Property Taxation of Computer Software*, 82 A.L.R.3d 606, 608 (1978) (commenting on the conflict between taxing authorities and taxpayers over the classification of computer software); Karen Kaplan, *California 8-County Suit Seeks Software Revenue Courts: L.A. and Orange Counties Among Those Hoping to Collect Taxes on Programs IBM and Others Lease*, L.A. TIMES, Dec. 31, 1996, at D2 (discussing the resistance by companies, particularly IBM, to the taxation of computer software), *available in* 1996 WL 12770522; Kit Troyer, *Lawmakers Ponder Taxes on Computers*, ST. PETERSBURG TIMES, Apr. 16, 1996, at 5B (noting the struggle between Florida counties and companies over computer software), *available in* 1996 WL 7110791.

26. *See Companies Fight Software Tax Bite*, CHI. TRIB., June 9, 1996, at 7 (explaining that the cost for companies adds up quickly when multi-million dollar customized computer programs are involved), *available in* 1996 WL 2679556; Marc S. Friedman & Lindsey H. Taylor, *State and Local Taxation of Software: A Trap for Computer Counsel*, COMPUTER LAW., June 1990, at 20 (contending that property taxes "could add thousands of dollars in expense over the life of a computer system"), *available in* Westlaw, 7 No. 6CLW20; Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 6 (suggesting that property taxes are becoming "a more significant portion of the total tax bite" for businesses), *available in* 1997 WL 9171344; *cf.* Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 468 (R.I. 1992) (stating that the amount of property tax levied on the computer software exceeded seventeen thousand dollars); Dal-

tangible property, it would be considered part of the business inventory[27] subject to a property tax. Conversely, if computer software is classified as intangible property, no such tax would apply.[28] Therefore, the classification of computer software is a matter worth debating.

For the past three decades, a number of states have judicially addressed the question of whether computer software constitutes tangible or intangible property for sales, use, or property tax purposes.[29] While many ju-

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las Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 120 (Tex. App.—Dallas 1996, writ denied) (reporting that the value of the computer software at issue totaled over two million dollars).

27. *See* TEX. TAX CODE ANN. § 11.01 (Vernon 1992) (imposing ad valorem tax on all personal property); *see also Property Taxes on Inventory*, ST. & LOC. TAX WKLY., Nov. 11, 1996, at 8–9 (listing states which impose property taxes on inventory). Alaska, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Ohio, Oklahoma, Rhode Island, Texas, Vermont, and West Virginia impose an annual personal property tax on business inventories. *See id.* at 8. Delaware, Hawaii, Iowa, New York, and Pennsylvania do not tax tangible or intangible property, therefore, business inventories are not taxable. *See id.* North Dakota only applies a property tax to certain entities, and South Dakota taxes only centrally assessed property owned by utilities, airlines, and express companies. *See id.* The remaining states do not levy a property tax on inventories of merchants or manufacturers holding property for processing or sale. *See id.*

28. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 2.06 (3d ed. 1996) (stating that the classification of computer software is important because most states exclude intangible property from ad valorem taxation); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165–66 (1990) (stating that most jurisdictions do not levy a tax on intangible property); Janet Fairchild, Annotation, *Property Taxation of Computer Software*, 82 A.L.R.3d 606, 608 (1978) (indicating that most jurisdictions do not tax intangible property); *see also* Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 6 (noting that about 30 states exempt intangible personal property from taxation), *available in* 1997 WL 9171344.

29. *See, e.g.*, District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615 (D.C. Cir. 1972); Wal-Mart Stores, Inc. v. City of Mobile, 696 So. 2d 290 (Ala. 1996); Honeywell Info. Sys., Inc. v. Maricopa County, 575 P.2d 801 (Ariz. Ct. App. 1977); Navistar Int'l Transp. Corp. v. State Bd. of Equalization, 884 P.2d 108 (Cal. 1994); Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688 (Conn. 1989); First Nat'l Bank v. Department of Revenue, 421 N.E.2d 175 (Ill. 1981); *In re* Protest of Strayer, 716 P.2d 588 (Kan. 1986); South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240 (La. 1994); Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192 (Me. 1985); Comptroller of the Treasury v. Equitable Trust Co., 464 A.2d 248 (Md. 1983); Detroit Auto. Interinsurance Exch. v. Department of Treasury, 361 N.W.2d 373 (Mich. Ct. App. 1984); Bridge Data Co. v. Director of Revenue, 794 S.W.2d 204 (Mo. 1990); Compuserve, Inc. v. Lindley, 535 N.E.2d 360 (Ohio Ct. App. 1987); United Design Corp. v. State Tax Comm'n, 942 P.2d 725 (Ok. 1997); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467 (R.I. 1992); Citizens So. Sys., v. South Carolina Tax Comm'n, 311 S.E.2d 717 (S.C. 1984); Commerce Union Bank v. Tidwell, 538 S.W.2d 405 (Tenn. 1976); Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119 (Tex. App.—Dallas 1996, writ denied); Cache County v. State Tax Comm'n, 922 P.2d 758 (Utah 1996); Chittenden Trust Co. v. King, 465 A.2d 1100 (Vt. 1983); Pennsylvania & W. Va. Supply Corp. v. Rose, 368 S.E.2d 101 (W. Va. 1988).

risdictions originally classified computer software as intangible property,[30] the current trend among states recently considering the issue is to deem computer software tangible property.[31] Computer software has generally been classified as tangible property in the context of sales and use taxation;[32] however, this classification is not as clear in the area of property taxation.[33]

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30. *See, e.g., Universal Computer Assocs.*, 465 F.2d at 619 (declaring computer software to be intangible property); *Honeywell Info. Sys.*, 575 P.2d at 803 (defining computer software as intangible property); *First Nat'l Bank*, 421 N.E.2d at 177 (claiming that computer software was intangible property); James v. Tres Computer Sys., Inc., 642 S.W.2d 347, 348–49 (Mo. 1982) (considering computer software to be intangible property), *modified by* International Bus. Machs. Corp. v. Director of Revenue, 765 S.W.2d 611, 613 (Mo. 1989); *Commerce Union Bank*, 538 S.W.2d at 408 (concluding that computer software constituted intangible property). *But see Chittenden Trust Co.*, 465 A.2d at 1102 (holding that computer software is tangible property).

31. *See* Comshare, Inc. v. United States, 27 F.3d 1142, 1143 (6th Cir. 1994) (considering computer software to be tangible property); *Wal-Mart Stores*, 696 So. 2d at 291 (declaring that computer software was tangible property); *South Cent. Bell Tel. Co.*, 643 So. 2d at 1241 (classifying computer software as tangible property); *see also* Suzanne Bagert, South Central Bell v. Barthelemy: *The Louisiana Supreme Court Determines That Computer Software Is Tangible Personal Property*, 69 TUL. L. REV. 1367, 1368 (1995) (indicating that "[s]ince 1983 most courts have found computer software tangible"); Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 158 (1996) (commenting that the trend has been to classify computer software as tangible personal property).

32. Of the seven states which have addressed the classification of computer software in the context of sales and use taxation since 1985, all seven have concluded that computer software is tangible personal property. *See Wal-Mart Stores*, 696 So. 2d at 291 (declaring computer software tangible property subject to gross receipts tax); *South Cent. Bell Tel. Co.*, 643 So. 2d at 1241 (deeming computer software subject to sales tax as tangible personal property); *Measurex Sys.*, 490 A.2d at 1196 (affirming lower court's decision that canned software was tangible property subject to use tax); *Bridge Data Co.*, 794 S.W.2d at 207 (agreeing that software involved was subject to sales and use tax as tangible property); Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 129 (R.I. 1985) (concluding that canned software constitutes tangible property subject to use tax); Mark O. Haroldsen, Inc. v. State Tax Comm'n, 805 P.2d 176, 181 (Utah 1990) (holding computer software to be tangible property subject to use tax); *Pennsylvania & W. Va. Supply*, 368 S.E.2d at 105 (finding computer software to be tangible personal property under use tax statute).

33. Since 1985, three states have concluded that, under property tax provisions, computer software constitutes intangible personal property. *See* Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 691 (Conn. 1989) (concluding that computer software is intangible property thus not subject to municipal property tax); Compuserve v. Lindley, 535 N.E.2d 360, 366 (Ohio Ct. App. 1987) (determining that for personal property tax purposes, computer software is not intangible property); Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 121 (Tex. App.—Dallas 1996, writ denied) (deeming computer software intangible property, thus exempt from property taxation). Three other state courts that have addressed the property tax classification have based their decisions on the type of computer software involved. *See In re* Protest of Strayer, 716 P.2d 588, 593–94 (Kan. 1986) (holding operational and software, not applications software, to be

While few states have considered the classification of computer software under personal property tax provisions,[34] Texas has had the opportunity to judicially determine whether computer software is tangible

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tangible personal property subject to property tax); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 469 (R.I. 1992) (classifying custom computer software as intangible property for property tax purposes); Cache County v. State Tax Comm'n, 922 P.2d 758, 768 (Utah 1996) (asserting that, for property tax purposes, customized computer software is intangible property).

34. Since the debate over the classification of computer software began, twice as many cases have addressed computer software in the context of sales and use taxation as opposed to property taxation. *Compare* District of Columbia v. Universal Computer Assocs., 465 F.2d 615, 619 (D.C. Cir. 1972) (assessing the property taxation of computer software), *and* Honeywell Info. Sys., Inc. v. Maricopa County, 575 P.2d 801, 803 (Ariz. Ct. App. 1977) (examining whether computer software should be subject to property tax), *and Northeast Datacom*, 563 A.2d at 691 (evaluating computer software under property tax provisions), *and In re* Protest of Strayer, 716 P.2d at 593–94 (addressing property taxation of computer software), *and* Greyhound Computer Corp. v. State Dep't of Assessments & Taxation, 320 A.2d 52, 53–54 (Md. 1974) (stating that the issue in the case was the property taxation of computer software), *and Compuserve*, 535 N.E.2d at 366 (considering whether computer software is subject to personal property tax), *and Computer Assocs. Int'l, Inc.*, 615 A.2d at 469 (discussing classification of computer software in context of property taxation), *and Tech Data Corp.*, 930 S.W.2d at 121 (determining whether a property tax can be levied on computer software), *and Cache County*, 922 P.2d at 768 (questioning property taxation of computer software), *with* Wal-Mart Stores, Inc. v. City of Mobile, 696 So. 2d 290, 291 (Ala. 1996) (assessing gross receipts taxation of computer software), *and* Navistar Int'l Transp. Corp. v. State Bd. of Equalization, 884 P.2d 108, 114 (Cal. 1994) (questioning sales taxation of computer software), *and* First Nat'l Bank v. Department of Revenue, 421 N.E.2d 175, 177 (Ill. 1981) (reviewing whether computer software is subject to use tax), *and* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1241 (La. 1994) (discussing sales taxation of computer software), *and* Measurex Sys. Inc. v. State Tax Assessor, 490 A.2d 1192, 1196 (Me. 1985) (addressing whether computer software should be subject of a use tax), *and* Comptroller of the Treasury v. Equitable Trust Co., 464 A.2d 248, 260 (Md. 1983) (looking at sales taxation of computer software), *and* Detroit Auto. Interinsurance Exch. v. Department of Treasury, 361 N.W.2d 373, 376 (Mich. Ct. App. 1984) (ascertaining sales taxation of computer software), *and* Maccabees Mut. Life Ins. Co. v. State Dep't of Treasury, 332 N.W.2d 561, 563 (Mich. Ct. App. 1982) (questioning validity of use taxation of computer software), *and* Bridge Data Co. v. Director of Revenue, 794 S.W.2d 204, 207 (Mo. 1990) (considering whether computer software was subject to sales and use taxation), *and Tres Computer Sys.*, 642 S.W.2d at 348 (addressing use taxation of computer software), *and Hasbro Indus.*, 487 A.2d at 129 (determining whether computer software was subject to use tax), *and* Citizens & So. Sys. v. South Carolina Tax Comm'n, 311 S.E.2d 717, 719 (S.C. 1984) (examining computer software in context of sales taxation), *and* Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 408 (Tenn. 1976) (adjudging use taxation of computer software), *and* First Nat'l Bank v. Bullock, 548 S.W.2d 548, 550 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.) (contemplating sales taxation of computer software), *and Mark O. Haroldsen*, 805 P.2d at 181 (examining use taxation of computer software), *and Chittenden Trust*, 465 A.2d at 1101 (reviewing use taxation of computer software), *and Pennsylvania & W. Va. Supply*, 368 S.E.2d at 105 (evaluating computer software under use tax provisions).

or intangible property for both sales *and* property tax purposes.[35] Texas first faced the issue of taxation of computer software in *First National Bank v. Bullock*.[36] In *First National Bank*, the Texas Court of Civil Appeals held that computer software was intangible property for sales tax purposes.[37] However, the Texas legislature reversed the decision of the court by changing the sales tax code to reflect computer software as tangible property.[38] Thus, computer software became subject to sales taxation.[39]

More recent debate concerns property taxation of computer software.[40] Texas first addressed the classification of computer software in the context of property taxation in 1996.[41] In *Dallas Central Appraisal District v. Tech Data Corp.*,[42] the Dallas Court of Appeals ruled that computer software was intangible property, thus not taxable.[43] However, the question remains whether the Texas legislature will overrule the decision

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35. *Compare Tech Data Corp.*, 930 S.W.2d at 120 (defining the taxability of computer software in the context of property taxation), *with First Nat'l Bank*, 584 S.W.2d at 549 (addressing taxability of computer software under sales tax provisions).

36. 584 S.W.2d 548, 550–51 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.).

37. *See First Nat'l Bank*, 584 S.W.2d at 551 (deeming computer software to be intangible property).

38. *See* TEX. TAX CODE ANN. § 151.009 (Vernon 1992) (including computer software in the definition of tangible personal property for sales, excise, and use tax purposes within Chapter 151). The inclusion of computer software in the definition of tangible personal property in the portion of the Code pertaining to sales tax was made in 1984. *See* TEX. TAX CODE ANN. § 151.009 historical note (Vernon 1992) (quoting 1994 amendment which "added, and, for the purposes of this chapter, the term includes a computer program that is not a custom computer program" to sales tax definition of tangible personal property) [Act of Oct. 1, 1984, 68th Leg., 2d C.S., ch. 31, art. 6, § 2, 1984 Tex. Gen. Laws 222]. Originally custom software was excluded from the definition of tangible personal property, but in 1987 the Texas legislature altered the definition to omit the exemption of custom software. *See* Act of Jan. 1, 1982, 67th Leg., R.S., ch. 389, § 1, 1981 Tex. Gen. Laws 1547, *amended by* Act of Jan. 1, 1988, 70th Leg., 2d C.S., ch. 5, art. 1, pt. 4, § 11, 1987 Tex. Gen. Laws 13 (deleting the portion of the definition that excluded custom computer programs) (current version at TEX. TAX CODE ANN. § 151.009 (Vernon 1992)).

39. *See* TEX. TAX CODE ANN. § 151.010 (Vernon 1992) (construing tangible property as a taxable item).

40. *Compare* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 120 (Tex. App.—Dallas 1996, writ denied) (classifying computer software as intangible personal property for property tax purposes), *with* Tex. S.B. 736, 75th Leg., R.S. (1997) (seeking to classify computer software as tangible property under the property tax provisions).

41. *See Tech Data Corp.*, 930 S.W.2d at 120 (reviewing the taxability of computer software in the context of ad valorem taxation).

42. 930 S.W.2d 119 (Tex. App.—Dallas 1996, writ denied).

43. *See Tech Data Corp.*, 930 S.W.2d at 120 (declaring computer software to be intangible personal property).

of the court, once again making computer software taxable tangible property.[44]

This Comment evaluates the tax classification of computer software in Texas under recent statutory provisions and case law. Part II begins by outlining the classic definitions of real, personal, tangible, and intangible property. The discussion continues with a review of the development and evolution of property taxation in the United States. Part III examines the definition and various types of computer software and then addresses the legal issues surrounding the taxation of computer software. Part IV evaluates the methods used to assess the value of computer software as well as the problems inherent in software valuation. Part V presents the conflicting approach Texas has taken in classifying computer software. Finally, part VI proposes that the Texas legislature decide not whether computer software constitutes tangible or intangible property but rather whether computer software should be taxable or not taxable.

II. PROPERTY TAXATION

A. *Property Defined*

Property embraces everything that is or may be subject to ownership.[45] Traditionally, property has been classified as either real or personal.[46] Real property refers to land, what is affixed to the land, and the rights associated with the land.[47] Under the broadest definition, personal property consists of anything that is subject to ownership and does not fall within the denomination of real estate.[48] Further, personal property is divided into two categories: tangible or intangible.[49] Tangible property is "property which is touchable and has real [physical] existence."[50] Typically, tangible property includes items that can be felt or touched, such as

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44. *Cf.* TEX. TAX CODE ANN. § 151.009 (Vernon 1992) (adding computer software to sales, use, and excise tax definition of tangible personal property, thus reversing the decision of the court of appeals in *First National Bank v. Bullock*, 584 S.W.2d 548, 551 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e)).

45. *See* Davis v. Davis, 495 S.W.2d 607, 611 (Tex. App.—Dallas 1973) (embracing property ownership whether legal, beneficial, or private), *overruled on other grounds by* Cearley v. Cearley, 544 S.W.2d 661 (Tex. 1976).

46. *See* BLACK'S LAW DICTIONARY 1216 (6th ed. 1990) (defining property as everything which is subject to ownership, real or personal).

47. *See id.* at 1218 (incorporating land and its tenements and hereditaments as real property).

48. *See id.* at 1217 (defining personal property in a general sense).

49. *See id.* at 1216–17 (stating that personal property is commonly divided into two categories).

50. *Id.* at 1218.

animals, furniture, and merchandise.[51] Conversely, intangible property is "[p]roperty which cannot be touched because it has no physical existence."[52] Additional examples of intangible property include claims, interests, and rights.[53] Under the law of taxation, intangible property also refers to property that "has no intrinsic and marketable value, but is merely the representative or evidence of value."[54]

B. *Property Tax Development*

Since colonial times, the United States has taxed property.[55] The American colonies first began to rely on property taxes as a revenue source after winning the right to levy taxes from England.[56] The tax levied was only on specific items of property.[57] As the nation grew, individuals and other entities grappled for favorable tax treatment.[58] In order to resolve this growing disharmony, many states attempted to establish a fair and uniform system of taxation by implementing a single tax rate applicable to all property.[59] This need for equality and uniformity led to a

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51. *See* BLACK'S LAW DICTIONARY 1217 (6th ed. 1990) (stating that corporeal personal property "includes movable and tangible things such as animals, furniture, merchandise, etc.").

52. *Id.*

53. *See id.* (delineating examples of intangible property, including claims, interests, and rights).

54. *Id.* at 809.

55. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 12–18 (1996) (discussing American colonial taxation of property); Harold M. Groves, *Is the Property Tax Conceptually and Practically Administrable?* (noting that the American colonies imported the property tax from England), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 15, 20 (Arthur D. Lynn, Jr. ed., 1969); John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (pointing out that colonial tax systems imposed an ad valorem tax); *see also* Sumner Benson, *A History of the General Property Tax* (discussing the colonial experience with property taxation), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 21–31 (George C. S. Benson et al. eds., 1965).

56. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 9 (1996) (noting that the colonial legislatures used instruments they were familiar with once they gained the right to impose their own taxes).

57. *See id.* at 9–10 (reporting that colonial taxes were only levied on specific items of property at specific rates either per acre, per item, or per head).

58. *See id.* at 10 (indicating that conflicts contributed to an organized resistance against paying taxes).

59. *See* Sumner Benson, *A History of the General Property Tax* (asserting that the "[e]stablishment of uniformity and universality requirements, demanding the taxation at one rate of all property, was the attempt made by many states to implement a fair system of taxation"), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 36 (George C. S. Benson et al. eds., 1965).

change in property taxation,[60] as all personal property, both tangible and intangible, became the object of ad valorem property taxation.[61]

However, the general and uniform property tax failed to accomplish the goal of taxing all property equally.[62] In particular, taxpayers realized that intangible property was difficult to identify and easy to conceal.[63] As a result, avoidance of the personal property tax became the norm rather than the exception.[64] To prevent intangible property from escaping taxation, states expended a significant amount of resources locating and un-

60. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 199 (1996) (asserting that property tax uniformity was desired from the time of the American Revolution until the end of the nineteenth century); *see also* Sumner Benson, *A History of the General Property Tax* (reporting that during the nineteenth century, twenty-one states constitutionally adopted uniformity and universality requirements), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 31 (George C. S. Benson et al. eds., 1965). Glenn Fisher defines uniformity as "the most fundamental characteristic of the general property tax." GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 10 (1996). Essentially, uniformity requires all property to be valued and taxed in the same manner. *See id.*

61. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 10 (1996) (indicating that "[i]n the nineteenth century most of the constitutions of the newly forming frontier states contained provisions mandating uniform ad valorem taxation of property"); John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (stating that many states adopted the idea that a tax should be imposed on all property, "regardless of whether the property was real or personal, tangible or intangible").

62. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 120 (1996) (reporting that uniform taxation of property was not achieved by the end of the nineteenth century); John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (indicating that over time, the general property tax did not achieve its goal of taxing all property equally); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (noting that the general property tax failed to tax property equally).

63. Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990); *see* John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (indicating that intangible assets were easily concealed from tax assessors); *see also* GEORGE ARMISTEAD, THE TEXAS TAX PROBLEM 184 (1931) (stating that "[p]ersonal property is intangible in the sense that it is hard to find").

64. *See* Sumner Benson, *A History of the General Property Tax* (claiming that the ease with which one could avoid listing all his or her property led to "widespread disregard of the constitution and the laws"), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION AND ECONOMIC IMPACT 11, 57 (George C. S. Benson et al. eds., 1965); John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (asserting that because assets were easily concealed from tax assessors, avoidance of the personal property tax dramatically increased); STATE TAX CASES REP. § 20-002 (Commerce Clearing House, Inc. 1994) (indicating that since the growth of the uniform property, tax has become increasingly inequitable).

covering hidden property.[65] Additionally, a few states lowered the applicable tax rate in order to cajole taxpayers into reporting the intangible property they possessed.[66] Despite these efforts, most states failed to halt the increasing evasion of the property tax.[67] Consequently, the uniformity movement and the effort to tax intangible property created an inefficient and ineffective tax system.[68]

In order to solve the problems created by the uniformity movement and avoid penalizing those who voluntarily paid taxes, many states adopted the classification theory of property.[69] The resulting differentiation between types of property led to the passage of statutes and constitutional amendments excluding intangible property from the scope of ad

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65. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (noting that because they were forced to expand their resources tracking intangible property, many states passed statutes and constitutional amendments excluding intangible property from taxation); Harold M. Groves, *Is the Property Tax Conceptually and Practically Administrable?* (suggesting that the escape of intangible property from taxation led assessors to exempt it from taxation; stating that where intangibles were retained, taxation was entrusted to state administration), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 15, 21 (Arthur D. Lynn, Jr. ed., 1969).

66. *See* Sumner Benson, *A History of the General Property Tax* (stating that the exemption of intangible property from taxation led many states to "bribe" taxpayers into listing intangibles by reducing the applicable tax rate), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 64 (George C. S. Benson et al. eds., 1965).

67. *See id.* at 69 (indicating that most efforts to resolve the failure of the general property tax to reach all property did not succeed); *see also* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 161 (1996) (concluding that, in Kansas, most efforts to revitalize the general property tax did not succeed or had only limited success).

68. *See* Sumner Benson, *A History of the General Property Tax* (explaining that the ineffectiveness of the general property tax to reach all forms of property resulted in widespread distrust of tax system), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION AND ECONOMIC IMPACT 11, 52 (George C. S. Benson et al. eds., 1965); Harold M. Groves, *Is the Property Tax Conceptually and Practically Administrable?* (discussing the dropping of intangibles from the tax system and indicating that the "attempt to tax intangibles had corrupted the tax system and tarnished its image"), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 15, 21 (Arthur D. Lynn, Jr. ed., 1969).

69. *See* Sumner Benson, *A History of the General Property Tax* (contending that the classification theory adopted by a number of states attempted to correct the problems caused by the uniform property tax), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 64 (George C. S. Benson et al. eds., 1965); STATE TAX CASES REP. § 20-002 (Commerce Clearing House, Inc. 1993) (implying that the movement to classify property was in response to the failure of the uniform property tax). The classification theory divided property into various classes and then applied different tax rates to each class. *See* Sumner Benson, *A History of the General Property Tax*, *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 63 (George C. S. Benson et al. eds., 1965).

valorem property taxation.[70] This exclusion meant that taxing authorities could focus their collection efforts on property that was more easily identifiable.[71] This change in property taxation caused by the classification movement still exists because most jurisdictions do not levy a property tax on intangible personal property.[72]

Despite the efforts to reform the system, the revenue generated by the property tax has declined in the twentieth century.[73] One reason for this decline lies in the changing nature of the wealth tax base.[74] When the property tax first developed, agrarian culture was preeminent because

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70. *See* Sumner Benson, *A History of the General Property Tax* (reporting that as a result of the classification movement states completely exempted intangible property), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 39 (George C. S. Benson et al. eds., 1965); John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 67 (1972) (noting that several states statutorily and constitutionally excluded intangible property in order to solve the problems caused by the uniform property tax); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (stating that the inherent difficulties in locating intangible property led many states to pass statutes and constitutional amendments excluding intangible property from ad valorem property taxation).

71. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (concluding that intangible property was difficult to identify).

72. *See id.* at 165–66 (stating that as a general rule most states do not tax intangible property); *see also* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 2.06 (3d ed. 1996) (recognizing that most states today exclude intangible property from property taxation); Janet Fairchild, Annotation, *Property Taxation of Computer Software*, 82 A.L.R.3d 606, 608 (1978) (asserting that most jurisdictions do not impose a property tax on intangible property); Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 590 (reporting that a majority of the states exempt intangible property from the property taxation), *available in* 1997 WL 9171344.

73. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 207 (1996) (claiming that states have turned away from the property tax in the twentieth century); Sumner Benson, *A History of the General Property Tax* (indicating that the twentieth century has experienced the end of the dominant role of the property tax), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 72 (George C. S. Benson et al. eds., 1965); *see also* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (noting that since the depression, the property tax has been unable, by itself, to meet the mounting needs of various governmental units).

74. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (stating that the wealth tax base has changed since the beginning of the twentieth century); *see also* Arthur D. Lynn, Jr., *The Institutional Context of Property Tax Administration* (describing that different conditions which have changed the context of twentieth century tax policy), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 3, 21 (Arthur D. Lynn, Jr. ed., 1969).

land constituted the paramount form of wealth.[75] By contrast, today wealth is frequently evidenced by rights, relationships, and status.[76] This new type of wealth is intangible; thus, it is generally not subject to property taxation.[77]

Another reason for the reduction in property tax revenue lies in two important twentieth century events, the Great Depression and World War II.[78] The Great Depression impacted the property tax by causing the subsequent creation of homestead and personal property exemptions as well as additional rival taxes.[79] World War II furthered the conclusion of the dominant property tax by requiring different types of taxes to meet the growing demand for increased revenue.[80]

Although the overall prominence of the property tax has eroded, states still rely on it to raise revenue.[81] Real estate commonly forms the bulk of

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75. *See* Arthur D. Lynn, Jr., *The Institutional Context of Property Tax Administration* (reporting that property taxation developed in response to its environment which was "a period of both private and public scarcity when agriculture was predominant, transportation and communication primitive, government decentralized, international commitments minimal, and the public sector relatively small"), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 3, 7 (Arthur D. Lynn, Jr. ed., 1969); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (stating that "property taxation developed in an agrarian culture where land was the predominant form of wealth").

76. *See* Arthur D. Lynn, Jr., *The Institutional Context of Property Tax Administration* (stating that "[t]oday much wealth takes the form of rights, relationships, or status rather than of tangible property, be it real or personal"), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 3, 10 (Arthur D. Lynn, Jr. ed., 1969); *see also* Jonathan Pavluk, *Computer Software and Tax Policy*, 84 COLUM. L. REV. 1992, 1992 (1984) (asserting that investment in intangible property is growing while tangible property investment is declining).

77. *See* Arthur D. Lynn, Jr., *The Institutional Context of Property Tax Administration* (suggesting that twentieth century forms of wealth are intangible rather than tangible), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 3, 10 (Arthur D. Lynn, Jr. ed., 1969); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (indicating that the new forms of wealth are not tangible).

78. *See* Sumner Benson, *A History of the General Property Tax* (claiming that the Great Depression and World War II ended the dominant role of the property tax), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 69 (George C. S. Benson et al. eds., 1965).

79. *See id.* (alleging that the Great Depression "brought property tax limitation laws, preferential treatment and exemptions for homesteads and personal property, and the addition of rival taxes").

80. *See id.* (asserting that World War II demanded such large increases in revenue that the property tax alone could not possibly meet).

81. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 200 (1996) (implying that the property tax, although a smaller source of state funds, is still used to raise nearly all local revenue); STATE TAX CASES REP. § 20-0001

a state's property tax base.[82] In contrast, tangible personal property taxes are more limited in scope because exemptions are typically provided for "personal" tangible property or tangible property not producing income.[83] In this regard, taxing authorities are frequently seeking new forms of property to further enhance the tax base as well as to meet the ever increasing demands on government expenditures.[84] It is therefore no surprise that taxing authorities are considering taxing computer software as a way to raise much needed revenue.[85]

III. COMPUTER SOFTWARE TAXATION

A. *Computer Software Defined*

Before considering the taxability of computer software, an understanding of its basic characteristics is required. Computer systems are defined

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(Commerce Clearing House, Inc. 1993) (indicating that property taxation is a revenue source in every state).

82. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 205 (1996) (declaring that "[r]eal estate now makes up the bulk of the [property] tax base in most states"); STATE TAX CASES REP. § 20–110 (Commerce Clearing House, Inc. 1993) (stating that taxation of real property is the "backbone" of every property tax system); Sumner Benson, *A History of the General Property Tax* (contending the state property tax is mainly levied on real estate), *in* THE AMERICAN PROPERTY TAX: ITS HISTORY, ADMINISTRATION, AND ECONOMIC IMPACT 11, 72–73 (George C. S. Benson et al. eds., 1965).

83. *See, e.g.* COLO. CONST. art. X, § 3(1)(c) (exempting "[h]ousehold furnishings and personal effects which are not used for the production of income" from property taxation); MISS. CODE ANN. § 27–31–1 (1997) (listing property exempted from ad valorem taxation including wearing apparel, provisions on hand for family consumption, and all articles kept in the home for personal or family use); NEV. REV. STAT. § 361.–159 (1995) (taxing only personal property which is used in a business conducted for profit); TEX. TAX CODE ANN. §§ 11.14–11.145 (Vernon 1992 & Supp. 1998) (providing an exemption for all tangible property that a person owns which is not held or used for producing income unless its taxable value is less than $500).

84. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 165 (1990) (asserting that taxing authorities have been forced to find new forms of property to add to the property tax base).

85. *See, e.g.*, William B. Bierce, *New Rules on Sales and Use Tax for Software: Agencies Update Use of Technology*, N.Y. L.J., Aug. 27, 1991, at 1 (indicating that computer software is an important new source of tax revenue for states); Thomas M. Findley, *The Application of Florida's Sales Tax to Software and Electronic Computer Transmissions*, FLA. B.J., Nov. 1994, at 63 (implying that Florida is evaluating computer software as a potential tax revenue source); Richard Raysman & Peter Brown, *State Sales Taxation of Software*, N.Y. L.J., Feb. 19, 1991, at 3 (alleging that state sales tax statutes have been broadened to include computer software in order to raise revenue).

as machines that process information.[86] Generally, they are composed of two components, hardware and software. Hardware is the physical equipment that comprises the computer system.[87] Computer software, a generic name for computer programs, directs the hardware in performing the required tasks.[88] This definition of computer software is merely one of several definitions. It has also been defined as the "total data processing expenditures less hardware, communications and supply costs," as well as "the total data processing personnel costs plus the costs associated with the purchase or lease of computer program developed by outside organizations."[89] The broadest definition of computer software embodies

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86. *See* David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?,* 63 TAXES 54, 55 (1985) (defining a computer as "[a] machine that processes information" by accepting the information, applying program procedures, and supplying the results from those procedures). According to Webster's Dictionary, a computer is "a programmable electronic device that can store, retrieve, and process data." MERRIAM WEBSTER'S COLLEGIATE DICTIONARY 237 (10th ed. 1993). Webster's New World Dictionary of Computer Terms further describes a computer as "[a] machine that can follow instructions to alter *data* in a desirable way and to preform at least some operations without human intervention." WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 108 (6th ed. 1997).

87. *See* MERRIAM WEBSTER'S COLLEGIATE DICTIONARY 530 (10th ed. 1993) (defining hardware as the "physical components . . . of . . . an apparatus (as a computer)"); WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 228 (6th ed. 1997) (identifying computer hardware as "[t]he electronic components, boards, peripherals, and equipment that comprise the computer system"); Arthur R. Rosen, *Computer Software Classed As Intangible Property Is Exempt from State Property Taxes*, 58 J. TAX'N 114, 114 (1983) (declaring computer hardware to be the physical machine); David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?,* 63 TAXES 54, 56 (1985) (describing computer hardware as the physical equipment necessary for data processing); *see also In re* Protest of Strayer, 716 P.2d 588, 590 (Kan. 1996) (referring to computer hardware as the data processing equipment).

88. *See* WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 478 (6th ed. 1997) (defining software as a computer program or programs); David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?,* 63 TAXES 54, 56 (1985) (describing software "[a]s a generic term for computer programs" and as "instructions that direct the hardware in performing work"); Casey P. August & Derrick K. W. Smith, *Understanding Some Intricacies of Software: Expression, Interfaces, and Reverse Assembly,* COMPUTER LAW., Apr. 1994, at 16 (identifying software as a computer program with "the message expressed in a series of addressable lines of code which have been recorded on a magnetic disk, paper, or other chosen media"), *available in* Westlaw, 7 No. 6CLW20. *Compare* Norwest Corp. v. Commissioner, 108 T.C. 358, 360 (1997) (describing software as instructions and commands that enable the computer to function and perform certain specific tasks), *with* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 122 (Tex. App.—Dallas 1996, writ denied) (adopting the definition that computer software consists of "imperceivable binary pulses").

89. Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 309 (1985).

everything that is not hardware.[90] Unfortunately, courts, legislatures, and the computer industry have not adopted a single definition. Each entity operates with its own concept of computer software, which further frustrates the issue of whether computer software is taxable property.[91]

B. *Types of Computer Software*

1. System, Utility, and Application Software

Despite the difficulty in creating a single definition for computer software, three categories have generally been recognized.[92] The first category, systems or operational software, controls the overall direction of the computer system.[93] This software tells the computer how to start programs, how to communicate with various hardware devices, and how to perform other basic operational functions.[94] Such software programs

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90. *See* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1246 (La. 1994) (stating that "[in] its broadest scope, software encompasses all parts of the computer system other than the hardware"); Robert W. McGee, *The "Essence of the Transaction" Test for Computer Software Tangibility and Taxation*, 20 LINCOLN L. REV. 21, 21 n.1 (1991) (noting that the easy definition of software is anything that is not hardware); John G. Martin, Note, *The Revolt Against the Property Tax on Software: An Unnecessary Conflict Growing out of Unbundling*, 9 SUFFOLK U. L. REV. 118, 121 n.12 (1974) (stating that a software industry report had defined software as "those aspects of a computer which are not hardware").

91. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 168–69 nn.41–43 (1990) (noting that "[o]ne of the major problems with taxation of computer software, however, arises, because the courts, the legislature, and the computer industry all operate with different concepts of 'computer software'").

92. *See* David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?*, 63 TAXES 54, 56 (1985) (listing three categories of software as systems, utility, and applications). Some commentators divide computer software into two categories, systems and application software. *See* John G. Martin, *The Revolt Against the Property Tax on Software: An Unnecessary Conflict Growing out of Unbundling*, 9 SUFFOLK U. L. REV. 118, 122 (1974) (defining software as programs of either systems software type or applications software type); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 171 (1990) (classifying computer software as either systems or application software).

93. *See In re* Protest of Strayer, 716 P.2d at 590 (describing operational software as the orchestrator of the computer system's basic functions); WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 503 (6th ed. 1997) (defining system software as "[a]ll the software used to operate and maintain a computer system"); Karl K. Heinzmen, *Computer Software: Should It Be Treated As Tangible Property for Ad Valorem Tax*, 37 J. TAX'N 184, 184 (1972) (stating that "[o]perational software represents instructions to data processing equipment"); David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?*, 63 TAXES 54, 56 (1985) (contending that system software controls and directs the computer system).

94. *See* David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?*, 63 TAXES 54, 56 (1985) (describing the functions of systems

are fundamental to the operation and maintenance of the computer system.[95] Thus, operational software is perceived as a permanent and necessary component of the computer, and is often purchased with the computer system.[96]

The second category of computer software includes utility software. This type of software consists of a variety of general purpose programs that allow the user to sort, transfer, and manage data.[97] In addition, utility software includes compilers, which translate human-written programs into a language the computer can comprehend.[98] This type of software is frequently considered a derivative of system software.[99]

The third category, application software, consists of programs that are designed to perform specific functions.[100] This type of software enables

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software); *see also* Compuserve, Inc. v. Lindley, 535 N.E.2d 360, 363 (Ohio Ct. App. 1987) (acknowledging appellant's contention that systems software is "used to instruct the computer on how to attack a problem").

95. *See* Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 406 (Tenn. 1976) (defining operational programs as "fundamental and necessary to the functioning of the computer hardware itself"); WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 503 (6th ed. 1997) (indicating that system software operates and maintains computer systems).

96. *See In re* Protest of Strayer, 716 P.2d 588, 593–94 (Kan. 1986) (stating that a computer system cannot operate without operational software); *Compuserve*, 535 N.E.2d at 367 (indicating that computer hardware is inoperable without systems software); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 173–74 (1990) (noting that operational software "is almost a permanent part of the computer").

97. *See* David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?*, 63 TAXES 54, 56 (1985) (listing the purposes behind utility software along with the tasks they perform); *see also* WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 531 (6th ed. 1997) (defining utility software as a program which assists in maintaining and improving the overall efficiency of a computer system).

98. *See* WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 105 (6th ed. 1997) (defining a compiler as a "program that reads the statements written in a human-readable programming language . . . and translates the statements into a machine-readable executable program").

99. *See* John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 62 (1972) (including compilers, sorts, and utility routines in the systems software category).

100. *See In re* Protest of Strayer, 716 P.2d 588, 590 (Kan. 1986) (acknowledging that application programs are particularized and specialized); Compuserve, Inc. v. Lindley, 535 N.E.2d 360, 363 (Ohio Ct. App. 1987) (recognizing appellant's contention that application software is "designed to solve a particular problem or perform a particular task"); Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 406 (Tenn. 1976) (explaining that application software is designed to perform only specific tasks); WEBSTER'S NEW WORLD DICTIONARY OF COMPUTER TERMS 31 (6th ed. 1997) (describing application software as computer programs designed to perform specific tasks); Karl K. Heinzman, *Computer Software: Should It Be Treated As Tangible Property for Ad Valorem Tax*, 37 J. TAX'N 184, 184 (1972) (stating that application programs "generally represent procedures or instruc-

the computer user to communicate with the equipment.[101] Application software is often described as a task or user-oriented program that makes computers more versatile.[102] An example of application software is a word-processing or accounting program.

Some state legislatures and courts have distinguished between system and application software for purposes of property tax assessment.[103] For example, California, Kansas, and Ohio impose a property tax only on system or operational software, and not application software.[104] Other states, however, have made a different distinction. Instead of differentiating between system and application software, they draw a distinction between canned and custom software.[105]

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tions for data processing equipment which detail the operations the equipment is to perform in order to achieve a specific objective use for the equipment user"); David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?,* 63 TAXES 54, 56 (1985) (defining application software as "programs written to solve a specific problem or to do a particular job").

101. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 174 (1990) (stating that "[a]pplication software is designed to allow the computer user to communicate with the equipment").

102. *See id.* at 174 (noting that "[a]pplication software is task- or user-oriented, emphasizing communication with the computer's user.") (citing William Raabe, Jr., *Property Sales, and Use Taxation of Custom and "Canned" Computer Software: Emerging Judicial Guidelines*, 36 TAX EXECUTIVE 227, 229–30 (1984)).

103. *See, e.g.*, CAL. REV. & TAX CODE § 995.2 (Deering 1995) (distinguishing between operational and application software for property tax purposes); *In re* Protest of Strayer, 716 P.2d at 593–94 (drawing tax distinction between operational and application software); *Compuserve*, 535 N.E.2d at 367 (differentiating systems and application software for property tax assessment); *see also Companies Fight Software Tax Bite*, CHI. TRIB., June 9, 1996, at 7 (noting that California taxes only "basic operating programs" and Virginia taxes only operational software), *available in* 1996 WL 2679556.

104. *See* CAL. REV. & TAX CODE § 995 (Deering 1995) (imposing a property tax on the value of operational software but not application software); *In re* Protest of Strayer, 716 P.2d at 593–94 (concluding that operational software was taxable tangible property while application software was nontaxable intangible property); *Compuserve*, 535 N.E.2d at 367 (determining that systems software is subject to a property tax while application software is not subject to that tax).

105. *See* Navistar Int'l Transp. Corp. v. State Bd. of Equalization, 884 P.2d 108, 109 (Ca. 1994) (considering custom computer program within sales tax exemption); Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192, 1195–96 (Me. 1985) (adopting lower court's distinction between canned and custom software); Maccabees Mut. Life Ins. Co. v. Department of Treasury, 332 N.W.2d 561, 564 (Mich. Ct. App. 1982) (indicating the need for a distinction between canned and custom software); Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 128 (R.I. 1985) (determining that the software in question was canned); *see also* David C. Tunick & Dan S. Schechter, *State Taxation of Computer Programs: Tangible or Intangible?,* 63 TAXES 54, 62–68 (1985) (discussing cases making a distinction between canned and custom software). *But see* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1249 (La. 1994) (declining to make canned-custom distinction).

2. Canned and Custom Software

A canned software program, which is also called "off-the-shelf" or "prewritten" software, is one that is sold to multiple users[106] and does not contain a future service element.[107] Service is nonexistent with canned software because the seller is not obligated to perform any future update or maintenance services, and no individualized labor of the seller is directed toward any specific buyer.[108] In addition, canned software is sold "as is" at the retail level and is conveyed to the purchaser through a number of mediums, including computer tapes and disks.[109] Typically, the sale of canned software is subject to a restrictive license, permitting only the purchaser to use the software under certain conditions.[110] Thus, the purchaser of a canned program "receives few rights other than the use of the program and possession of the medium upon which it is stored or transferred."[111]

In contrast, custom software is written for one user according to that user's specifications[112] and contains a service element.[113] In a typical

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106. *See Measurex Sys., Inc.*, 490 A.2d at 1195 (noting that canned software is prepared for a number of users).

107. *See* Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 468 (R.I. 1992) (reaffirming that "the service content of a ready-to-execute canned program is virtually nonexistent"); *Hasbro Indus., Inc.*, 487 A.2d at 128 (asserting that the service content is nonexistent because canned software is a fungible item).

108. *See Maccabees Mut. Life Ins. Co.*, 332 N.W.2d at 563 (noting that canned programs "need no documentation, training, or expert engineering support").

109. *See id.* (stating that canned programs are bought at the retail level, can be used immediately, and "need no documentation, training or expert engineering support"); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 52 (1992) (stating that canned programs are sold "as is and are available to the general public"); *see also* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 171 (1990) (stating that canned software, which is sold "as is," is conveyed through a number of different mediums).

110. Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 171 (1990).

111. *Id.*

112. *See* Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192, 1195 (Me. 1985) (noting that custom software is created to meet a specific user's needs); United Design Corp. v. State Tax Comm'n, 942 P.2d 725, 729 n.3 (Okla. 1997) (citing the regulation which states that custom programs are prepared according to the customer's special order); Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 156 (1996) (stating that custom software is designed according to the specifications of the user).

113. *See* Navistar Int'l Transp. Corp. v. State Bd. of Equalization, 884 P.2d 108, 114 (Ca. 1994) (recognizing that the difference between canned and custom software is the service characteristics inherent in custom software); *Measurex Sys., Inc.*, 490 A.2d at 1196 (indicating that custom software contains a service component); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 469 (R.I. 1992) (contending that custom

case, the software vendor asks system engineers to create custom programs that comply with the user's requirements, in addition to designing, implementing, and testing the programs and training the user.[114] This process leads to custom software stored on computer tapes or disks, combined with user manuals and other documentation.[115] Ownership of custom software is difficult to transfer,[116] and it is not limited by the same types of restrictions as canned software.[117] The purchaser of custom software "bargains for the full bundle of rights associated with the program, including the rights to use it on multiple machines, modify, copy, sell, lease and otherwise transfer the right to use the custom program."[118] Of course, the purchaser of custom software pays much more for this set of rights than the buyer of canned software pays for a restrictive license.[119]

A number of states distinguish between canned and custom software when levying taxes.[120] States that adopt this distinction largely conclude

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software contains an intangible service element). One court has stated that custom software loses its service characterization if it is resold to another user. *See Navistar Int'l Transp. Corp.*, 884 P.2d at 114 (quoting Touche Ross & Co. v. State Bd. of Equalization, 250 Cal. Rptr. 408 (1988)).

114. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 171–72 (1990) (providing engineers who customize programs given user requirements); *see also* Maccabees Mut. Life Ins. Co. v. Department of Treasury, 332 N.W.2d 561, 563 (Mich. Ct. App. 1982) (commenting on the need for prelease consulting with buyers of customized programs).

115. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 172 (1990) (resulting in the culmination of computer tapes and disks from customization).

116. *See Measurex Sys., Inc.*, 490 A.2d at 1195 (claiming that custom software is not easily transferable because it is created for a specific user).

117. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 172 (1990) (discussing how custom software and canned software are subject to different restrictions).

118. *Id.*; *see* Suzanne Bagert, South Central Bell v. Barthelemy: *The Louisiana Supreme Court Determines That Computer Software Is Tangible Personal Property*, 69 TUL. L. REV. 1367, 1372 (1995) (stating that the "owner of [custom] software will then enjoy many rights not attendant to the licensee of canned software, such as the right to use it on as many computers as desired, and the right to sell it or lease it").

119. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 172 (1990) (stating that a purchaser of custom software pays more for their bundle of rights than the purchaser of canned software).

120. *See* Navistar Int'l Transp. Corp. v. State Board of Equalization, 884 P.2d 108, 114 (Ca. 1994) (stating that California law does not impose a sales tax on custom software); United Design Corp. v. State Tax Comm'n, 942 P.2d 725, 729 (Okla. 1997) (recognizing that canned software is taxed under sales tax regulation while custom software is not so taxed); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 468–69 (R.I. 1992) (acknowledging that canned software is tangible property subject to taxation while

that canned software is taxable tangible property while custom software constitutes nontaxable intangible property.[121] However, a problem regarding canned and custom software arises when a customer purchases an off-the-shelf program that has been slightly modified or customized.[122] For taxation purposes, the courts must determine whether this modified off-the-shelf program should be classified as canned or custom software. This determination is difficult to make because this software does not fit neatly in either category.[123]

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custom software is intangible property exempt from taxation); *see also* 68 AM. JUR. 2D *Sales and Use Taxes* § 223 (1993) (discussing how many states differentiate between canned and custom software when imposing a use tax); Maribel A. Fajardo, Esq., *Alabama Proposes to Amend Computer Hardware and Software Regulations*, STATE & LOC. TAX WKLY., Apr. 28, 1997, at 10–11 (discussing proposed amendments to computer software regulations, which suggest that custom software should be exempt from sales taxation while canned software should remain taxable); Thomas M. Findley, *The Application of Florida's Sales Tax to Software and Electronic Computer Transmissions*, 68 FLA. B.J. 63, 63 (1994) (pointing out that while a majority of states tax canned software, several of those states do not tax custom software); Richard Raysman & Peter Brown, *State Sales Taxation of Software*, N.Y. L.J., Feb. 19, 1991, at 3 (reporting that New York and New Jersey only tax canned software and not custom software). *But see* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1249 (La. 1994) (indicating that the canned-custom distinction is irrelevant because the "nature of the software is the same").

121. *See* Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192, 1195–96 (Me. 1985) (indicating that canned software is tangible property while custom software is intangible); Maccabees Mut. Life Ins. Co. v. Department of Treasury, 322 N.W.2d 561, 564 (Mich. Ct. App. 1982) (concluding that canned software is taxable tangible property, and custom software is nontaxable intangible property); International Bus. Machs. Corp. v. Director of Revenue, 765 S.W.2d 611, 612 (Mo. 1981) (en banc) (recognizing that some cases hold canned software tangible property and custom software intangible property); *United Design Corp.*, 942 P.2d at 729 (stating that canned software is taxable while custom software is not taxable); *Computer Assocs. Int'l, Inc.*, 615 A.2d at 468–69 (acknowledging that canned software is taxable tangible property while custom software is nontaxable intangible property).

122. *See* Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 157 (1996) (demonstrating the problem of attempting to differentiate between canned and customized software when program is essentially canned but has some modifications). One commentator designates this type of software as "customized" software. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 2.05 (3d ed. 1996) (dividing software into three categories: canned, customized, and custom). However, customized software should not be confused with "custom" software. *See id.* Customized software is standard software modified to fit the specific needs of the user; it is not created solely for the single user. *See id.*

123. *See* Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 157 (1996) (asserting that the administration of the tax system with canned and custom software is made difficult because of the imprecise line drawn between canned and custom software); *see also* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY STATE

A few states have chosen to tackle the issue of modified or customized canned software in the context of sales taxation.[124] For example, in 1977, Tennessee modified its sales and use tax law to provide that tangible personal property specifically included customized computer software.[125] In *United Design Corp. v. Oklahoma Tax Commission*,[126] the Oklahoma Supreme Court recognized that customized software is subject to sales taxation.[127] Recently, a bill was unsuccessfully proposed in North Carolina, suggesting that software with over half of its cost derived from modifications be exempt from the state's sales tax.[128]

C. *Taxability—Tangible v. Intangible*

Courts and legislatures are often faced with the difficult task of determining whether particular types of computer software, such as system, application, canned or custom software, are taxable.[129] In making this determination, courts must first evaluate whether computer software is

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GUIDE § 2.05 (3d ed. 1996) (suggesting that for personal property tax purposes, "customized software should be broken into its two component parts: canned and custom software," otherwise taxing authorities will classify the software in the category which raises the most revenue).

124. *See* TENN. CODE ANN. § 67–6–102(24)(B) (1997) (imposing a sales tax on customized software); *United Design Corp.*, 942 P.2d at 728–29 n.3 (imposing a sales tax on customized software, which is defined as software with "programming changes to a prewritten program to adapt it to a customer's equipment"); H.B. 14, 1997 Leg., Reg. Sess. (N.C. 1997) (proposing to amend sales tax code so that customized software, or prewritten software with modifications, would be exempt from sales taxation).

125. *See* TENN. CODE ANN. § 67–6–102(24)(B) (1997) (declaring all computer software as tangible property including customized software except for that which is fabricated for a person's own use or consumption); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 171 (1990) (noting that Tennessee changed its sales tax code in 1977, recognizing customized software as tangible property).

126. 942 P.2d 725 (Okla. 1997).

127. *See United Design Corp.*, 942 P.2d at 728–29 (recognizing that the use of sales taxation is appropriate for customized software).

128. *See* H.B. 14, 1997 Leg., Reg. Sess. (N.C. 1994) (suggesting amending the sales tax code to state "[m]odification of a prewritten program to meet a customer's needs is custom computer software only to the extent of the modification, unless the charge for modifying the program exceeds fifty percent (50%) of the total charge for the program"); David Strow, *N.C. Software Developers Will Fight Tax Legislation*, BUS. J.-CHARLOTTE, Mar. 17, 1997, at 7 (discussing proposed bill that would only exempt certain custom software packages from sales taxation), *available in* 1997 WL 7604975.

129. *See* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (noting the difficulty faced by tax assessors in determining whether computer software is assessable), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 223 (3d ed. 1996).

tangible or intangible personal property.[130] Courts have made this distinction by employing various lines of reasoning.

1. Lines of Reasoning

One of the first lines of reasoning the courts embraced was the "knowledge" rationale.[131] This rationale concluded that the intangible knowledge contained within the tangible medium was the significant factor for tax purposes.[132] In other words, the information on the tangible medium, such as a punch card, magnetic tape, or disk, which was transferred to the computer system, was simply intangible knowledge.[133] Therefore, the

130. *See* Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 689 (Conn. 1989) (stating that the principle issue is whether computer software is tangible property subject to property taxation); *South Cent. Bell Tel. Co.*, 643 So. 2d at 1241 (considering whether computer software is tangible personal property for sales and use tax purposes); Measurex Systems, Inc. v. State Tax Assessor, 490 A.2d 1192, 1195 (Me. 1985) (determining, under use tax provisions, whether the software was tangible personal property). Classification of computer software is also an issue at the federal tax level when the question is whether computer software is eligible for an investment tax credit. *See Norwest Corp.*, 108 T.C. at 374–75 (reviewing whether computer software constituted tangible property in order to qualify for an investment tax credit); *Sprint Corp.*, 108 T.C. at 396 (determining whether computer software was tangible property, thus eligible for an investment tax credit). Prior to 1997, the United States Tax Court had considered computer software intangible property, thus ineligible for an investment tax credit. *See* Kansas City S. Indus., Inc. v. Commissioner, 98 T.C. 242, 262–64 (1992) (maintaining that computer software constituted intangible property); Ronnen v. Commissioner, 90 T.C. 74, 97 (1988) (holding that computer software was intangible property). However, in 1997, the United States Tax Court overruled its earlier decisions and concluded that computer software was tangible property eligible for an investment tax credit. *See Norwest Corp.*, 108 T.C. at 375 (deeming computer software to be tangible property); *Sprint Corp.*, 100 T.C. at 396 (defining computer software as tangible property).

131. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 176–77 (1990) (discussing two early cases, *District of Columbia v. Universal Computer Associates*, and *Commerce Union Bank v. Tidwell*, which employed the knowledge rationale).

132. *See* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (contending that the "knowledge rationale test stands for the proposition that computer software is merely a means to transfer information from the creator of the data to the end user"), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 230 (3d ed. 1996); Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 313 (1985); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 49 (1992); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 176 (1990) (alleging that the knowledge rationale considers the intangible knowledge, as opposed to the tangible medium, the significant tax factor).

133. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 313 (1985) (explaining that once the information is transferred to the computer, the only thing that remains is intangible knowledge); Robert W. McGee,

tangible medium was "merely incidental to the purchase of the intangible knowledge and information stored on the tapes."[134]

This rationale was employed in *District of Columbia v. Universal Computer Associates*[135] when the court concluded that the material of the punched cards was of insignificant value compared to what was actually paid for, the "intangible value of the information stored on the cards."[136] The knowledge rationale was also applied by the court in *Commerce Union Bank v. Tidwell*[137] to reach the same conclusion as *Universal Computer Associates*—computer software constitutes nontaxable intangible property.[138] In *Commerce Union Bank*, the Tennessee Supreme Court concluded that what the buyer had purchased was intangible knowledge and not a tangible medium.[139]

Subsequently, courts expanded on the theory behind the knowledge rationale by further focusing on computer software's two components, the physical storage medium and the knowledge and information contained on that medium. The result was the creation of the "essence of the transaction" test.[140] This test maintains that when the transaction is, "in essence," the purchase of an intangible item, the transaction is exempt from taxation.[141] The "essence of the transaction" test looks at what is

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Software Taxation in Ohio, 9 AKRON TAX J. 49, 49–50 (1992) (describing how once information on the tangible medium was transferred to the computer then all that remains is intangible knowledge).

134. Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 408 (Tenn. 1976).

135. 465 F.2d 615 (D.C. Cir. 1972).

136. *Universal Computer Assocs., Inc.*, 465 F.2d at 617.

137. 538 S.W.2d 405 (Tenn. 1976).

138. *See Universal Computer Assocs.*, 465 F.2d at 618 (holding that computer software is intangible property); *Commerce Union Bank*, 538 S.W.2d at 408 (concluding that the sale of computer software was not the sale of tangible property).

139. *See Commerce Union Bank*, 538 S.W.2d at 408 (stating that intangible knowledge is what was purchased not the magnetic tapes or punch cards).

140. *See* Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50 (1992) (contending that "[t]he essence of the transaction test was an expansion of the knowledge rationale"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 177 (1990) (implying that the essence of the transaction test is a variation of the knowledge rationale).

141. *See* Cache County v. Property Tax Div. of Tax Comm'n, 922 P.2d 758, 767–68 (Utah 1996) (asserting that if the cost of software is primarily incurred for its intangible nature, the property is nontaxable); *cf.* Robert W. McGee, *The "Essence of the Transaction" Test for Computer Software Tangibility and Taxation*, 20 LINCOLN L. REV. 21, 22 (1991) (stating that the "essence of the transaction test holds that software is tangible if the essence of the transaction is the purchase or sale of tangible property"). The "essence of the transaction" test is sometimes referred to as the "real object" test. *See* Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 126 (R.I. 1985) (stating that the critical test is the "real object" test which means that "'where the real object of the transaction is the product of the service, it is taxable transfer', but '[w]here the real object of the transaction is the

being purchased, a tangible medium or intangible knowledge.[142] In *First National Bank v. Bullock*, a Texas court applied this test and concluded that the computer software involved was intangible personal property.[143] The court held that "the essence of [the] transaction was not the four tapes, but, instead, the purchase of the computer process, an intangible."[144] An Ohio court of appeals reiterated the Texas court's point when it concluded in *Compuserve, Inc. v. Lindley*[145] that the primary purpose in purchasing computer software is to receive the intangible information and not the inexpensive tangible medium.[146]

Another test employed by courts in software tax cases is the "relative value" test.[147] This test also recognizes that the software development process involves both tangible and intangible elements.[148] Although a tangible medium is used to store and transfer intangible knowledge, most

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service rendered and the transfer of personal property is merely incidental to the service, the transaction is not taxable'" (quoting Statewide Multiple Listing Servs., Inc. v. Norberg, 892 A.2d 871 (R.I. 1978))).

142. *See Cache County*, 922 P.2d at 767 (stating that "the essence of the transaction" test "focuses on the primary purpose of the transaction"); John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 129 (1987) (pointing out that the essence of the transaction test "gauge[s] the importance of the tangible medium to the transfer of knowledge"). It should be noted that the type of computer software involved does not affect the outcome of the knowledge rationale or the essence of the transaction test. *See* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software*, *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 230 (3d ed. 1996) (stating that neither test is dependent upon the classification of software).

143. *See* First Nat'l Bank v. Bullock, 584 S.W.2d 548, 550–51 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.) (stating that the essence of the transaction was the intangible computer software and not the four tapes used to convey the software).

144. *Id.* at 550.

145. 535 N.E.2d 360 (Ohio Ct. App. 1987).

146. *See Compuserve*, 535 N.E.2d at 365 (disagreeing with courts that have concluded that the purpose of purchasing computer software is to obtain the tangible medium by stating that the real purpose is to receive the intangible information).

147. *See* Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 691 (Conn. 1989) (noting the dramatic difference in value between the computer disks and the computer software); District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615, 617 (D.C. Cir. 1972) (contrasting the value of the material to the value of the information purchased); Detroit Auto. Interinsurance Exch. v. Department of Treasury, 361 N.W.2d 373, 376 (Mich. Ct. App. 1984) (delineating between the value of the physical component and "the organization, creation, knowledge and skill of the information thereon"); Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 407 (Tenn. 1976) (comparing the cost of the magnetic tape to the total cost of the computer software).

148. *See* Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50 (1992) (discussing the tests that are used to classify computer software as either tangible or intangible).

of the software product consists of the intellectual content.[149] Under this test, the tangible medium is simply a nominal and incidental cost to obtaining the desired information.[150] For example, computer software selling for $50,000 might be stored on tapes or disks that cost $50. The discrepancy in value indicates that the purchaser, who pays $50,000, is actually buying knowledge and information rather than a physical product.

The fourth test, the "mode of transmission," is frequently employed by courts.[151] This test proposes that when "the knowledge can be conveyed from the seller to the buyer without the use of a physical medium, the transaction involves the sale of intangible property."[152] In *Chittenden Trust Co. v. King*,[153] a Vermont court held that regardless of the way the software could have been transferred, the way in which it was transferred was controlling.[154] Thus, in states using the mode of transmission test, software transferred electronically by modem might escape property taxation while those who obtain software on diskettes will not avoid the tax assessor's claims.[155] One commentator has suggested that the mode of

149. *See id.* (noting most of value of software lies in its intellectual content).

150. *See Detroit Auto.*, 361 N.W.2d at 376 (recognizing that the value of the tangible components of software is nominal compared to the intangible items); *Commerce Union Bank*, 538 S.W.2d at 408 (noting that the value of a tape or disk dissipates once the information is transferred to the computer system).

151. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 314 (1985) (declaring that a "number of courts have applied the 'mode of transmission' test"); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50 n.9 (1992) (claiming that several courts have used the "mode of transmission" test).

152. Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50 (1992); *cf.* First Nat'l Bank v. Department of Revenue, 421 N.E.2d 175, 178 (Ill. 1981) (finding support for the conclusion that computer software is intangible property in the fact that software could be conveyed in a number of ways); James v. Tres Computer Sys., Inc., 642 S.W.2d 347, 349 (Mo. 1982) (noting that the use of a tangible medium, such as a tape, was not necessary as the software could have been conveyed to the purchaser through electronic communications); Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 408 (Tenn. 1976) (suggesting that computer software can be conveyed through tangible and nontangible methods).

153. 465 A.2d 1100 (Vt. 1983).

154. *See Chittenden Trust Co.*, 465 A.2d at 1102 (concluding that because the value of software lies in its tangible form, computer software constitutes tangible personal property); *see also* Citizens & S. Sys. Inc. v. South Carolina Tax Comm'n, 311 S.E.2d 717, 719 (S.C. 1984) (determining that computer software was tangible property based on the fact that it was delivered in a tangible form).

155. *See Chittenden Trust Co.*, 465 A.2d at 1102 (alleging that if the Bank had procured the software through telephone lines the use tax would have been avoided); Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (suggesting that in states using the mode of transmission test, a taxpayer could possibly avoid property taxes by transferring the software electronically), *reprinted in* L.J. KUTTEN, PERSONAL

transmission test is limited in that it "examines the tangibility of property [only] at the time of transmission."[156] Accordingly, this test is not helpful in the realm of property taxation because, unlike a sales tax, the property tax is typically imposed annually and does not concentrate on the transfer of the property.[157]

2. Analogy Arguments

In addition to using lines of reasoning to determine whether computer software is tangible or intangible property, courts have analogized computer software to other various types of taxable property, including films, books, and audio cassette tapes and records.[158] These types of taxable property have much in common with computer software.[159] For example, the value of a film, book or audio recording lies in the intellectual and artistic content, not in the physical, tangible medium upon which that

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PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 231 (3d ed. 1996); *see also* Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50 n.9 (1992) (providing an example of how the transmission of a program over the telephone lines can save the amount of sales tax owed).

156. Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software, reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 230 (3d ed. 1996).

157. *Cf.* COLO. CONST. art. X, § 3(2)(a) (requiring property tax assessment to commence January 1 of each year); KY. REV. STAT. ANN. § 132.220(1) (Michie 1991) (providing for property tax assessment as of January 1 of each year); TEX. TAX CODE ANN. § 23.01 (Vernon 1992) (calling for all property to be appraised for property tax purposes by January 1 of each year).

158. Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 185 (1990); *see* John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 131 (1987) (noting that software has been analogized to phonograph records, books, and movie films). A recent case addressed whether VCR recordings were comparable to computer software or movie reels. *See* Reynaud v. Town of Winchester, 644 A.2d 976, 977-78 (Conn. App. Ct. 1994) (deciding whether plaintiffs' analogy of VCR recordings to computer software or defendant's analogy to movie reels was more persuasive). The court, however, concluded that the VCR recordings were more similar to movie reels than computer software. *See id.* at 978.

159. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 314–15 (1985) (asserting that films and records are quite similar to computer software); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 50–51 (1992) (contending that "films and records have much in common with computer software"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 185 (1990) (acknowledging that filmmaking and software creation involve similar processes).

content is transferred.[160] Likewise, computer software's value is derived from the knowledge contained within the computer disk or tape.[161]

Despite this similarity, courts have drawn distinctions that undermine any legal comparison between computer software and other taxable property.[162] For example, in *Commerce Union Bank v. Tidwell*, the court drew two critical distinctions between film and computer software.[163] First, the court concluded that the storage mediums, disks, and tapes were not crucial to computer software, unlike film where the celluloid upon which movie recorded was "a crucial artistic element of the motion picture. . . ."[164] As the court has stated, "for without film there could be no movie."[165] Second, the court differentiated between film and software by contending that the medium upon which the computer program was recorded could be returned to the seller or destroyed after the program had been run through the computer.[166] On the other hand, a movie film's value continued after the movie had been shown because it could be used over and over again.[167] Thus, the ability to reuse film but not computer software led the court to conclude that computer software was intangible property.[168]

Another manner in which courts have found that computer software differs from films, records, and books is that the latter three items can be used immediately upon purchase. Before software can be used, it must

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160. Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 315 (1985); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992).

161. *See* Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992) (asserting that the value of software lies in its intellectual intangible content).

162. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 315 (1985) (explaining the distinctions drawn by the courts between computer software and other taxable property); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992) (laying out the differences between computer software and films, records, and books); John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 131 (1987) (discussing the distinctions between computer software and films, records, and books).

163. *See* Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 407–08 (Tenn. 1976) (drawing a distinction between film and computer software).

164. *Id.* at 407.

165. *See id.* at 407 (explaining that film is inherently related to a movie).

166. *See id.* at 408 (describing the difference in mediums of computer software and films).

167. *See* Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992) (stating that another distinction between film and software is that a movie has continuing value because "it can be used again and again").

168. *See Commerce Union Bank*, 538 S.W.2d at 408 (concluding that computer software was not tangible personal property).

be translated into a language that the computer can understand.[169] Due to this need for translation, software is not immediately perceptible to the senses, unlike films, records, and books, which are directly perceptible.[170] Additionally, courts have pointed out that films, records, and books need not be maintained after the initial sale whereas custom computer software requires periodic updating by the seller.[171] Such distinctions have led courts to conclude that computer software cannot be tangible property.[172]

By contrast, various courts have found weaknesses in these distinctions. *Comptroller of the Treasury v. Equitable Trust Co.*[173] was the first case to reject the analysis that other types of taxable personal property, such as films and records, were not analogous to computer software.[174] The court suggested that prior courts incorrectly ignored the similarities between the "machine readable" form of data on computer tapes and the "machine readable" character of films and audio tapes.[175] The court also

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169. *See Commerce Union Bank*, 538 S.W.2d at 408 (pointing out that computer software is not complete and ready upon purchase because it must first be translated into language the computer can understand).

170. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 315 (1985) (alleging that computer software is not immediately perceptible to the senses); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992) (claiming that unlike films, records, and books, computer software cannot be immediately perceived by the senses); John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 131 (1987) (arguing that "[b]ooks, records, and movies are designed to be readily perceptible by human senses with minimal aid of machines"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 187 (1990) (noting that computer software is not immediately perceptible to the sense because it must first be translated into a language that a computer can understand).

171. Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 315 (1985); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 51 (1992); *see* John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 74 (1972) (pointing out that normally future updates and services are included with the purchase of custom computer software while it is "doubtful whether the hypothetical purchase of a motion picture and its copyright would be regarded as a continuing contract for services").

172. *See* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1247–48 (La. 1994) (rejecting attempts by other jurisidcitons to analogize computer software to other taxable tangible property); *Commerce Union Bank*, 538 S.W.2d at 407–08 (relying on the differences between computer software and other tangible property then concluding that computer software is intangible property).

173. 464 A.2d 248 (Md. 1983).

174. *See Equitable Trust Co.*, 464 A.2d at 261 (holding that there is no legally significant difference between computer software and records).

175. *See Chittenden Trust Co.*, 465 A.2d at 1102 (rejecting any distinciton between computer software and other tangible property wherein the value lies not in its physical component but rather in the intellectual content).

determined that, like a record, a software tape does not surrender its tangible character simply because its content is produced through intellectual effort.[176] In essence, the court refused to acknowledge any distinction made between a computer program recorded on a computer tape and music recorded on a cassette tape.[177]

Chittenden Trust Co. v. King[178] followed *Equitable Trust* and also rejected the traditional distinctions drawn between computer software and other taxable property.[179] According to the court, when assessing sales or use tax, tapes containing off-the-shelf computer programs are indistinguishable from other taxable personal property such as films, videotapes, books, cassettes, and records.[180] The court concluded that "the value lies in their respective abilities to store and later display or transmit their contents" and a "computer software tape is no different."[181] Thus, unlike previous courts, the courts in *Chittenden Trust Co.* and *Equitable Trust* used an analogy argument to support their conclusion that computer software was tangible personal property.[182]

3. Goods v. Services Distinctions

In determining whether computer software is tangible or intangible, courts have dealt with another distinction—whether the sale of computer software constitutes the sale of a good or a personal service.[183] In general, if computer software is deemed a product or a good, it is tangible

176. *See Equitable Trust Co.*, 464 A.2d at 261 (stating that "[a] tape containing a copy of a canned program does not lose its tangible character, because its content is a reproduction of the product of intellectual effort, just as the phonorecord does not become intangible, because it is a reproduction of the product of artistic effort"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 188 (1990) (comparing canned programs with phonorecords).

177. *See Equitable Trust Co.*, 464 A.2d at 261 (holding that there is no legally significant difference between computer software and records).

178. 465 A.2d 1100 (Va. 1983).

179. *See Chittenden Trust Co.*, 465 A.2d at 1102 (rejecting the Bank's argument by distinguishing computer software from other taxable personal property).

180. *See id.* (contending that computer software is not different from other taxable personal property items).

181. *Id.*

182. *See id.* (holding that computer software constitutes tangible property).

183. *See, e.g.*, General Bus. Sys., Inc. v. State Bd. of Equalization, 208 Cal. Rptr. 374, 375 (Cal. Ct. App. 1984) (discussing whether the sale of computer software constituted the sale of a good or the rendition of services); Communications Groups, Inc. v. Warner Communications, Inc., 138 Misc. 2d 80, 83, 527 N.Y.S.2d 341, 344 (N.Y. Civ. Ct. 1988) (determining whether the sale of computer software involved a good or a service); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 469 (R.I. 1992) (deciding whether an intangible service element was involved in the sale of computer software); *see also* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L.

property subject to sales, use, and property taxation.[184] If software is viewed as a service, however, it is considered intangible and not subject to these taxes.[185]

Services are not provided with the sale of unmodified canned programs that are available to the general public.[186] However, custom software, which differs for each customer and is of no value to the general public, is more likely to be considered a service rather than a canned program because it involves personal attention provided by the seller through maintenance and update services.[187] Also, with custom software, the value of the tangible medium is minute in relation to the value of the services required to create that software.[188]

REV. 307, 316 (1985) (stating that a number of courts have wrestled with the good versus service distinction).

184. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 316 (1985) (stating that computer software that is deemed a good is considered tangible property). Classification of computer software as a good also means that its sale is governed by the Uniform Commercial Code (U.C.C.). *See* James A. Mogey, *Software As UCC Goods: A Critical Look*, 34 HOW. L.J. 299, 307 (1991) (concluding that for the U.C.C. to apply software must be classified as a good). The U.C.C. defines goods as "all things . . . which are movable at the time of identification to the contract for sale other than the money in which the price is to be paid, investment securities and . . . things in action." U.C.C. § 2–105 (1978). The key inquiry, therefore, is whether computer software should be considered a good or a service. *See* David C. Tunick, *Has the Computer Changed the Law?*, 13 J. MARSHALL J. COMPUTER & INFO. L. 43, 45 (1994) (noting that the critical question for courts is whether software is considered a good).

185. *See* John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 132 (1987) (noting that if the sale of software is actually a sale of services then the transaction will not be subject to a sales or use tax). In addition, if computer software is classified as a service then it does not fall within the scope of the U.C.C. *See* James A. Mogey, *Software As UCC Goods: A Critical Look*, 34 HOW. L.J. 299, 307 (1991) (stating that if the sale of software was considered a service transaction, then the sale would fall outside the scope of the U.C.C.).

186. *See Computer Assocs. Int'l, Inc.*, 615 A.2d at 468 (explaining that canned software does not contain a service element); Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 128 (R.I. 1985) (claiming that service is nonexistent with a canned program); Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 317 (1985) (stating that services do not accompany the sale of canned programs); John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 133 (1987) (noting that with canned software no personal services are rendered as it is sold "off the shelf").

187. *See General Bus. Sys.*, 208 Cal. Rptr. at 375 (determining that the sale of custom computer software was actually the provision of services); *Computer Assocs. Int'l, Inc.*, 615 A.2d at 469 (declaring that custom software contains an intangible service element); Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 316 (1985) (contending that canned programs are normally considered products while custom programs are generally considered services).

188. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 318 (1985) (demonstrating that tangible medium are generally

Because software contains elements of both goods and services, courts have developed several tests to make a distinction between the two.[189] One test is whether the transfer of the physical property is an indispensable element of the transaction.[190] This test is similar to the "essence of the transaction" test. A second test compares the value of the materials to the value of the services rendered.[191] Another test, resembling the relative value test, asks whether the item transferred has value only to the purchaser or whether the item can be sold to the general public.[192]

This good versus service distinction along with the various lines of reasoning and analogy arguments have helped courts to answer the difficult, yet key, inquiry surrounding taxation of computer software. These methods have aided the courts' decisions as to whether computer software is tangible or intangible property. Today, a majority of these courts have concluded that computer software constitutes tangible personal property. However, reaching that decision does not completely resolve subsequent problems which arise when tangible property is taxed. For example, one significant problem facing taxing computer software is the difficulty in valuation.

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worth less than services); *see also* John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 132 (1987) (suggesting that with custom software "[t]he software is merely incidental to the rendering of the service").

189. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 316–17 (1985) (explaining the different tests used to determine whether computer software constitutes a good or a service); Mary M. Simons, Comment, *Benchmarking Wars: Who Wins and Who Loses with the Latest in Software Licensing*, 1996 WIS. L. REV. 165, 175 (stating that courts have adopted various tests, including the predominant factors rule and the moveable-end-product rule, to determine whether computer software constitutes a good).

190. *See* General Bus. Sys., Inc. v. State Bd. of Equalization, 208 Cal. Rptr. 374, 375 (Cal. Ct. App. 1984) (using the true object test, which focuses on the main element of the transaction, to decide that the sale of computer software was in actuality the rendition of services); Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 316 (1985) (pointing out that one test used to distinguish between goods and services asks whether the transfer of the physical property is necessary or merely convenient to achieving the purpose of the transaction).

191. *See* Robert W. McGee, *Sales, Use, and Property Taxation of Computer Software*, 8 HAMLINE L. REV. 307, 316 (1985) (stating a test which compares the value of materials and services).

192. *See id.* (describing a test which examines whether there is value to a purchaser only, or whether the item can be sold to the general public).

IV. VALUATION OF COMPUTER SOFTWARE

Valuation of property for taxation purposes is a difficult task, and valuation of computer software is no exception.[193] Assessing the value of computer software is complicated by its nature and the different elements its cost can encompass, including development and future services.[194] Be-

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193. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.01, at 19–20 (3d ed. 1996) (pointing out that valuing software for personal property tax purposes is difficult, particularly since any service costs must be deducted); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 188 (1990) (contending that computer software valuation is a particularly difficult task).

A property tax is typically levied on the value of real and personal property owned by a taxpayer. *See* BLACK'S LAW DICTIONARY 1218 (6th ed. 1990) (stating that "[a]n ad valorem tax [is] usually levied by a city or county government on the value of real or personal property that the taxpayer owns on a specified date"); GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 10 (1996) (noting that ad valorem taxation is based on the value of property); 21 JAY D. HOWELL, JR., PROPERTY TAXES § 413 (Texas Practice 1988) (stating that property must be taxed according to its value). A property's value, therefore, must be ascertained once that property has been deemed taxable. After valuation occurs, the amount of tax owed to the taxing authority can be calculated. Generally, the property tax rate is "expressed as a uniform rate per thousand of valuation." BLACK'S LAW DICTIONARY 1218 (6th ed. 1990). For example, in Florida, the current property tax rates range from two cents to twenty-five cents per thousand of assessed value. *See Companies Fight Software Tax Bite*, CHI. TRIB., June 9, 1996, at 7 (reporting that "Florida property tax rates generally range from [two] cents to [twenty-five] cents per $1,000 of assessed value"), *available in* 1996 WL 2679556.

The process of valuation is a difficult task. *See* GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 81 (1996) (stating that "[d]etermining the value of property is a difficult task"); Harold M. Groves, *Is the Property Tax Conceptually and Practically Administrable?* (suggesting that administering the property tax is made difficult because it is based on valuation), *in* THE PROPERTY TAX AND ITS ADMINISTRATION 15, 15 (Arthur D. Lynn, Jr. ed., 1969); *cf.* Nancy S. Rendleman & Charles B. Neely Jr., *Property Taxation of Computer Software* (noting difficulty in determining the value of computer software), *reprinted in* L.J KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 233 (3d ed. 1996). As one commentator stated, even "the best appraisers may differ as to the value of particular properties." GLENN W. FISHER, THE WORST TAX? A HISTORY OF THE PROPERTY TAX IN AMERICA 81 (1996).

194. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189 (1990) (stating that "the price of a software package often includes many elements, including rights to maintenance and update services to be rendered in the future").

Once a state identifies computer software as taxable property, the state will be faced with the problem of determining a proper valuation of the software. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.01, at 19 (3d ed. 1996) (claiming that tax assessors are faced with the problem of determining the fair value of computer software); Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (stating that once computer software is deemed taxable property, its value must be determined), *reprinted in* L.J. KUTTEN, PERSONAL

cause most states do not intend to assess a property tax upon future services and rights, particularized valuation methods must be developed for computer software in order to avoid overvaluation and unnecessary tax payments.[195]

No one method of valuation has been universally accepted.[196] In fact, most state tax regulations are silent as to the appropriate guidelines for assessing the value of computer software.[197] Nevertheless, the three major approaches to valuation have been used to ascertain the value of computer software: the fair market approach, the income approach, and the

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PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 233 (3d ed. 1996). Unlike most tangible personal property, the true value of software does not lie in its physical form. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 188 (1990) (noting that "the true value of software does not manifest itself in a physical form"). This examination contradicts the finding that computer software is tangible because the majority of the software's value is derived from the intangible knowledge contained on the tangible medium; the value of the physical storage medium, such as a tape or disk, is relatively low in comparison with the value of the intangible knowledge stored on the medium. *See id.* (providing an example in which a 2400-foot magnetic tape, which costs less than $100, could easily contain software valued at $100,000); *see also* John W. Bryant & Lance R. Mather, *Property Taxation of Computer Software*, 18 N.Y. L.F. 59, 63 (1972) (contending that "tangible manifestations of software, such as punch-cards or magnetic tapes and printed materials, are of low intrinsic value").

195. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 169 (1990) (indicating that a state legislature would never intend to assess a property tax upon future services and rights); *see also* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.01 (3d ed. 1996) (asserting that the inclusion of services such as preinstallation planning, training, debugging, testing, and performing engineering diagnostics inflates the value of computer software; thus, the failure to remove these costs in the valuation process will result in overvalued software and unnecessary tax payments).

196. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.06 (3d ed. 1996) (stating that each taxing authority has its own method of determining the value of taxable property); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 193 (1990) (proclaiming that no one method of valuation has not been accepted). *Compare* VA. CONST. art. X, § 2 (using the fair market approach to determine value), *and* KAN. STAT. ANN. § 79–501 (1989 & Supp. 1996) (approving of the fair market method for assessing property value), *with* Patrick Derdenger, *Arizona Property Tax* (reporting that Arizona values property according to its original cost less depreciation), *in* PROPERTY TAX DESKBOOK § 3–834 (William Prugh et al. eds., 1997), *and* Dwayne W. Barrett & Richard A. Johnson, *Tennessee Property Tax* (acknowledging that although Tennessee has approved of the use of three methods to determine property value, the principal approach is the cost approach), *in* PROPERTY TAX DESKBOOK § 43–225.1 (William Prugh et al. eds., 1997).

197. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 193 (1990) (stating that state legislatures have not provided much guidance in regulations).

cost approach.[198] Generally, the type of method employed will depend on the software being valued.

The fair market approach values software based on what identical or similar software would sell for on the open market.[199] Establishing the value of software, therefore, depends upon the assessor's ability to locate readily available software in the market that has similar or identical features and characteristics to the software being valued.[200] Thus, the fair market approach applies easily to canned software that performs general functions such as accounting, database management, or wordprocessing because comparable programs are easily located.[201] On the other hand, this approach does not work well with custom software because it is designed specifically for a particular user; therefore, equivalent software is extremely difficult to locate.[202]

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198. *See* COLO. REV. STAT. ANN. § 39–1–103(5)(a) (West 1990 & Supp. 1997) (approving the use of either the cost, income, or market approach to determining the value of real and personal property); TEX. TAX CODE ANN. § 23.0101 (Vernon 1992 & Supp. 1998) (acknowledging the use of the cost, income, and market approaches for assessing the value of property); L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE §§ 3.01–.04 (3d ed. 1996) (examining the three major approaches to determining property value); Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 590 (explaining the three methods of appraisal—cost, income, and market), *available in* 1997 WL 9171344. *But see* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189–91 (1990) (dividing the valuation process into two approaches: the historical cost method and the fair market value approach).

199. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.02 (3d ed. 1996) (providing that the fair market approach determines the value of software based on "what software with identical or similar characteristics would sell for on the open market").

200. *See id.* (stating that in order to value software, readily available software must be located in the market); Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (suggesting that the market approach "relies upon a comparison of property recently transferred and of a substantially similar nature to the property valued"), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 234 (3d ed. 1996).

201. L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.02 (3d ed. 1996).

202. *See id.* (suggesting that the market approach may not work well "with custom, internally developed, or heavily customized canned software because . . . of the lack of comparable software"); Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (arguing that the market approach breaks down with modified canned software and custom software), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 234 (3d ed. 1996); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 190 (1990) (contending that the market approach "depends upon available pricing data on reasonably comparable software packages in the marketplace").

When using the fair market approach, tax assessors commonly employ one of four methods to determine the fair market value. The first method strives to determine how much the software or software of a similar function would sell for between "a willing seller and a willing buyer in an arm's-length transaction."[203] The second method uses the vendor's list price, which takes into account any accumulated depreciation.[204] The third method utilizes the actual price minus any depreciation.[205] The fourth method determines the value based on the cost to reproduce the computer software, taking into account current prices for labor and services.[206] Determining which of these four methods is utilized to ascertain fair market value depends on the type of property being assessed.[207]

In contrast, the income approach, which is commonly used with commercial real estate, is based on the "present value of the income stream generated over the economic life of the taxed item."[208] When applying

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203. L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.02 (3d ed. 1996); *see* Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 590 (defining fair market value as "the price at which the property would sell in the open market in an exchange between a willing seller and willing buyer"), *available in* 1997 WL 9171344.

204. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.02 (3d ed. 1996) (indicating that one fair market approach "uses the vendor's catalogue listprice less any accumulated depreciation").

205. *See id.* (noting that another fair market method uses the vendor's actual price if it is different from the catalogue price, still deducting for any depreciation).

206. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 190 (1990) (requiring sufficiently detailed sales data relevant in guiding value of software). Harris divides the fair market approach into two forms, the "cost of repurchase" and the "cost of replacement." *Id.* The "cost of repurchase" is the cost of purchasing similar software. *Id.* The "cost of replacement" is the cost to reproduce the computer software. *Id.* While the "cost of repurchase" method works only with canned software, the "cost of replacement" method can be applied to either canned or custom software. *Id.* at 191. *But see* Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 590 (asserting that the replacement cost method is rarely used because of the difficulty in application), *available in* 1997 WL 9171344.

207. *See* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (explaining that a custom or internally developed application would not have comparable sales to use in a transactional valuation, and that these types of programs are more suited to a cost based analysis), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 234 (3d ed. 1996).

208. *Id.* The income approach has been divided into two methods, direct capitalization and yield capitalization. *See* Bryan Ruez et al., *Property Tax: A CPA's Perspective*, TAX ADVISER, Sept. 1, 1997, at 590 (suggesting replacement cost method is used rarely as it is difficult to determine), *available in* 1997 WL 9171344. Direct capitalization, which is the easiest to use, divides the capitalization rate of comparable companies by a company's normalized net income. *See id.* The yield capitalization method projects the future net cash flow and discounts it to present value. *See id.*

this approach to computer software, the assessor computes the net cash flow associated with the revenue and income generated by the software.[209] The assessor also discounts any anticipated future income to present value by capitalizing the value of the software.[210]

The income approach presents a number of problems. First, attributing an income stream to a specific piece of software is a difficult task because it is hard to pinpoint the amount of income generated by a single software program.[211] Second, ascertaining the value of custom software is virtually impossible as this software is normally developed solely for the user's internal use.[212] Third, uncertainty and risk result when basing the software's value on the capitalization of future income because that income may not be realized.[213]

Finally, the cost approach, the simplest valuation method, is commonly used with both canned and custom software.[214] Applying the cost approach to canned software results in the assessed value equaling the purchase price of the off-the-shelf program.[215] Conversely, the assessed value of custom software is based on either the original cost of the entire

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209. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.03 (3d ed. 1996) (asserting that the income approach "requires the assessor to project the net cash flow associated with the sales revenue, license income, or royalty income generated by the software").

210. *See id.* (providing that the value of the software must be capitalized in order to discount to present value any anticipated future income).

211. *See* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (claiming that few software owners can accurately allocate an income stream, particularly because obsolescence may obscure an estimate of future income), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 223 (3d ed. 1996).

212. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.03 (3d ed. 1996) (asserting that "[it] is almost impossible to value software developed for a user's internal use").

213. *See id.* (alleging that valuing computer software according to the capitalization of future income is risky since such income may never be realized).

214. *See id.* § 3.04 (contending that the cost approach is most commonly used with custom software); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189 (1990) (noting that the historical cost method is the simplest valuation mode); *see also* Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (stating that tax assessors frequently use the cost method to value personal property including computer software), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 236 (3d ed. 1996).

215. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189 (1990) (arguing that the historical cost method's assessed value would equal the off-the-shelf purchase price).

development process or the cost of duplicating the utility of the software, taking into consideration depreciation and obsolescence factors.[216]

With custom software, the assessor employing the cost approach has to consider the cost of labor, supplies, and hardware, as well as the margin of profit.[217] However, the problem with applying the cost approach to custom software is that it tends to overvalue the software.[218] The cost approach usually encompasses the costs associated with initial design, implementation, and testing, which are not actually part of the finished product.[219] Not only are these developmental costs hard to determine and to exclude, but assigning a value to these components is an arduous procedure, particularly when less detailed records are kept regarding the cost of that development process.[220] This problem becomes clear when an additional copy of the computer software is created. The cost of making the additional copy is only the cost of the storage medium, usually a

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216. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.04 (3d ed. 1996) (claiming that a tax assessor determines the value of custom software by either referring to the cost of the development process or the cost to duplicate the utility of the software); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189 (1990) (stating that under the cost method the value of custom software equals "the original cost of the entire software development process").

217. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.04 (3d ed. 1996) (determining that assessors must account for the cost of labor, supplies, and hardware along with the margin of profit when valuing software under the cost approach).

218. *See id.* (alleging that the cost approach "tends to overvalue the software because it is extremely difficult to exclude the nontaxable portion of the development process"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189–90 (1990) (arguing that the historical cost method overvalues computer software by including services which are not part of the final product).

219. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 190 (1990) (overvaluing the software value with initial development costs); *see also* District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615, 619–20 (D.C. Cir. 1972) (deducting the cost of the development of the software from its assessed value).

220. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.04 (3d ed. 1996) (proclaiming that tax assessors face the difficulty of assigning a value to the development process); Nancy S. Rendleman & Charles B. Neely, Jr., *Property Taxation of Computer Software* (alleging that few taxpayers provide "meaningful cost data for their internally developed software" as well as "document the man-hours expended and the dollars invested in the production of the software"), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE app. E, at 238 (3d ed. 1996). *But see* Justin Hibbard, *Software Gains Capital Treatment,* INFO. WK., Jan. 12, 1998, at 18 (discussing a pending rule change requiring accountants to treat computer software as an asset, thus improving the record-keeping of the software development process), *available in* 1998 WL 2358043.

disk or magnetic tape; no developmental cost is incurred when the copy is made.[221] Thus, assessing the cost of this additional copy of computer software using the cost approach would clearly overstate its value.

Regardless of which approach is employed to value computer software, the taxpayer and the tax assessor face some obstacles. For instance, one notable problem concerns how to account for depreciation and obsolescence.[222] Obsolescence occurs if property falls into disuse or its value is diminished by changes in technology or public taste.[223] The valuation of the software must be adjusted to account for economic obsolescence, otherwise the software will be overvalued.[224] However, computer software often undergoes rapid technological changes, making it difficult to establish a standard economic life for the software.[225] Unlike computer hardware, which depreciates over a definite period of time, software may lose all of its value in a very short time period.[226] Therefore, the valuation of this software must reflect the fact that it may have outlived much of its usefulness.[227]

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221. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 193 (1990) (declaring that the cost of making additional copies of computer software is "little more than the cost of the storage medium").

222. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.05 (3d ed. 1996) (listing obsolescence as one of the main problems faced by tax assessors when assessing the value of computer software); *see also Corporate Strategies-Briefs-Taxing Technologies*, COMPUTERWORLD, July 1, 1996, at 61 (claiming that "[m]any states opt to exempt software rather than assess something that quickly can become obsolete"), *available in* 1996 WL 2372767.

223. *See* BLACK'S LAW DICTIONARY 972 (5th ed. 1979) (defining obsolescence and specifying when it can occur).

224. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 191 (1990) (suggesting that all valuation approaches must take into account economic obsolescence); *cf.* Karen L. Boucher & William B. Curlee, *Managing Personal Property Taxes*, TAX ADVISER, Nov. 1, 1996, at 672 (stating that most jurisdictions have created depreciation or cost-multiplier schedules to account for a personal property item's normal wear and tear), *available in* 1996 WL 9338591.

225. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.05 (3d ed. 1996) (providing that rapid changes in technology complicate the process of establishing a standard economic life for computer software). *But see* 33A AM. JUR. 2D *Federal Taxation* ¶ 14652 (1996) (noting that IRS revenue procedures depreciate computer software purchased separately from hardware over 36 months using a straight-line method).

226. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY STATE GUIDE § 3.05 (3d ed. 1996) (alleging that "[u]nlike computer hardware, which depreciates over a set period, last year's software maybe totally worthless").

227. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 191 (1990) (noting that it may be feasible to replace the software but not economically efficient).

Multiple copies of the same computer software pose an additional problem.[228] Often businesses make backup copies of software for security reasons.[229] This duplication of software raises the issue of whether each copy should be assessed for property tax purposes.[230] If a tax is levied on each respective copy, the cost to the business would increase substantially.[231] This problem is further complicated when the copies are located in different jurisdictions, and each jurisdiction desires to tax the respective copy of the computer software.[232] Thus far, the courts have not addressed the issue of how to deal with tangible copies of software, leaving this question open for legislative and administrative resolution.[233]

V. TEXAS'S APPROACH TO THE TAXATION OF COMPUTER SOFTWARE

Since the early 1970s, state courts have struggled to determine whether computer software constitutes tangible or intangible personal property.[234]

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228. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.05 (3d ed. 1996) (providing an example of when the existence of multiple copies causes valuation problems). Kutten presents the following hypothetical and subsequently raised questions:

> FACTS: A Georgia software user based in Atlanta is only using *one* copy of software valued at $1,000,000. For back-up security reasons only, the user stores one copy of the software in DeKalb County and another in Gwinnett County. This simple scenario raises the following questions:
>
> 1. How many copies are assessable: just the Atlanta copy in use, or the backup DeKalb and Gwinnett copies as well?
> 2. Can DeKalb and Gwinnett counties assess the back-up copies?
> 3. At what value is each copy assessed: e.g., is each copy worth $333,333 or $1,000,000?

Id.

229. *Cf. id.* (suggesting that businesses make additional copies of computer software for security reasons).

230. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 191–92 (1990) (asking whether each copy of a computer software program should be assessed for taxation purposes).

231. If a business had three copies of a software program valued at $1,000,000, and each copy was subject to property taxation, that business would be paying the property taxes assessed on $3,000,000 of software as opposed to $1,000,000 of software. Assuming that the tax rate is $.50 per $1000, then the business would pay the state $1,500 in property taxes if all three copies were taxed as opposed to $500 if only one copy was taxed.

232. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.05 (3d ed. 1996) (questioning whether different jurisdictions should be able to tax the same computer software item).

233. *See* Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 192 (1990) (explaining that courts have not addressed the issue of how to deal with tangible copies of software).

234. *See, e.g.*, District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615, 617 (D.C. Cir. 1972) (interpreting the legal classification of computer software); Wal-Mart

Such classification decisions have normally occurred in the realm of either sales, use, or property taxation.[235] Very few states, however, have judicially addressed the legal nature of computer software in more than one area of taxation.[236] Thus, courts faced with the issue of the property tax classification of computer software have relied on precedent in the sales and use tax context to provide an answer.[237]

A. *Sales Taxation*

Texas first addressed the sales tax classification of computer software in *First National Bank v. Bullock*.[238] First National Bank brought suit against the state, seeking to recover $109,000 paid in taxes levied on the purchases of computer software.[239] The bank had purchased four computer programs that enabled its computer to perform deposit, lending, and general accounting functions.[240] The bank contended that the tax levied was improper because the programs did not constitute tangible

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Stores, Inc. v. City of Mobile, 696 So. 2d 290, 291 (Ala. 1996) (determining the legal nature of computer software); Honeywell Info. Sys., Inc. v. Maricopa County, 575 P.2d 801, 803 (Ariz. Ct. App. 1977) (considering how to classify computer software); Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 689 (Conn. 1989) (deciding whether computer software is subject to tax provisions); South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1241 (La. 1994) (addressing whether computer software should be deemed tangible or intangible property).

235. *See, e.g.*, Navistar Int'l Transp. Corp. v. State Bd. of Equalization, 884 P.2d 108, 114–16 (Cal. 1994) (addressing the sales taxation of computer software); *Northeast Datacom*, 563 A.2d at 689 (determining the validity of personal property taxation of computer software); Mark O. Haroldsen, Inc. v. State Tax Comm'n, 805 P.2d 176, 181 (Utah 1990) (determining the taxability of computer software under use tax provisions).

236. *Cf.* Comptroller of the Treasury v. Equitable Trust Co., 464 A.2d 248, 249 (Md. 1983) (reviewing sales taxation of computer software); Greyhound Computer Corp. v. State Dep't of Assessments & Taxation, 320 A.2d 52, 53–54 (Md. 1974) (discussing property taxation of computer software); Computer Assocs. Int'l, Inc. v. City of E. Providence, 615 A.2d 467, 468 (R.I. 1992) (addressing computer software in context of property taxation); Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 128 (R.I. 1985) (examining use taxation of computer software); Cache County v. State Tax Comm'n, 922 P.2d 758, 767 (Utah 1996) (analyzing property taxation of computer software); *Mark O. Haroldsen, Inc.*, 805 P.2d at 181 (exploring use taxation of computer software).

237. *See Northeast Datacom*, 563 A.2d at 692 n.8 (finding support for conclusion that software is intangible property for property tax purposes in four sales and use tax cases); *Cache County*, 922 P.2d at 767–68 (discussing previous state case that dealt with use taxation of computer software); Marc S. Friedman & Lindsey H. Taylor, *State and Local Taxation of Software: A Trap for Computer Counsel*, 6 COMPUTER LAW., June 1990, at 20, 21 (reporting that courts often interpret statutes in each area of taxation as written).

238. 584 S.W.2d 548 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.).

239. *See First Nat'l Bank*, 584 S.W.2d at 550 (arguing that the computer software does not constitute tangible property).

240. *See id.* (describing the functions of the bank's computer programs).

personal property.[241] The Austin Court of Civil Appeals agreed with the bank, thus allowing it to recover the taxes levied on its purchase of computer software.[242]

In order to determine whether the bank's computer software constituted taxable property, the court considered whether computer software was tangible or intangible property.[243] To make that determination, the court applied the "essence of the transaction" test.[244] The court concluded that the true object of the transaction in the case was not the four magnetic tapes storing the computer software, but the actual purchase of the intangible computer programs.[245] Therefore, because the sale involved intangible property, the sales tax levied was improper.[246]

The court also declined to adopt the state's argument distinguishing between canned and custom software.[247] The state had argued that an earlier case, *Bullock v. Statistical Tabulating Corp.*,[248] was not controlling because the software involved was customized.[249] In contrast, the software purchased by First National Bank included canned programs, which were "standard items sold to numerous customers with only slight

241. *See id.* (implying that the bank sought a refund for the sales tax paid on the purchase of computer software because of the contention that the computer software was not taxable tangible property).

242. *See id.* at 551 (concluding that since the sale was of intangible property, the tax levied was improper; therefore, the amount paid in sales taxes should be returned with interest).

243. *See id.* at 550 (stating that the court applies the "essence of the transaction" to determine whether a tax on the sale of tangible personal property is allowed).

244. *See First Nat'l Bank*, 584 S.W.2d at 550 (explaining that if the essence or object of a sale is intangible property, the transaction is not taxable); *see also* Bullock v. Statistical Tabulating Corp., 549 S.W.2d 166 *passim* (Tex. 1977) (adopting essence of the transaction test).

245. *See First Nat'l Bank*, 584 S.W.2d at 550 (relying on *Statistical Tabulating* and an earlier case, *Williams & Lee Scouting Serv., Inc. v. Calvert*, 452 S.W.2d 789 (Tex. Civ. App.—Austin 1970, writ ref'd n.r.e.)). In *Williams & Lee*, the essence of the transaction was the scouting service provided. *Williams & Lee*, 452 S.W.2d at 792. These services included the gathering of oil and gas well production statistical data and distributing the results to subscribers. *Id.* at 790. The state unsuccessfully attempted to tax the distributed report, considering it a tangible item. *Id.* at 792–93.

246. *See First Nat'l Bank*, 584 S.W.2d at 551 (stating "although tangible personal property . . . did change hands, the sale of a license for computer software to appellant was the sale of intangible property, and, therefore, not taxable").

247. *See id.* at 550 (disagreeing with state's distinction between canned and custom software).

248. 549 S.W.2d 166 (Tex. 1977).

249. *See* First Nat'l Bank v. Bullock, 584 S.W.2d 548, 550 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.) (distinguishing cases based on "canned" versus "customized" characterization).

modifications to conform to each purchaser's use."[250] The state contended that because the software purchased by First National Bank lacked the service character present in custom software, it should be taxed.[251] However, the court disagreed, claiming that the test is "not whether the product is 'customized' or 'canned,' but whether the object of the sale is tangible personal property."[252]

The ruling in *First National Bank* did not remain the rule of law in Texas for long. In 1984, the Texas legislature amended the sales tax code to include computer software within the definition of tangible personal property.[253] The 1984 amendment, however, excluded custom software.[254] Thus, the Texas legislature chose to distinguish between canned and custom software, which the court of civil appeals had declined to do. The legislature later reconsidered the propriety of that distinction and, in 1987, decided to withdraw the language excluding custom computer software from the definition of tangible personal property, therefore allowing sales taxation of all types of computer software.[255]

B. *Property Taxation*

Texas courts did not address the issue of whether computer software was subject to a personal property tax until 1996. In *Dallas Central Appraisal District v. Tech Data Corp.*,[256] the Dallas Court of Appeals held that computer software was not taxable.[257] Tech Data Corporation had sued the Dallas Central Appraisal District alleging that the appraisal of Tech Data's business property had erroneously included over $2 million in computer software.[258] Essentially, Tech Data argued that the computer software was intangible; thus, the software was not subject to ad valorem taxation.[259] The court of appeals agreed with Tech Data, con-

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250. *Id.*

251. *See id.* (noting the court believed this not a valid distinction).

252. *Id.*

253. *See* Act of Jan. 1, 1982, 67th Leg., R.S., ch. 389, § 1, 1981 Tex. Gen. Laws 1547, *amended by* Act effective Jan. 1, 1988, 70th Leg., 2d C.S., ch. 5, art. 1, pt. 4, § 11, 1987 Tex. Gen. Laws 13 (including computer software within the definition of tangible property).

254. *See id.* (providing that the tangible personal property definition included "a computer program that is not a custom program").

255. *See* TEX. TAX CODE ANN. § 151.009 historical note (Vernon 1992) (deleting the portion of the definition that excluded custom computer programs) [Acts 1987, 70th Leg., 2d C.S. ch. 5, art. 1, pt. 4, § 11, 1987 Tex. Gen. Laws 13].

256. 930 S.W.2d 119 (Tex. App.—Dallas 1996, writ denied).

257. *See Tech Data Corp.*, 930 S.W.2d at 124 (rejecting the argument that computer software was taxable as business inventory under the tax code).

258. *See id.* at 120 (requesting a summary judgment alleging that $2,501,798 was not subject to ad valorem taxation).

259. *See id.* (stating Tech Data had no ownership interest in the software).

cluding that the computer software constituted nontaxable, intangible personal property.[260]

In reaching this conclusion, the court utilized the definition of computer software provided by Tech Data.[261] Tech Data's controller explained in an affidavit that the "software is 'intellectual property consisting of binary instructions, programs, routines, and symbolic mathematical code that controls the functioning of computer hardware and directs hardware operations.'"[262] The controller further stated that "software consists of 'imperceivable binary impulses.'"[263] The court compared this latter definition to the definition of tangible personal property.[264] The tax code defines tangible personal property as "personal property that can be seen, weighed, measured, felt, or *otherwise perceived by the senses*, but does not include a document or other perceptible object that constitutes evidence of a valuable interest, claim, or right and has negligible or no intrinsic value."[265] The court concluded that "imperceivable binary pulses" could not possibly fit within that definition.[266] Therefore, the decision of the court in this case partially turned on how computer software is defined.

In reasoning that computer software is intangible property, the court also relied on *First National Bank*. The court found *First National Bank* persuasive because the sales tax definition of tangible property, at the time *First National Bank* was decided, was the same as the current property tax definition.[267] Like *First National Bank*, the court decided that computer software could not be tangible personal property under the tax

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260. *See id.* at 123 (affirming the trial court's grant of summary judgment on the ground that the computer software was intangible property, thus not taxable under the tax code).

261. *See* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 122 (Tex. App.—Dallas 1996, writ denied) (adopting the definition of computer software provided by Tech Data's controller, Michael Attinella).

262. *Id.*

263. *Id.*

264. *See id.* at 122–23 (comparing Tech Data's definition of software as "imperceivable binary impulses" to tangible personal property definition).

265. TEX. TAX CODE ANN. § 1.04(5) (Vernon 1992) (emphasis added); *see Tech Data Corp.*, 930 S.W.2d at 122 (citing Tax Code Section 1.04(5) for definition of tangible personal property).

266. *See* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 122–23 (Tex. App.—Dallas 1996, writ denied) (stating that "the 'imperceivable binary pulses' that make up computer application software are not capable of being 'seen, weighed, measured, felt, or otherwise perceived by the senses'").

267. *See id.* (reiterating the *First Nat'l Bank* court's analysis of the then-existing sales tax definition of tangible property).

code.[268] The court also quickly dismissed the subsequent legislative change to the sales tax definition as unpersuasive.[269] According to the court, "That the legislature saw fit to alter the sales tax definition of 'tangible personal property' without changing the property tax definition of 'tangible personal property' indicate[d] a clear legislative intent to continue to exclude computer application software from ad valorem taxation."[270]

The Dallas Court of Appeals further relied on *First National Bank* because, according to the court, that case also considered the taxability of computer *application* software.[271] In recognizing this possible similarity, the court was not clear as to whether it was using the term "application" to refer to the distinction between application and operational software or to simply modify the term computer software. If the court was attempting to differentiate between types of software, *First National Bank* was not appropriate precedent for this point[272] because the *First National Bank* court declined to draw any distinction between the differing types of computer software.[273]

Regardless of the precedential value of *First National Bank*, the court's ambiguous employment of the word "application" to describe the software at issue could lead to future litigation. Future taxpayers in Texas may attempt to argue that *Tech Data Corp.* only declined to impose a property tax on application software, leaving systems or operational software subject to taxation.[274] This argument could potentially prevail. Other states drawing such a distinction between various software have

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268. *See id.* (agreeing with court's analysis in *First Nat'l Bank* which concluded that the essence of the transaction was the software not the tangible medium).

269. *See id.* at 123 n.2 (stating that although the Texas legislature subsequently amended the tax code to include computer software in the sales tax definition of tangible personal property, the legislature failed to make a similar change in the property tax definition).

270. Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 123 n.2 (Tex. App.—Dallas 1996, writ denied).

271. *See id.* (indicating that the *First Nat'l Bank* court considered whether computer application software was tangible property, subject to sales taxation).

272. *See* First Nat'l Bank v. Bullock, 584 S.W.2d 548, 550 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.) (contending that the canned-custom distinction was not valid and that "[t]he test in each case in not whether the product is 'customized' or 'canned' but whether the object of the sale is tangible personal property").

273. *See id.* (declining to adopt the appellee's distinction between different types of software).

274. *See Tech Data Corp.*, 930 S.W.2d at 123 (affirming the trial court's grant of summary judgment on the ground that computer *application* software did not constitute taxable tangible property).

subjected only operational software to taxation, particularly due to its integral relationship with the computer system.[275]

In *Tech Data Corp.*, the court also applied the "essence of the transaction" test to determine that computer software was intangible property.[276] However, the *Tech Data Corp.* court varied the test slightly by eliminating the focus on the transaction and instead concentrating on the "essence" of the property.[277] Despite this variation, the key inquiry of the test, which decides whether the intangible information or the tangible medium is the significant component, remained the same.[278] As such, the court concluded that the "essence" of the computer software was the software itself, not the tangible medium.[279] Therefore, the computer software was intangible personal property.[280]

Although the Dallas Court of Appeals relied heavily on *First National Bank* to determine the legal nature of computer software, the court also found support in a number of other state court decisions.[281] The cases

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275. *See In re* Protest of Strayer, 716 P.2d 588, 593–94 (Kan. 1986) (deciding that only operational software is taxable under property tax provisions because such software is essential to the computer hardware); Compuserve, Inc. v. Lindley, 535 N.E.2d 360, 367 (Ohio Ct. App. 1987) (determining that a property tax could legally be levied on systems software but not application software).

276. *See* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 123 (Tex. App.—Dallas 1996, writ denied) (applying the "essence of the transaction" test to determine that the sale of computer software involved intangible personal property).

277. *See id.* (stating that, in accordance with *First Nat'l Bank*, "the 'essence' of the property is the software itself, not the tangible medium on which the software might be stored").

278. *See id.* (citing *First Nat'l Bank*, 584 S.W.2d at 550 and contending that under the "essence of the transaction" test, if the intangible property is the significant object, then the transaction would not be taxable); Robert W. McGee, *The "Essence of the Transaction" Test for Computer Software Tangibility and Taxation*, 20 LINCOLN L. REV. 21, 22 (1991) (explaining that the "essence of the transaction" test focuses on what was the "essence" of the sale); Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 154 (1996) (asserting that under the "essence of the transaction" test courts look at what was the true object of the purchase, the tape or the information contained on it).

279. *See* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 123 (Tex. App.—Dallas 1996, writ denied) (emphasizing "computer application software cannot constitute 'tangible personal property' as that term is defined for purposes of the Code").

280. *See id.* (holding "computer application software was not taxable under the Code").

281. *See id.* at 123 n.3 (relying on a number of decisions from other state courts that had dealt with the issue of computer software tangibility in the context of sales, use, and property taxation). The court supported its decision by citing to *District of Columbia v. Universal Computer Assocs., Inc.*, 465 F.2d 615 (D.C. Cir. 1972), *State v. Central Computer Servs., Inc.*, 349 So. 2d 1160 (Ala. 1977), *Honeywell Info. Sys., Inc. v. Maricopa County*, 575 P.2d 801 (Ariz. App. 1977), *Northeast Datacom, Inc. v. City of Wallingford*, 563 A.2d 688 (Conn. 1989), *First Nat'l Bank v. Department of Revenue*, 421 N.E.2d 175 (1981), *In re*

cited by the court addressed whether computer software was tangible or intangible property in the context of sales, use, and property taxation and concluded that software was intangible property.[282] Most of the cases the court relied on were decided during the 1970s and early 1980s.[283] In fact, the court did not acknowledge more recent sales and use tax decisions in Louisiana, Missouri, and West Virginia, which determined that computer software constituted tangible property.[284] Despite this lack of acknowledgement, the court's decision in *Tech Data Corp.* is consistent with other state courts that have addressed the issue of software classification in the context of property taxation.[285] Thus, the court's failure to address these cases did not defeat or weaken the persuasiveness of its holding.

The legislative response to *Tech Data Corp.* has been similar to the response to the decision in *First National Bank.* In February 1997, a bill was proposed in the Texas Senate to amend the property tax definition of computer software to include "an inventory of computer software held for sale at wholesale or retail by a person who is in the business of selling property of that kind."[286] This definitional change would mean that only

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Protest of Strayer, 716 P.2d 588 (Kan. 1986), *Maccabees Mut. Life Ins. Co. v. State Dep't of Treasury*, 332 N.W.2d 561 (Mich. 1983), *James v. Tres Computers Sys., Inc.*, 642 S.W.2d 347 (Mo. 1982), *Compuserve, Inc. v. Lindley*, 535 N.E.2d 360 (Ohio 1987), and *Commerce Union Bank v. Tidwell*, 538 S.W.3d 405 (Tenn. 1976).

282. *See Tech Data Corp.*, 930 S.W.2d at 123 n.3 (noting that the court's decision was in accord with other state's courts).

283. *See id.* (citing cases from the 1970s and early 1980s). Only three cases cited by the court were more recent—*Northeast Datacom, Inc. v. City of Wallingford*, 563 A.2d 688 (Conn. 1989), *In re* Protest of Strayer, 716 P.2d 588 (Kan. 1986), and *Compuserve, Inc. v. Lindley*, 535 N.E.2d 360 (Ohio 1987).

284. *See* South Cent. Bell Tel. Co. v. Barthelemy, 643 So. 2d 1240, 1241 (La. 1994) (determining that computer software is tangible property subject to municipal sales and use tax); Bridge Data Co. v. Director of Revenue, 794 S.W.2d 204, 207 (Mo. 1990) (affirming the lower court's finding that the sale of computer software constituted the sale of tangible property); Pennsylvania & W. Va. Supply Corp. v. Rose, 368 S.E.2d 101, 105 (W. Va. 1990) (concluding the software was tangible property subject to a use tax).

285. *See* District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615, 619 (D.C. Cir. 1972) (stating that software is intangible property exempt from property taxation); Honeywell Info. Sys. Inc. v. Maricopa County, 575 P.2d 801, 803 (Ariz. Ct. App. 1977) (determining that software is intangible property, thus, not subject to property taxes); Northeast Datacom, Inc. v. City of Wallingford, 563 A.2d 688, 691 (Conn. 1989) (concluding that computer software is intangible property not subject to property taxation).

286. Tex. S.B. 736, 75th Leg., R.S. (1997). In addition to amending the tangible personal property definition, the bill proposed to add the following two subdivisions defining computer program and computer software:

> (20) "Computer program" means intellectual property consisting of an ordered set of data representing coded instructions or statements that when executed by a computer cause the computer to process data or perform specific functions. (21) "Computer software" means: (A) a computer program developed for retail sale but not yet in-

businesses that are involved in the sale of computer software would pay an ad valorem tax on the software held in their inventory.[287] This bill, however, did not pass prior to the adjournment of the 75th legislative session.[288]

Currently, the rule in Texas regarding property taxation of computer software is fairly clear—computer software is considered to be intangible property; therefore, it is not subject to personal property taxation.[289] However, in light of the recent trend among jurisdictions as well as the bill proposed in response to *Tech Data Corp.*, the rule is not only disputable, but a cause for concern for many individuals.[290] In fact, many high technology firms are interested in the rule espoused in *Tech Data Corp.* because they rely heavily on computer software to conduct their operations.[291] Taxation of computer software would, therefore, seriously affect their businesses through increased tax costs.[292] A number of these high technology companies have expressed a desire to create a consistent

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stalled on a computer, computer system, or computer network; (B) any tangible medium on which the program is stored; and (C) any associated documentation related to the operation of a computer, computer system, or computer network.

Id.

287. *See id.* (limiting the property tax on computer software to those businesses that sell computer software at either the wholesale or retail level).

288. The Senate Bill was introduced on February 24, 1997 and was sent to the Senate Committee on Finance two days later where it remained until the adjournment of the legislative session on June 29, 1997. *See Texas Legislative Online* <http:11www.capitol.state.txx.75> (reporting that SB 736 was introduced and subsequently assigned to the Finance Committee where it stayed the remainder of the session).

289. *See* Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 123 (Tex. App.—Dallas 1996, writ denied) (holding that computer software is intangible property).

290. *See* Lori Hawkins, *Tax Issues May Affect Tech Future*, AUSTIN AM. STATESMAN, Oct. 17, 1997, at C1 (reporting that property taxes are expected to be an important issue in the 1999 legislative session), *available in* 1997 WL 2843031.

291. *See id.* (suggesting that high technology companies such as Dell Computer, Compaq, Hart Graphics, and Intel are extremely interested in the method of taxation in Texas), *available in* 1997 WL 2843031.

292. *See* Steve Hornberger, *The Sale of Documents Containing Trade Secrets Is a Tangible Personal Property to Sales Tax, As Are Custom Computer Programs Existing for Exclusive Use of the Seller:* Navistar International Transportation Corp. v. State Board of Equalization, 23 PEPP. L. REV. 766, 772 (1996) (indicating that the taxation of computer software is a significant barrier to the acquisition of high technology firms); *Companies Fight Software Tax Bite*, CHI. TRIB., June 9, 1996, at 7 (alleging that the property tax on computer software can be quite high for businesses), *available in* 1996 WL 2679556; *Computer Tax Should Be Repealed in Nation's Top High-Tech State*, PR NEWSWIRE, Nov. 6, 1997 (quoting a business leader who argues that personal property taxes on computer software need to be eliminated in order for businesses to be competitive), *available in* Westlaw, Wiresplus Database.

method upon which taxes are levied.[293] Consequently, the 1999 legislative session will more than likely be a battleground for high technology firms and state legislators seeking to expand the tax revenue base.

C. *Conflict in the System*

The court's decision in *Dallas Central Appraisal District v. Tech Data Corp.* has created a conflict in the Texas tax system because computer software is subject to a sales tax, but not a property tax.[294] While this situation is advantageous for businesses and does not seem illogical, the reasoning behind the differing approaches is unsound. Computer software is subject to a sales tax simply because it is statutorily classified as tangible personal property.[295] On the other hand, a property tax is not levied on computer software because it is considered intangible personal property for property tax purposes.[296] Thus, in Texas, the same copy of computer software is regarded as both tangible and intangible property. Consequently, the Texas legislature should resolve this conflict.

VI. Proposed Solution to the Classification Conflict

During the 1999 legislative session, Texas will have the opportunity to resolve the conflict in its tax system regarding computer software. Although it would seem that in order to resolve the conflict Texas must classify computer software as tangible or intangible property, that is not

293. *See* Lori Hawkins, *Tax Issues May Affect Tech Future*, Austin Am. Statesman, Oct. 17, 1997, at C1 (reporting that a study supported by Texas-based high technology firms recommended "[d]eveloping a competitive tax strategy for presentation to the 1999 Legislature that ensures long-term tax consistency"), *available in* 1997 WL 2843031.

294. *See* Tex. Tax Code Ann. §§ 151.009–151.010 (Vernon 1992) (defining computer software as tangible property thus subject to sales, excise, and use tax); Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 120 (Tex. Ct. App.—Dallas 1996, writ denied) (declaring computer software nontaxable intangible property under the property tax code).

295. *See* Tex. Tax Code Ann. §§ 151.009–151.010 (Vernon 1992) (subjecting computer software to sales taxation by defining it as tangible personal property).

296. *See id.* § 11.02 (declaring the nonimposition of property taxes on intangible personal property); Dallas Cent. Appraisal Dist. v. Tech Data Corp., 930 S.W.2d 119, 120 (Tex. App.—Dallas 1996, writ denied) (classifying computer software as intangible personal property).

the case.[297] Texas only needs to determine whether computer software should be taxed.[298]

Texas need not distort the definitions of tangible or intangible personal property merely to tax computer software. Currently, Texas defines tangible property as "personal property that can be seen, weighed, measured, felt or otherwise perceived by the senses."[299] Intangible property is defined by the tax code as "a claim, interest (other than an interest in personal property), right or other thing that has value but cannot be seen, felt, weighed, measured, or otherwise perceived by the senses."[300] Neither of these definitions easily applies to computer software, and Texas has a unique opportunity to pursue the taxation of computer software without manipulating either definition.[301] Unlike some states, the Texas Constitution permits the taxation of both tangible and intangible personal property.[302] Therefore, the decision whether to tax either type is largely within the province of the Texas legislature.[303]

One of the main reasons behind the large number of states classifying computer software as tangible property is to increase the tax revenue.[304]

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297. If Texas decides that computer software constitutes tangible property under its property tax provisions, then a conflict would not exist in the tax system. *Compare* TEX. TAX CODE ANN. § 11.01 (Vernon 1992) (subjecting "all real and tangible personal property" to property taxation), *with* TEX. TAX CODE ANN. §§ 151.009–151–010 (Vernon 1992) (imposing a sales tax on the sale of tangible personal property, which includes computer software).

298. *See* TEX. CONST. art. VIII, § 1(b) & (c) (permitting the legislature to tax both tangible and intangible personal property).

299. TEX. TAX CODE ANN. § 1.04(5) (Vernon 1992).

300. *Id.* § 1.04(6).

301. *See* TEX. CONST. art. VIII, § 1(b) & (c) (allowing both tangible and intangible personal property to be subject to property taxation). A number of states do not permit intangible property to be taxed. *See, e.g.*, MICH. CONST. art. 9, § 3 (providing for ad valorem taxation of only real and tangible personal property); MO. CONST. art. 10, § 6(b) (proclaiming intangible property exempt from taxation); N.M. CONST. art. 8, § 1 (levying a property tax on only tangible property).

302. *See* TEX. CONST. art VIII, § 1(b) & (c) (permitting the taxation of tangible and intangible property).

303. *See id.* (providing the legislature with authority to tax either tangible or intangible property).

304. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 1.03 (3d. ed. 1996) (claiming that computer software can generate over $37 million per year in tax revenue); Steve Hornberger, *The Sale of Documents Containing Trade Secrets Is a Tangible Personal Property to Sales Tax, As Are Custom Computer Programs Existing for Exclusive Use of the Seller:* Navistar International Transportation Corporation v. State Board of Equalization, 23 PEPP. L. REV. 766, 772 (1996) (suggesting that courts have aided federal and state governmental attempts to increase revenue through taxation of computer software); William B. Bierce, *New Rules on Sales and Use Tax for Software: Agencies Update Use of Technology*, N.Y. L.J., Aug. 27, 1991, at

While this result-oriented approach is often necessary in order to satisfy the demands for additional expenditures, manipulating the definition of tangible personal property is not the only answer. If taxation of computer software is desired, the Texas legislature can provide a separate provision permitting the classification of computer software. Texas, therefore, does not need to attempt to fit old laws to new technology simply to raise needed funds.[305]

If the decision to tax computer software is made, Texas must also determine whether to distinguish between different types of software. Texas can either differentiate between application and system software or canned and custom software.[306] A distinction is generally made between application and system software based on the level of specificity and the necessity to the physical computer system.[307] Although this distinction is logical to computer users, it presents a significant problem for taxing authorities.[308] In order to correctly impose a tax, tax assessors must be able to differentiate between the various types of software programs.[309] Such differentiation requires a level of knowledge and skill that most assessors

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1 (emphasizing the importance of computer software as a new source of tax revenue); Thomas M. Findley, *The Application of Florida's Sales Tax to Software and Electronic Computer Transmissions*, FLA. B.J., Nov. 1994, at 63 (noting that Florida's Department of Revenue is considering taxation of computer software as a potential revenue source).

305. *Cf.* John Wei-Ching Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 151 (1987) (suggesting that California's tax system has been stretched to fit new technology); Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 147 (1996) (alleging that Louisiana's tax code has been tested by new technology); *Tax Treatment of Technology Lags Behind the Times*, 83 J. TAX'N 127, 127 (1995) (indicating that gaps have developed between tax law and technological advances).

306. *Cf. In re* Protest of Strayer, 716 P.2d 588, 593–94 (Kan. 1986) (distinguishing between operational and application software); Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192, 1195–96 (Me. 1985) (acknowledging tax distinction between canned and custom software); Maccabees Mut. Life Ins. Co. v. Department of Treasury, 332 N.W.2d 561, 564 (Mich. Ct. App. 1982) (recognizing the need for a distinction between canned and custom software); Compuserve, Inc. v. Lindley, 535 N.E.2d 360, 367 (Ohio Ct. App. 1987) (differentiating between systems and application software for tax purposes).

307. *See In re* Protest of Strayer, 716 P.2d at 590 (explaining that application programs are particularized and specialized and that operational programs control the basic functions of the computer); Commerce Union Bank v. Tidwell, 538 S.W.2d 405, 406 (Tenn. 1976) (defining operational programs as fundamental and necessary to the computer hardware and applications programs as tailored to perform specific functions).

308. *See* John Wei-Chung Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 150 (1987) (discussing the difficulty of categorizing software that is similar to both operational and application software).

309. Generally, operational, or systems, software is taxable while application software is not. *See In re* Protest of Strayer, 716 P.2d at 593–94 (concluding that only operational software was subject to a property tax); *Compuserve, Inc.*, 535 N.E.2d at 367 (indicating that systems software is taxable while application software is not).

do not possess. As such, incorrect assessments are likely to result in addition to arbitrary line-drawing.[310] Because of this assessment problem, the Texas legislature should not adopt this distinction.

However, the Texas legislature should embrace the canned versus custom distinction. The primary reason for adopting this differentiation lies in the difficulty of valuation. Because custom software is personalized for a particular user, its value to other potential users is relatively low.[311] Canned software, meanwhile, has equal value to all computer users.[312] In addition, custom software contains a service element, which is extremely difficult to identify.[313] Not only are service costs incurred in the developmental process, but future maintenance and update services are often included in the total cost.[314] However, with canned software, no services are rendered; the software is simply purchased "as is."[315] Due to these differences between canned and custom software and the subsequent valuation problems, Texas should adopt the canned versus custom distinction and tax only canned computer software. The adoption of this distinction should not be problematic because the current administrative practice is to exempt custom software.[316] However, tax assessors will still

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310. *Cf.* John Wei-Chung Kuo, *Sales/Use Taxation of Software: An Issue of Tangibility*, 2 HIGH TECH. L.J. 125, 150 (1987) (stating that attempts to classify software as operational or application may result in arbitrary line-drawing due to various policy considerations).

311. *See* Measurex Sys., Inc. v. State Tax Assessor, 490 A.2d 1192, 1195 (Me. 1985) (noting that custom software is created to specifically meet a user's needs); Ruhama Dankner Goldman, Comment, *From Gaius to Gates: Can Civilian Concepts Survive the Age of Technology?*, 42 LOY. L. REV. 147, 156 (1996) (stating that custom software is solely designed according to the specifications of the user).

312. *See Measurex Sys., Inc.*, 490 A.2d at 1195 (acknowledging that canned software is prepared for several users).

313. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.04 (3d ed. 1996) (alleging that "it is extremely difficult to exclude the nontaxable portions of the development process"); Richard D. Harris, Note, *Property Taxation of Computer Software*: Northeast Datacom, Inc. v. City of Wallingford, 23 CONN. L. REV. 161, 189–90 (1990) (arguing that the computer software can be overvalued by including services which are not part of the final product).

314. *See* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.04 (3d ed. 1996) (stating the development of custom software normally includes costs associated with design, implementation, and testing).

315. *See* Maccabees Mut. Life Ins. Co. v. Department of Treasury, 332 N.W.2d 561, 563 (Mich. Ct. App. 1983) (noting that canned programs are bought at retail level); Hasbro Indus., Inc. v. Norberg, 487 A.2d 124, 128 (R.I. 1985) (asserting that service is nonexistent with canned software); Robert W. McGee, *Software Taxation in Ohio*, 9 AKRON TAX J. 49, 52 (1992) (stating that canned programs are sold "as is and are available to the general public").

316. *See* WASHINGTON STATE DEP'T. OF REVENUE, COMPUTER SOFTWARE STUDY: REPORT TO THE LEGISLATURE CONCERNING RESEARCH ON TAXATION OF COMPUTER

need to deal with the valuation problems posed by obsolescence and the existence of multiple copies, which are inherent with all types of computer software.[317]

The solution to the conflict in the tax classification system is reasonably uncomplicated. Texas is only required to decide whether it desires to tax computer software or not. Once that decision is made, Texas does not need to determine whether computer software is tangible or intangible property. Because of the constitutional permission to tax either type of personal property, Texas can circumvent that difficult question. However, if the decision to tax computer software is made, Texas should distinguish between canned and custom software. Due to their differing natures and the valuation problems posed, such a distinction is advantageous for the state of Texas.

VII. CONCLUSION

Taxation of computer software is an important, yet complicated issue. The key inquiry is whether computer software constitutes tangible or intangible property. Determining the property classification is not an easy task due to the nature of computer software itself. Not only is the term "computer software" difficult to define, but the multitude of different types of computer software further obscure the formation of a uniform definition.

However, the question of classification need not be answered by the state of Texas. The Texas legislature has the ability to tax both tangible and intangible property. Classifying computer software as either type is, therefore, unnecessary. Texas can resolve the current conflict in its tax classification system, in which computer software is considered both tangible and intangible property, by simply deciding whether computer software should be taxable or not. In order to make that decision, the legislature must clarify the valuation issue to ensure fair and equitable tax appraisals. Questions regarding the value of canned and custom software must be answered as well. While it is easy to place a "fair market" value on canned software, what, if any, value should be placed on custom software?

SOFTWARE, DEFINITIONS OF COMPUTER TERMS AND RECOMMENDATIONS (1990) (reporting that in Texas, custom software is exempt from tax assessment by administrative practice), *reprinted in* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY STATE GUIDE app. E., at 220 (3d ed. 1996).

317. *Cf.* L.J. KUTTEN, PERSONAL PROPERTY TAXATION OF COMPUTER SOFTWARE: A STATE-BY-STATE GUIDE § 3.05 (3d ed. 1996) (suggesting that various problems, such as the existence of multiple copies, rapid obsolescence, and the lack of detailed development records, are faced when valuing any type of software).

Whether to tax computer software will be a highly charged issue in the next legislative session. High technology firms have a vested interest in preventing the Texas legislature from increasing the taxes placed on their businesses. While the state of Texas desperately needs funds to cover the increasing amount of expenditures, computer software may not be the solution. Nevertheless, until the legislature resolves the issues surrounding computer software's taxability, courts will continue to entertain arguments concerning computer software and taxation.