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Stephen J. Lusch

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STATE TAXATION OF CLOUD COMPUTING

Stephen J. Lusch[†]

Abstract

As the digital environment in which we live continues to change at speeds that were unfathomable two decades ago, archaic state tax systems have struggled to keep pace. Cloud computing is the latest innovation to introduce considerable complexity into the state and local tax system. Cloud computing is prevalent in many aspects of the user experience with companies such as Apple, Amazon, and Google now providing their traditional services via a cloud component. With three primary service models and countless transactional forms, cloud computing is difficult to fit into most current tax systems. Though some jurisdictions have begun to issue guidance on the taxability of cloud computing, it is generally limited to the Software as a Service (SaaS) model in the context of sales and use tax (which is imposed on all retail sales, leases and rentals of most goods, and taxable services). However, tax questions arise not only in the sales and use tax arena, but also in regard to income tax on a spectrum of issues such as nexus, characterization, and sourcing. The purpose of this article is to examine the primary issues facing taxpayers regarding cloud computing, from both a normative and positive perspective, in order to provide a starting point for analysis for the taxpayer, and also to give policymakers insight into the problems taxpayers face and how legislation may be formulated to bring the current tax system in line with the economic events in which it taxes.

[†] Ph.D. Candidate (Major: Accounting, Minor: Law), Eller College of Management, The University of Arizona, Tucson, AZ. The author also holds a M.S. in Accountancy with a tax emphasis from the University of Notre Dame and a B.B.A. with an accounting major from Texas Christian University. He wishes to thank Professor John Swain of the University of Arizona James E. Rogers College of Law for his guidance and comments throughout this project. In addition, he thanks Andrew Floyd, Stacie Laplante, and the entire Santa Clara Computer and High Technology Law Journal for their invaluable edits and insight. Any errors and opinions are the author's own.

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I. INTRODUCTION

As the digital environment in which we live continues to change at speeds that were unfathomable two decades ago, archaic state tax systems have struggled to keep pace.¹ The advent of the Internet itself raised significant state taxation questions² in terms of the potential to tax bandwidth usage, e-mail, etc. As the Internet began to gain popularity the federal government addressed these questions with the Internet Tax Freedom Act of 1998,³ which greatly limited state and local taxation of the Internet. It should be noted, though, that the Internet Tax Freedom Act did not put restraints on the sales taxation of online sales,⁴ which gave rise to the second hurdle that state legislatures are working to address in regard to state taxation of the Internet. Most notable in popular press is the ongoing fight between Amazon and the State of California⁵ in regard to whether a nexus⁶ is created by their affiliate program.⁷ In fact, in 2008 New York was the

1. Even Bill Gates in 1989 was quoted as saying, “We will never make a 32-bit operating system,” and in fact Microsoft introduced their first 32-bit operating system just four years later in 1993. Tim Ferguson, *In His Own Words: Bill Gates’ Best Quotes*, ZDNET (June 26, 2008, 2:00 PM), <http://www.zdnet.com/in-his-own-words-bill-gates-best-quotes-3040151687/>.

2. See Matthew G. McLaughlin, Comment, *The Internet Tax Freedom Act: Congress Takes a Byte Out of the Net*, 48 CATH. U. L. REV. 209, 209 (1998).

3. See generally Internet Tax Freedom Act of 1998, H.R. 3529, 105th Cong. Part I (1998). The act was passed and signed into law in 1998 as part of the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999. See H.R. 4328, 105th Cong. (1998) (passed by Congress on October 20, 1998). The moratorium on taxes was originally set to expire in October, 2001, and was temporarily renewed in 2001 and 2004. See Internet Tax Nondiscrimination Act, H.R. 1552, 107th Cong. (2001); Internet Tax Nondiscrimination Act, S.150, 108th Cong. (2004). In 2007, House Bill 3678 extended the Internet Tax Freedom Act until November 1, 2014. See Internet Tax Freedom Act Amendments Act of 2007, H.R. 3678, 110th Cong. (2007). Recently, there have been attempts to make the act permanent. See Permanent Internet Tax Freedom Act of 2011, S. 135, 112th Cong. (2011) (currently in the Senate Committee on Finance).

4. See *id.*

5. See generally Marc Lifsher & Andrea Chang, *Amazon Fights California Sales Tax Requirement*, L.A. TIMES (July 1, 2011), <http://articles.latimes.com/2011/jul/01/business/la-fi-amazon-sales-tax-20110701>.

6. Nexus means whether or not a taxpayer has sufficient activity within the state to subject them to taxation. See *Quill Corp. v. North Dakota*, 504 U.S. 298, 313 (1992) (a tax applied to an activity must bear a “substantial nexus and a relationship between the tax and state-provided services”).

7. Under the Amazon affiliate program, an individual can place an Amazon link on their website in exchange for a fee based on a percentage of sales originating from customers who accessed Amazon through the link. See *Advertising Fees*, AMAZON ASSOCIATES, <https://affiliate-program.amazon.com/gp/associates/join/landing/referralfees.html> (last visited Dec. 11, 2012).

first state to adopt an “Amazon” tax law,⁸ and as of July 1, 2011, six other states have enacted similar laws.⁹ The next big obstacle for state legislatures to overcome in regard to state taxation of the Internet is how cloud computing transactions, which raise a multitude of difficult questions in regard to nexus, sourcing, and the characterization of the transaction, will ultimately be taxed at the state level.

The purpose of this article is to explore the primary questions facing state courts and legislatures with regard to taxing the cloud. The rest of the article is organized as follows: Part II defines cloud computing, Part III presents arguments on the positive and normative characterization of cloud computing transactions, Part IV discusses the nexus issues of cloud computing, Part V analyzes sourcing of the transactions to tax jurisdictions, Part VI addresses the Digital Goods and Tax Fairness Act of 2011 as it pertains to cloud computing, and finally, Part VII provides recommendations for policymakers.

II. DEFINING CLOUD COMPUTING

Cloud computing is defined by the National Institute of Standards and Technology of the U.S. Department of Commerce as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”¹⁰ In addition, this definition states that cloud computing has five essential characteristics: (1) on-demand self-service, (2) broad network access, (3) resource pooling, (4) rapid elasticity, and (5) measured service.¹¹ In layman’s terms, cloud computing is the ability for a corporation or individual to access data storage space, computing platforms, databases, or software from a

8. N.Y. TAX LAW § 1101(b)(8)(vi) (McKinney 2012).

9. As of July, 2011, these states, in addition to New York, are: Arkansas, California, Connecticut, Illinois, North Carolina, and Rhode Island. See Joseph Henschman, *California Becomes Seventh State to Adopt “Amazon” Tax on Out-of-State Online Sellers*, TAX FOUNDATION (July 1, 2011), <http://taxfoundation.org/article/california-becomes-seventh-state-adopt-amazon-tax-out-state-online-sellers>. According to the author, 21 states have considered some sort of “Amazon” law. *Id.*

10. LEE BADGER ET AL., NAT’L INSTITUTE OF STANDARDS & TECH., U.S. DEP’T OF COMMERCE, SPECIAL PUB. NO. 800-146, DRAFT CLOUD COMPUTING SYNOPSIS AND RECOMMENDATIONS 2-1 (2011) (quoting NAT’L INSTITUTE OF STANDARDS & TECH., SPECIAL PUB. NO. 800-145), available at <http://csrc.nist.gov/publications/drafts/800-146/Draft-NIST-SP800-146.pdf>.

11. *Id.*

cloud computing provider in exchange for a usage fee. Naturally, a question arises as to whether the cloud computing provider must collect sales tax in addition to the usage fee, and this question is not easily answered, since it hinges on a number of other sub-questions. In addition, cloud computing providers also need to consider whether cloud computing transactions will subject them to income taxation within a particular state.

Subsequent to the basic definition of cloud computing, there are three generally agreed upon service models for cloud computing.¹² The first service model is known as Software as a Service (SaaS), in which the customer can access the provider's applications located on the cloud.¹³ The second service model is known as Platform as a Service (PaaS), in which the customers launch their own applications on the cloud using programming languages and other tools supplied by the cloud computing provider.¹⁴ Finally, the third service model is known as Infrastructure as a Service (IaaS) in which the cloud computing provider provides the customer with storage space and processing power on the network to run software, applications, and operating systems.¹⁵ It is important to separately define these three service models because each model requires its own analysis in regard to nexus, taxability, and sourcing.

III. CHARACTERIZATION

The first question that needs to be asked with regard to the state taxation of cloud computing is how the transaction will ultimately be characterized by the state, because this will impact the tax base for both sales tax and income tax. Several interesting questions arise when considering the characterization of cloud computing transactions. For example, is the SaaS model transaction more representative of a sale of tangible personal property or of a service? Does this determination depend on whether the software is "canned" or custom written for the customer? When data storage space in a database on the cloud is sold to a customer is this characterized as a service because the cloud computing vendor is providing a data

12. Though the following service model definitions unequivocally use the word "service" in defining the three models, it should be noted that for state tax purposes the characterization of the cloud as a service as compared to a lease of tangible personal property is not so clear.

13. BADGER, *supra* note 10 at 2-1.

14. *Id.* at 2-1 to -2.

15. *Id.* at 2-2.

storage service, or is it a lease of tangible personal property since the customer is leasing physical data storage space? Does this analysis depend on whether the customer can only upload and download data from the cloud storage versus being able to access an interface and directly input data into the database on the cloud?

A. *Normative Characterization of the Transaction*

From a normative perspective, generally cloud computing may fall into four different characterization categories. First, states could determine that cloud computing is a service for tax purposes. This seems like the most probable characterization in cases such as when a cloud computing provider works with a company to design a cloud computing system unique to their needs, and writes custom software that can be accessed on the cloud. But secondly, if the cloud computing provider is only providing data storage space, processing power, and other such abilities then states may be more compelled to classify such sales and income as a lease of tangible personal property. The third potential characterization would be classifying the transaction as a sale of tangible personal property. The only scenario in which a sale of tangible personal property characterization is likely; occurs when a cloud computing provider sells access to “canned”¹⁶ software over the cloud. This characterization is fundamentally correct because the customer buys the same product that would otherwise be purchased in a physical medium from a store, which is a taxable transaction. Finally, the fourth potential characterization of a cloud computing transaction is licensing of an intangible asset, which could be representative of a cloud computing transaction in which an end user pays a licensing fee to access cloud-provided content for a limited period of time.

B. *Positive Characterization for Sales Tax*

From a positive perspective, a few states have begun to address the characterization of cloud computing transactions for sales tax purposes.¹⁷ Even more states, however, have provided guidance on how functionally equivalent transactions should be taxed, and this guidance can supply cloud computing providers with an indication of

16. This would be similar to an individual being able to purchase and access Intuit, Inc.’s TurboTax online without ever purchasing a physical CD version of the software.

17.Carolynn Iafraze Kranz & Iris Kitamura, Special Report, *Taxing Software and Cloud Computing: Yesterday’s Law, Today’s Technology*, 62 STATE TAX NOTES 737, 741 (2011).

how the state may choose to tax the cloud.¹⁸ In particular, the majority of guidance issued by states so far has been directed toward the characterization of the SaaS form of cloud computing.¹⁹

New York has been at the forefront of many of these characterization questions. In general, New York takes the position that online services are taxable, typically by being classified as information services,²⁰ though if the information is purely personal and individual then it may be exempt from sales taxation.²¹ In addition, New York has determined that the taxability of SaaS as a sale of prewritten software hinges on the customer's ability to input data, manipulate, or control use of the software, and not necessarily whether the customer actually had to download the software or received a license to use the software.²² In addition, using similar reasoning Texas,²³ Utah,²⁴ South Carolina,²⁵ and Washington²⁶ have all determined that at least some aspects of cloud computing are subject to sales taxation.

One state illustrates the inconsistency of taxation of cloud computing, while two have specifically stated that some aspects of cloud computing are not taxable. Pennsylvania initially established that if software is accessed only through the cloud, the transaction is exempt from sales tax unless the server farm is located in the state.²⁷

18. *Id.* at 741-43.

19. *Id.*

20. See N.Y. State Dep't of Taxation & Fin., Advisory Op. No. TSB-A-10(32)S (July 23, 2010).

21. See N.Y. State Dep't of Taxation & Fin., Advisory Op. No. TSB-A-10(38)S (Aug. 20, 2010).

22. See N.Y. State Dep't of Taxation & Fin., Advisory Op. No. TSB-A-09(8)S (Feb. 2, 2009); N.Y. State Dep't of Taxation & Fin., Advisory Op. No. TSB-A-10(28)S (July 2, 2010); N.Y. State Dep't of Taxation & Fin., Advisory Op. No. TSB-A-10(44)S (Sept. 22, 2010).

23. See generally Tex. Comptroller of Pub. Accounts, Tax Policy Div., Ltr. Rul. No. 200805095L (May 28, 2008).

24. See Utah State Tax Comm'n, Final Priv. Ltr. Rul. No. 08-012 (Jan. 21, 2009). Whether an Application Service Provider (ASP) is subject to taxation is contingent on whether the ASP's servers are located in Utah. *Id.* This ruling references Utah Private Letter Ruling 08-002 (June 10, 2009) for this proposition, but it was rescinded on December 1, 2010; hence, the law is somewhat uncertain.

25. See generally S.C. Dep't of Revenue, Rev. Rul. No. 05-13 (Aug. 21, 2005).

26. See *Special Notice: Online Searchable Databases are Digital Automated Services*, WASH. STATE DEP'T OF REVENUE (Nov. 2, 2010), http://dor.wa.gov/Docs/Pubs/SpecialNotices/2010/SN_10_Database.pdf.

27. Randy L. Varner, *Pennsylvania Tax Update*, MACPA/MSBA ADVANCED TAX INSTITUTE, Nov. 2011 at 11-12 (discussing Pa. Sales & Use Tax Rul. No. SUT-10-005 (Nov. 8, 2010)).

Pennsylvania then reached a different conclusion, ruling that software accessed through the cloud is taxable if the customer is located in the state of Pennsylvania; transactions where the end user is not in Pennsylvania continue to be exempt from sales taxation, even if the server itself is located in Pennsylvania.²⁸ In contrast, Kansas has determined that fees paid to application software providers (ASPs), the precursors to SaaS cloud computing, are not taxable²⁹; the sale of canned software in Kansas, however, is still subject to sales tax.³⁰ Similarly, Massachusetts has determined that items such as online access to prescription information,³¹ the act of accessing a website to receive data,³² and online services that help employers manage their workforce³³ are not taxable.

For companies seeking to understand how SaaS transactions will be characterized for sales tax purposes, one especially useful analysis is to consider how a particular state has decided to tax software sales. While this does not provide a direct comparison to a cloud transaction, many states may try to squeeze SaaS transactions into their current system of taxing software. Traditionally, courts held that software was intangible property based on the idea that information is intangible,³⁴ but more recently courts have held that software is tangible property and have even held that software transferred through an electronic medium is tangible personal property.³⁵ Table I in Appendix A provides guidance as to how each state has decided to tax prewritten and custom software delivered by either physical medium or through an electronic transfer.

One conclusion to be gleaned from Table I is that states tend to classify cloud computing into two primary categories. First, they classify cloud computing as an information or data processing service, which is explicitly taxable in many states even though services are

28. Pa. Dep't of Revenue, Sales & Use Tax Rul. No. SUT-12-001 (May 31, 2012).

29. Kan. Office of Policy & Research, Op. Ltr. No. O-2010-005 (June 22, 2010).

30. *Id.*

31. Mass. Dep't of Revenue, Ltr. Rul. No. 08-6 (Mar. 26, 2008).

32. Mass. Dep't of Revenue, Ltr. Rul. No. 08-5 (Mar. 24, 2008).

33. Mass. Dep't of Revenue, Ltr. Rul. No. 11-4 (Apr. 12, 2011).

34. *In re State v. Cent. Computer Servs., Inc.*, 349 So. 2d 1160, 1162 (Ala. 1977); *Comptroller of the Treasury v. Equitable Trust Co.*, 464 A.2d 248, 261 (Md. 1983); *Commerce Union Bank v. Tidwell*, 538 S.W.2d 405, 408 (Tenn. 1976).

35. *S. Cent. Bell Tel. Co. v. Barthelemy*, 643 So. 2d 1240, 1250 (La. 1994); *Graham Packaging Co. v. Commonwealth*, 882 A.2d 1076, 1087 (Pa. Commw. Ct. 2005); *S. Cent. Utah Tel. Ass'n v. Auditing Div. of the Utah State Tax Comm'n*, 951 P.2d 218, 223-24 (Utah 1997).

typically exempt from sales tax.³⁶ Second, in the case of SaaS, the transaction is often classified as a sale of prewritten or “canned” software, which is taxable in many states.³⁷ Additionally, some states even subject custom software to sales taxation.³⁸

In addition, Table II in Appendix B provides the conclusions of guidance provided by various states in regard to the taxability of cloud computing. The vast majority of guidance pertains to the characterization of the transaction from a sales tax perspective, but through the discussions about how each particular state’s department of revenue reached its conclusion, which took place during these rulings, the taxpayer can infer how the transaction may be characterized for income tax purposes in these states.

IV. NEXUS

With this better understanding of how states may characterize a cloud computing transaction, it is now important to determine whether a cloud service provider will be subject to taxation in a particular jurisdiction. The origin of the word *nexus* is the Latin word *nectere*, which means “to bind.” In the context of state tax, nexus describes whether or not a taxpayer has sufficient activity within the state to subject them to taxation. In other words, do sufficient links exist between a company and a state to legally bind the company to pay taxes within that state?³⁹ The difficulty, however, arises in

36. The following states explicitly subject either information services or data processing services to sales taxation: Connecticut (info and data), Florida (info), Hawaii (info and data), Massachusetts (info), Minnesota (data), Mississippi (data), New Jersey (info), New Mexico (info and data), New York (info), North Dakota (data), Ohio (info and data), Oklahoma (info), Rhode Island (data), South Dakota (data), Texas (info and data), and West Virginia (info). See *infra* Appendix A: Table I.

37. See generally Jeffrey C. Glickman & Michael T. Petrik, *National Sales and Use Tax Update: Keeping Pace in the 21st Century*, ALSTON & BIRD LLP, available at http://www.alston.com/files/docs/IPT%20-%202011%20Annual%20Conference%20-%20National%20Sales%20and%20Use%20Tax%20Update%20-%20paper_1.pdf (analyzing the state-by-state sales tax treatment of prewritten and custom software).

38. The following states subject the sale of software to sales taxation: Colorado (prewritten), Georgia (prewritten), Illinois (prewritten), Indiana (prewritten), Iowa (prewritten), Kansas (prewritten), Kentucky (prewritten), Louisiana (prewritten), Massachusetts (prewritten), Michigan (prewritten), New Jersey (prewritten), New York (prewritten), North Dakota (prewritten), Oklahoma (prewritten), Pennsylvania (prewritten), Tennessee (prewritten and custom), Vermont (prewritten), and West Virginia (prewritten and custom). See *infra* Appendix A: Table I.

39. The state sales and use tax nexus for out-of-state sellers is generally defined as the connection or physical contacts which an out-of-state vendor has with a state to justify that state’s imposition of a duty upon the out-of-state vendor to collect a use tax from purchasers.

determining what constitutes a sufficient link between the company and the state.⁴⁰ The standard test to determine nexus was originally a test of physical presence. At the turn of the twentieth century, however, the business ecosystem evolved from a strictly brick and mortar economy to catalog operations such as that of Sears, Roebuck & Co.⁴¹ The turn of the twenty-first century saw the explosion of online retailers; and thus the questions regarding nexus have only become much more complex.⁴²

In relation to cloud computing, many interesting questions exist with regard to nexus. For example, if a cloud computing provider sells access to a customer in a particular state, does the mere fact that that customer can now access the cloud within that state obligate the corporation to collect state sales tax? Or maybe the barrier that must be passed to require the corporation to collect sales tax is higher, but where does the threshold get passed? If an employee has to enter the state to perform an initial setup for the customer, does this constitute nexus? What if an independent contractor, rather than an employee, performs the setup? Do the answers to these questions differ depending on whether the cloud service provided is IaaS, PaaS, or SaaS? These questions provide a sampling of the difficult tax questions that face cloud computing providers.

See generally JEROME R. HELLERSTEIN & WALTER HELLERSTEIN, *STATE TAXATION* ¶ 19.02[1] (3d ed. 2012) [hereinafter *STATE TAXATION*].

40. See generally Pamela M. Krill, Note, *Quill Corp. v. North Dakota: Tax Nexus under the Due Process and Commerce Clauses No Longer the Same*, 1993 WIS. L. REV. 1405 (1993) (discussing state tax nexus, its relationship with the Due Process and Commerce Clauses, and *Quill Corp. v. North Dakota*); see also *A Primer on State Tax Nexus: Law, Power, and Policy: Hearing on State Taxation Before the Subcomm. on Commercial and Administrative Law of the H. Comm. on the Judiciary*, 110th Cong. 1 (2010) (testimony of Walter Hellerstein, Professor of Taxation at University of Georgia Law School), available at <http://judiciary.house.gov/hearings/pdf/Hellerstein100204.pdf>.

41. See, e.g., BORIS EMMET & JOHN E. JEUCK, *CATALOGUES AND COUNTERS: A HISTORY OF SEARS, ROEBUCK & COMPANY* (1950). See generally ROBIN CHERRY, *CATALOG: THE ILLUSTRATED HISTORY OF MAIL-ORDER SHOPPING* (2008).

42. This is evidenced through the numerous publications on state taxation of electronic commerce. See, e.g., Walter Hellerstein, *Deconstructing the Debate Over State Taxation of Electronic Commerce*, 13 HARV. J.L. & TECH. 549 (2000); Charles E. McLure, Jr., *Implementing State Corporate Income Taxes in the Digital Age*, 53 NAT'L TAX J. 1237 (2000) [hereinafter *McLure, Implementing Taxes*]; Charles E. McLure, Jr., *Radical Reform of the State Sales and Use Tax: Achieving Simplicity, Economic Neutrality, and Fairness*, 13 HARV. J.L. & TECH. 567 (2000) [hereinafter *McLure, Radical Reform*].

A. *Sales Tax Nexus*

State sales tax nexus is directly linked to constitutional law, most notably the Due Process Clause and the Commerce Clause.⁴³ The Due Process Clause requires that a “minimum connection”⁴⁴ be made in order for the state to tax the corporation. The “minimum connection” hurdle of the Due Process Clause is very easy to overcome: the minimum connection can be something as simple as an economic connection with the state, though there is no physical contact with that state. However, the imposition of state tax is further restrained by the Commerce Clause.⁴⁵ The U.S. Supreme Court’s holding in *Complete Auto Transit v. Brady*⁴⁶ clarified the Commerce Clause’s role in limiting state taxation in a four-pronged test. First, substantial nexus must be established. Second, the tax cannot discriminate between interstate and intrastate commerce. Third, the tax must be fairly apportioned. Fourth, the tax must be fairly related to services provided by the state. The bulk of successful litigation has hinged on whether or not substantial nexus can be established. In particular, the U.S. Supreme Court’s holding in *Quill v. North Dakota*⁴⁷ specifically addressed the first prong of the *Complete Auto* test and determined that physical presence was necessary to establish substantial nexus for sales tax purposes.⁴⁸

One common misinterpretation of the physical presence language in *Quill* is that physical presence requires either the presence of tangible property or employees within a state to establish nexus for sales tax purposes; however, this is not the case. One only needs to look at an earlier U.S. Supreme Court case, *Scripto, Inc. v. Carson*.⁴⁹ In *Scripto*, the Court held that agents soliciting sales on behalf of a corporation satisfied the nexus requirement under both the Due Process Clause and the Commerce Clause for state sales taxation.⁵⁰ Therefore, if a cloud computing provider has independent contractors or other agents making sales on its behalf within a state, substantial

43. See U.S. CONST. art. I, § 8, cl. 3; see also U.S. CONST. amend. XIV.

44. *Miller Bros. v. Maryland*, 347 U.S. 340, 344-45 (1954).

45. U.S. CONST. art. I, § 8, cl. 3.

46. *Complete Auto Transit, Inc. v. Brady*, 430 U.S. 274, 279 (1977).

47. *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992).

48. *Id.* at 313-16. No case has made a similar ruling in regard to state income taxation.

49. *Scripto, Inc. v. Carson*, 362 U.S. 207 (1960).

50. *Id.* at 211-12. Similar legal reasoning has been used in more recent independent contractor of “independent sales representative” cases such as *In re Family of Eagles, Ltd.*, 66 P.3d 858, 865 (Kan. 2003).

nexus will almost surely be established and the company will be subject to sales tax. However, based on current case law it is unclear whether, under a similar analysis used by the court in *Scripto*, an independent contractor hired by the cloud computing provider to, for example, provide maintenance or training to a customer would subject the company to state sales tax. Based on the *Scripto* holding it might follow for courts to declare that such relationships also establish substantial nexus. As a result, cloud providers need to be particularly cognizant of the activities that their contractors and affiliates are performing within a state.

B. *Income Tax Nexus*

The fact that a company has nexus for sales tax purposes does not imply that the same company will necessarily have nexus for income tax purposes. The analyses are similar and are both heavily rooted in the Commerce Clause and the Due Process Clause. Different levels of activity within a state may trigger one type of nexus, however, but not the other.

While the first basic question in the income tax nexus discussion is also physical presence, courts have not ruled that physical presence is required, as it is in the sales tax arena.⁵¹ In fact, some states have gone as far as to specifically establish by statute and other guidance that physical presence is not required.⁵² These statutes and guidance establish what is referred to as economic nexus, in which a corporation is subject to income taxation within a state if it intentionally accesses the state's economic market, whether or not the company has a physical presence in the state. There are several cases in which nexus has been established for income tax purposes purely from an economic connection with the state, a standard often referred to as economic nexus.⁵³ For example, courts have ruled that the payment of a fee to use an intangible asset is enough to establish

51. *E.g.*, *KFC Corp. v. Iowa Dep't of Revenue*, 792 N.W.2d 308, 314 (Iowa 2010); *Bridges v. Geoffrey, Inc.*, 984 So. 2d 115, 122 (La. Ct. App. 2008); *Geoffrey, Inc. v. S.C. Tax Comm'n*, 437 S.E.2d 13, 16 (S.C. 1993).

52. For example, Oregon Department of Revenue Rule 150-317.010 states, "[s]ubstantial nexus exists where a taxpayer regularly takes advantage of Oregon's economy to produce income for the taxpayer and may be established through the significant economic presence of a taxpayer in the state." Or. Admin. Rul. 150-317.010 (2012).

53. *E.g.*, *MBNA America Bank, N.A. v. Ind. Dep't of State Revenue*, 895 N.E.2d 140, 143 (Ind. T.C. 2008); *A & F Trademark, Inc. v. Tolson*, 605 S.E.2d 187, 195 (N.C. Ct. App. 2004).

nexus for the owner of the intangible asset.⁵⁴ In addition, in *West Virginia Tax Commissioner v. MBNA*, MBNA serviced credit cards in the state of West Virginia but had no employees or property in the state.⁵⁵ The court ruled, however, that the mere fact that MBNA solicited sales within the state through mail and telephone met the Commerce Clause requirement for nexus for income tax purposes.⁵⁶ This was a particularly influential state tax ruling because it introduced a very large group of potential new taxpayers to state tax agencies.

Due to the broad scope in which courts have addressed nexus for income tax purposes, the federal legislature passed Public Law 86-272, 15 U.S.C. §§ 381-384 (hereafter P.L. 86-272) to constrain corporate activities that fall within the nexus of state income taxation.⁵⁷ P.L. 86-272 says that states cannot collect income tax from corporations whose only activity within the state is the solicitation of orders for tangible personal property.⁵⁸ For example, a California based company that sells vacuum cleaners and sends a traveling salesman into Oregon to solicit orders that subsequently have to be approved and processed by the home office in California will not be subject to state income tax in Oregon. It should be noted that P.L. 86-272 applies only to income taxation and does not protect a taxpayer against the imposition of sales or use tax, property tax,⁵⁹ or most notably, gross receipts taxes such as the Ohio Commercial Activity Tax⁶⁰ or the Washington Business and Occupation Tax.⁶¹ The complication of P.L. 86-272 arises in the definition of solicitation, because the law itself did not define the term. However, the U.S. Supreme Court, in *Wisconsin Department of Revenue v. William Wrigley, Jr., Co.*, provided guidance by ruling that solicitation is speech or conduct that implicitly or explicitly invites an order, or

54. *Geoffrey, Inc. v. Comm'r of Revenue*, 899 N.E.2d 87, 92 (Mass. 2009); *Lanco, Inc. v. Dir., Div. of Taxation*, 908 A.2d 176, 176 (N.J. 2006) (per curiam).

55. *Tax Comm'r v. MBNA America Bank, N.A.*, 640 S.E.2d 226, 227 (W. Va. 2006).

56. *Id.* at 235-36.

57. Interstate Income Act of 1959, Pub. L. No. 86-272 (codified as 15 U.S.C. §§ 381-384 (2011)).

58. *Id.* § 381(a).

59. *Id.* §§ 381-383.

60. OHIO REV. CODE ANN. § 5751 (West 2012), available at <http://codes.ohio.gov/orc/5751>.

61. WASH. REV. CODE ANN. ch. 82.04 (West 2012), available at <http://apps.leg.wa.gov/rcw/default.aspx?cite=82.04>.

activities that are entirely ancillary to requests for an order.⁶² Although the law was passed before the popularity of online retailing rose, the law provides a significant benefit to online retailers whose only connection to a state is through customers accessing a website to purchase tangible personal property.⁶³

However, the protection for cloud computing from state income taxation under P.L. 86-272 is questionable at best, and could vary from state to state based on how the income is characterized.⁶⁴ In particular, if a state defines cloud computing as a service or lease of tangible personal property instead of a sale of tangible personal property then the activity is not protected by P.L. 86-272.⁶⁵ As a result, companies such as Amazon, which have traditionally sold tangible personal property and have now also moved into the cloud computing business, could lose their historical P.L. 86-272 protection and be subjected to income taxation by many states.⁶⁶ In addition, triggering nexus for state income tax will subject these companies to income taxation not only on their new cloud computing service income, but on the income generated from the sales of tangible personal property as well. This could be a significant cost for companies whose primary advantage in the open market place is the price of their products, as compared to brick-and-mortar competitors. It should be noted, however, that incorporation of separate legal entities to sell tangible goods, versus providing cloud computing, could help protect a company from violating the P.L. 86-272 rules and in turn keep its cloud computing income out of the reach of state taxing authorities.⁶⁷

In addition to the aforementioned income tax nexus standards,

62. Wis. Dep't of Revenue v. William Wrigley, Jr., Co., 505 U.S. 214, 223-30 (1992).

63. For example, a company such as Amazon.com, which originally only sold tangible personal property such as books and CDs through the Internet, would basically be protected from state income taxation except in states in which it had a physical office, distribution center, call center, etc.

64. See *supra* Part III.

65. See generally Interstate Income Act of 1959, Pub. L. No. 86-272 (codified as 15 U.S.C. §§ 381-384 (2011)).

66. See generally *id.*; see also Marianne Evans, *Cloudy with a Chance of Fog: The Outlook for Cloud Computing Income Tax Issues*, KPMG's WHAT'S NEWS IN TAX, Oct. 11, 2010, available at <http://www.kpmginstitutes.com/taxwatch/insights/2010/pdf/wnit-101110-outlook-cloud-computing-tax-issues.pdf>.

67. This is a stylized analysis as there are mechanisms, such as unitary reporting rules, that negate the value of separately incorporating portions of the business purely for tax advantages. See generally STATE TAXATION, *supra* note 39, ¶ 8.11.

several states have enacted statutory factor nexus⁶⁸ provisions. Factor nexus ties directly into a state's apportionment formula,⁶⁹ which is based on the level of payroll, property, and sales that a company has within a particular state. Factor nexus provides a bright line test to determine whether a company has nexus in a state by defining minimum thresholds for payroll, property, or sales that create nexus within the state.⁷⁰ For example, Washington enacted a factor nexus standard effective June 1, 2010 that deems a company to have substantial nexus within the state if any its property within the state exceeds \$50,000, or payroll within the state exceeds \$50,000, or receipts in the state exceeds \$250,000, or at least 25% of the taxpayers' total payroll, property, and receipts are in the state.⁷¹ In 2002, the Multistate Tax Commission⁷² adopted a model statute⁷³ for factor nexus, and to date, seven states⁷⁴ have enacted factor nexus statutes. In the cloud computing setting, the bright line test of factor nexus provides a much easier analysis for taxpayers to determine whether they will be subject to taxation in a particular state or not. The constitutionality of factor nexus is still unclear and has been challenged in the state of Ohio by L.L. Bean.⁷⁵ However, the Ohio Department of Taxation does not have jurisdiction over issues of constitutionality and therefore the Ohio Supreme Court or U.S. Supreme Court will have to hear the issue.

68. McLure, *Implementing Taxes*, *supra* note 42, at 1293-98.

69. See *infra* Part V.B (discussing formulary apportionment).

70. See *infra* Part V.B.

71. WASH. REV. CODE ANN. § 82.04.067 (West 2012), available at <http://apps.leg.wa.gov/rcw/default.aspx?cite=82.04.067>.

72. Compact members of the Multistate Tax Commission are: Alabama, Alaska, Arkansas, Colorado, the District of Columbia, Hawaii, Idaho, Kansas, Michigan, Minnesota, Missouri, Montana, New Mexico, North Dakota, Oregon, South Dakota, Texas, Utah, and Washington. See MULTISTATE TAX COMM'N, *Member States*, <http://www.mtc.gov/AboutStateMap.aspx> (last visited Nov. 3, 2012).

73. MULTISTATE TAX COMM'N, FACTOR PRESENCE NEXUS STANDARD FOR BUSINESS ACTIVITY TAXES (Oct. 17, 2002), available at http://www.mtc.gov/uploadedFiles/Multistate_Tax_Commission/Uniformity/Uniformity_Projects/A_-_Z/FactorPresenceNexusStandardBusinessActTaxes.pdf.

74. Business activity: Ohio, Washington, and Oklahoma; gross receipts: Michigan; income tax: Connecticut, Colorado, and California. See *State Tax Snapshot: Growing Minority of States Adopt Factor Presence Nexus Standards*, BLOOMBERG BNA (May 21, 2012), <http://www.bna.com/state-tax-snapshot-b12884909525/>.

75. See Laura A. Kulwicki, *Ohio's First CAT Nexus "Test Case" Finally on Track*, JONES DAY (Oct. 12, 2010), http://www.martindale.com/business-law/article_Jones-Day_1164202.htm (discussing Ohio Department of Taxation's Final Determination Ruling No. 0000000198, issued August 10, 2010).

V. SOURCING

If a cloud computing transaction is determined by the taxpayer to be taxable, the taxpayer must now consider a complex web of sourcing issues. As with the taxability question, sourcing of a cloud computing transaction may also change depending on the type of cloud computing services. Here, sourcing for sales tax purposes will be examined first, followed by sourcing for income tax purposes.

A. Sales Tax Sourcing

The general sourcing rules for states which are members of the Streamlined Sales and Use Tax Agreement (SSUTA)⁷⁶ are presented in section 310 of the SSUTA. The basic rules for retail sales are as follows:

- (1) Retail sales are sourced to the business location of the seller when the product is received there OR sourced to the location of receipt by the purchaser if delivery occurs somewhere other than the seller's business location.⁷⁷
- (2) When rule one does not apply, the sale is sourced to the address of the purchaser which is made available to the seller through business records maintained in the ordinary course of the seller's business.⁷⁸
- (3) When rule one or two does not apply, the sale is sourced to the address provided by the customer in the consummation of the sale.⁷⁹
- (4) When rule one, two, or three does not apply, the sale is sourced to the address from which the tangible personal property was shipped.⁸⁰

Therefore, for states which are members of the Streamlined Sales and Use Tax Agreement,⁸¹ sourcing of SaaS is relatively

76. STREAMLINED SALES AND USE TAX AGREEMENT (as amended May 24, 2012) [hereinafter SSUTA], available at <http://www.streamlinedsalestax.org/uploads/downloads/Archive/SSUTA/SSUTA%20As%20Amended%205-24-12.pdf>. For the history of SSUTA development see STATE TAXATION, *supra* note 39, ¶ 19A.02.

77. SSUTA, *supra* note 76, § 310(A)(1)-(2).

78. *Id.* § 310(A)(3).

79. *Id.* § 310(A)(4).

80. *Id.* § 310(A)(5).

81. Member states of the SSUTA are: Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Nebraska, Nevada, New Jersey, North Carolina, North Dakota, Ohio, Oklahoma, Rhode Island, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. STATE TAXATION, *supra* note 39, ¶ 19A.02[5].

straightforward—most states that have determined that SaaS is taxable have classified it as the sale or lease of tangible personal property or as a taxable information service, for which the sales tax sourcing rules are found in section 310 of the SSUTA.⁸² In general, SaaS will be sourced “to the location where receipt by the purchaser . . . occurs”⁸³; however, in some SaaS transactions this may not be known, because in the typical SaaS transaction the customer accesses software from the cloud and the location from which the client accesses the cloud may not be transparent. This can become even more complicated when a client has employees accessing the software from several different offices across the country, as well as from their homes and hotel rooms while they travel. In this case, sourcing would likely default to section 310(A)(3) of the SSUTA, which will source the transaction for sales tax purposes to the address provided by the customer to the cloud computing provider.⁸⁴ This analysis can be further complicated when states classify the SaaS not as the sale of tangible personal property but instead as a lease of tangible personal property with recurring payments. In this case, the first payment is sourced the same as a retail sale, and recurring payments are sourced to the address provided by the customer to the provider of the leased property.⁸⁵ At the extreme, this could be interpreted to mean that in a SaaS transaction in which hundreds of employees can download a software application from the cloud onto their work laptops, desktops, or even smart phones the customer would need to provide to the cloud service provider the location of each of these devices so a sales tax can be remitted to each jurisdiction.

Due to current tax laws, the states that are most likely to tax IaaS and PaaS transactions are those that explicitly subject information or data services to sales tax. In these states it would not be difficult for the courts or the legislature to fit IaaS and PaaS cloud services into the definition of information or data services that are already

82. It should be noted that while Tennessee is a SSUTA state, it has elected under section 310.1 of the SSUTA to use origin-based sourcing as opposed to destination-based sourcing. See Certificate of Compliance—State of Tennessee (Apr. 15, 2010), <http://www.streamlinedsalestax.org/uploads/downloads/State%20Compliance/Tennessee/2012/Tennessee%20Certificate%20of%20Compliance%202012.pdf>. See also SSUTA, *supra* note 76, § 310.1(A).

83. SSUTA, *supra* note 76, § 310(A)(2).

84. *Id.* § 310(A)(3).

85. *Id.* § 310(B)(1).

employed. Of the sixteen states that explicitly tax information or data services, five are member states of the SSUTA⁸⁶; however, the SSUTA does not explicitly address the sourcing of information or data processing services. The SSUTA does provide guidance for the sourcing of telecommunication services, and an argument can certainly be made that information and data processing services are likely to be sourced in a similar manner. Therefore, these services will be sourced to the customer's location of primary use,⁸⁷ but the location of primary use of a cloud computing service is not necessarily easy to determine.

The SSUTA guidelines use a destination-based sourcing method in which transactions are sourced to the state where the product or service is delivered; however, eleven states⁸⁸ use an origin-based sourcing system for sales tax purposes. The basic design of origin-based sourcing includes that transactions are sourced to the jurisdiction in which the sale originates. In practice, however, for a multijurisdictional cloud service provider the jurisdiction in which tax is due may not be clear. For example, what if a cloud service provider has a corporate headquarters in New Mexico and a server farm in Texas, both of which are origin-based states that subject either data or information services to sales taxation? In this scenario a sales representative at the headquarters in New Mexico calls a company in Kansas to consummate a sale of a cloud computing service. Now assume that the company in Kansas submitted an initial order request through the cloud service provider's website hosted on the server in Texas. The cloud service provider has nexus in both New Mexico and Texas and both use origin-based sourcing, but was the sale originated in Texas, where the servers are located, when the customer entered a request online? Or is the sale sourced to New Mexico because that is where the sales representative who finalized the sale is located? Even in an origin-based system, tough questions could face cloud service

86. The sixteen states who explicitly tax information or data services are: Connecticut (information and data), Florida (information), Hawaii (information and data), Massachusetts (information), Minnesota (data), Mississippi (data), New Jersey (information), New Mexico (information and data), New York (information), North Dakota (data), Ohio (information and data), Oklahoma (information), Rhode Island (data), South Dakota (data), Texas (information and data), and West Virginia (information). Of these states, five are members of the SSUTA: Minnesota, Oklahoma, Rhode Island, South Dakota, and West Virginia. *See supra* note 72.

87. SSUTA, *supra* note 76, § 314.

88. Arizona, California, Illinois, Mississippi, Missouri, New Mexico, Pennsylvania, Tennessee (SSUTA member), Texas, Utah (SSUTA member), and Virginia.

providers. The analysis can become even more complicated when a cloud service provider executes a sale in an origin-based state to a customer in a destination-based state, and the cloud service provider has nexus in both states.

B. *Income Tax Sourcing*

The sourcing of a corporation's income between states is governed by the United Division of Income for Tax Purposes Act (UDITPA).⁸⁹ Under UDITPA, formulary apportionment is used to apportion income between the states in which a corporation has nexus.⁹⁰ The traditional apportionment formula is a three-factor formula in which sales, payroll, and property are equally weighted, and income is apportioned to the state based on the share of business activity that takes place there, as compared to other states.⁹¹ The formula is as follows:

Income Apportioned to State i

= *Business Income*

$$* \left[\left(\frac{1}{3} * \frac{\text{Sales}_i}{\text{Total Sales}} \right) + \left(\frac{1}{3} * \frac{\text{Property}_i}{\text{Total Property}} \right) + \left(\frac{1}{3} * \frac{\text{Payroll}_i}{\text{Total Payroll}} \right) \right]$$

Applying this formula, income apportioned to a particular state increases as the business activity in the state—as measured by sales, payroll, and property—increases. If every state uses this same three-factor formula, then all income from cloud computing transactions is ultimately taxed for state income tax purposes; however, not all states use a three-factor formula. During the past decade more and more states have begun to shift to formulas that weight sales heavier than the other factors, and in fact many states have even moved to a single factor formula, based purely on sales, in order to attract business investment in the state.⁹²

89. UNIF. DIV. OF INCOME FOR TAX PURPOSES ACT (amended 1966), 7A U.L.A. 147 (2002), available at <http://www.uniformlaws.org/shared/docs/uditpa/uditpa66.pdf>.

90. *Id.* § 9.

91. *Id.*

92. For tax year 2012: Alabama (sales double-weighted), Alaska (equally weighted), Arizona (sales 80%), Arkansas (sales double-weighted), California (sales double-weighted, optional single sales factor), Colorado (single sales factor), Connecticut (sales double-weighted, optional single sales for some industries), Delaware (equally weighted), Florida (sales double-weighted), Georgia (single sales factor), Hawaii (equally weighted), Idaho (sales double-

Because not all states use the same formula, or do not tax corporate income at all, cloud computing providers can strategically locate their server farms and sales offices to minimize the total amount of business income that will be apportioned. When deciding where to locate a server farm a cloud computing provider seeks states that do not weight property at all in their apportionment formula. This benefit can be maximized when the state also has low property taxes and utility costs. This combination could make a state such as Wyoming particularly attractive for a server farm since it has no corporate income tax and a low property tax. In addition, Oregon, for example, has established “enterprise zones” in which a corporation can receive property tax abatement.⁹³ Oregon also has a single sales factor, no state sales tax, and relatively cheap utility costs, which makes it a particularly attractive location for server farms. If a cloud computing provider can locate its server farms, which are likely the bulk of its total property, in these attractive states then a fairly large portion of business income may be left unapportioned, if the cloud computing provider also locates its sales offices in states with an equally weighted formula.

Ultimately, the primary question in terms of income tax sourcing from the viewpoint of the taxpayer is whether the cloud computing sale is included in the numerator of the sales factor in the apportionment formula. With sales of tangible personal property,

weighted), Illinois (single sales factor), Indiana (single sales factor), Iowa (single sales factor), Kansas (equally weighted), Kentucky (sales double-weighted), Louisiana (equally weighted for corporations without a specified formula), Maine (single sales factor), Maryland (sales double-weighted, single sales factor for manufacturing), Massachusetts (sales double-weighted, single sales factor for manufacturing), Michigan (single sales factor), Minnesota (sales 93%), Mississippi (no general apportionment formula, single sales formula for taxpayers that are not required to use a designated apportionment formula), Missouri (equally weighted, optional single sales factor), Montana (equally weighted), Nebraska (single sales factor), Nevada (no corporate income tax), New Hampshire (sales double-weighted), New Jersey (sales 70%), New Mexico (equally weighted, optional sales double-weighted for manufacturing), New York (single sales factor), North Carolina (sales double-weighted), North Dakota (equally weighted), Ohio (sales triple weighted for corporate franchise tax), Oklahoma (equally weighted, optional sales double-weighted for corporations with high investment in the state), Oregon (single sales factor), Pennsylvania (sales 90%), Rhode Island (equally weighted), South Carolina (single sales factor), South Dakota (no corporate income tax), Tennessee (sales double-weighted), Texas (single sales factor), Utah (equally weighted, election available for double-weighted sales, and special rules for “sales factor weighted taxpayers”), Vermont (sales double-weighted), Virginia (sales double-weighted), Washington (no corporate income tax), West Virginia (sales double-weighted), Wisconsin (single sales factor), Wyoming (no corporate income tax).

93. OR. REV. STAT. ANN. ch. 285C (West 2012), *available at* <http://www.leg.state.or.us/ors/285C.html>.

sales are generally sourced based on destination. For example, if a company in a state sells a truck to a company in a second state, the sale will be sourced to the second state, the destination of the tangible good. However, if a state decides that a cloud computing transaction is the sale of tangible personal property, which has been the case in the SaaS model, determining the destination of the property is non-trivial. If a cloud computing provider sells access to a software program through the cloud to a company that has offices in several states and employees traveling around the country accessing the software on their laptops, then what is the destination of the tangible personal property? Do companies need to track the movement of employees in order to determine where the cloud product is accessed in order to determine the destination of the product?

If a state determines that the cloud transaction should be characterized as a service transaction, then the cost of performance method is generally used for sourcing.⁹⁴ Cost of performance takes

94. The following states employ a cost of performance standard for sourcing of transactions that are not the sale of tangible personal property:

Alaska (ALASKA STAT. ANN. § 43.19.010, art. IV(17) (West 2012), *available at* <http://www.legis.state.ak.us/basis/statutes.asp?title=43#43.19.010>);

Arizona (ARIZ. REV. STAT. ANN. § 43-1147 (2012), *available at* www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/43/01147.htm&Title=43&DocType=ARS);

District of Columbia (D.C. CODE § 47-1810.02(g)(3) (2012));

Florida (FLA. ADMIN. CODE ANN. r. 12C-1.0155(2)(l) (West 2012), *available at* <https://www.flrules.org/gateway/RuleNo.asp?title=CORPORATE%20INCOME%20TAX&ID=12C-1.0155>);

Hawaii (HAW. REV. STAT. § 235-37 (West 2012), *available at* http://www6.hawaii.gov/tax/har/har_235.pdf);

Idaho (IDAHO CODE ANN. § 63-3027(r) (West 2012), *available at* <http://legislature.idaho.gov/idstat/Title63/T63CH30SECT63-3027.htm>);

Indiana (IND. CODE ANN. § 6-3-2-2(f) (West 2012), *available at* <http://www.in.gov/legislative/ic/2010/title6/ar3/ch2.html>);

Kansas (KAN. STAT. ANN. § 79-3287 (West 2012));

Kentucky (KY. REV. STAT. ANN. § 141.120(8)(c)(3) (West 2012), *available at* <http://www.lrc.ky.gov/krs/141-00/120.PDF>);

Massachusetts (MASS. GEN. LAWS ANN. ch. 63, § 38(f) (West 2012), *available at* <http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleIX/Chapter63/Section38>);

Missouri (MO. ANN. STAT. § 32.200, art. IV(17) (West 2012), *available at* <http://www.moga.mo.gov/statutes/C000-099/0320000200.HTM>);

Montana (MONT. CODE ANN. § 15-31-311(2) (2012), *available at* <http://data.opi.mt.gov/bills/mca/15/31/15-31-311.htm>);

Nebraska (NEB. REV. STAT. ANN. § 77-2734.14(3) (West 2012), *available at* <http://univweb.legislature.ne.gov/laws/statutes.php?statute=77-2734.14>);

New Hampshire (N.H. REV. STAT. ANN. § 77-A:3(I)(c) (2012), *available at*

into consideration the location of the income producing activities that generate the revenue, measured by the direct costs to the taxpayer. Take, for example, a company that provides consulting services in one state for a company located in a second state. If the direct costs associated with providing the services occurs 60% at the home office of the consulting company in the first state and 40% at the offices of the client in the second state then the receipts would be sourced to the first state.⁹⁵ In reality the problem is much more complex than this simplified example, and in the case of cloud computing, identifying where the cost of performance resides is difficult because most of the direct costs on a project may be related to apportioning computing power among projects.

An alternative to the traditional cost-of-performance sourcing method for service is known as market-based sourcing. As of the 2011 tax year, fourteen states⁹⁶ had adopted market-based sourcing for at least a portion of their taxpayers. As opposed to the cost-of-performance method, which sources receipts based on the location where the service provider performs the service, the market-based method sources receipts based on the location of either the service provider's customers or the location where the customers receive benefit from the service provided. With cloud computing neither of these identification processes are straightforward. In the case of

<http://www.gencourt.state.nh.us/rsa/html/V/77-A/77-A-3.htm>;

New Mexico (N.M. STAT. ANN. § 7-4-18 (West 2012));

North Dakota (N.D. CENT. CODE ANN. § 57-38.1-17 (West 2011), *available at* <http://www.legis.nd.gov/cencode/t57c38-1.pdf>);

Oregon (OR. REV. STAT. ANN. § 314.665(4) (West 2012), *available at* <http://www.oregonlaws.org/ors/314.665>);

Pennsylvania (61 PA. CODE § 109.5(c)(3)(iv)(B) (2012), *available at* <http://www.pacode.com/secure/data/061/chapter109/s109.5.html>);

Tennessee (TENN. CODE ANN. § 67-4-2012(i) (West 2012));

Vermont (VT. STAT. ANN. tit. 32, § 5833(a)(3) (West 2012), *available at* <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=32&Chapter=151&Section=05833>);

Virginia (VA. CODE ANN. § 58.1-416 (West 2012), *available at* <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+58.1-416>);

West Virginia (W. VA. CODE ANN. § 11-24-7(e)(12) (West 2012), *available at* <http://www.legis.state.wv.us/wvcode/ChapterEntire.cfm?chap=11&art=24§ion=7>).

95. It should be noted that some states use a pro-rata cost-of-performance method as opposed to this all-or-nothing method.

96. As of March 2012: Alabama, Arizona, California, Georgia, Illinois, Iowa, Maine, Maryland, Michigan, Minnesota, Ohio, Oklahoma, Utah, and Wisconsin. *See State Tax Snapshot: Arizona Joins Growing List of Market-Based Sourcing States*, BLOOMBERG BNA (Mar. 5, 2012), <http://www.bna.com/state-tax-snapshot-b12884908140/>.

determining the location of the service provider's customers, the taxpayer would need to be able to track where its customers are located and if the cloud computing transactions are completed through the Internet. Then, locating the customers can be difficult because their locations may not necessarily align with the billing addresses they provide. The analysis is even more complex when sourcing is based on where the customer received benefit from the service provided. Returning to the example of a company with offices in several states and employees traveling all over the country accessing cloud-provided services from their laptops or smartphones, it is clear that determining the jurisdictions in which the company receives benefit from the cloud provider's services is nearly impossible.

VI. DIGITAL GOODS AND SERVICES TAX FAIRNESS ACT OF 2011

Although the taxation of cloud computing is still in its infancy, the proposed Digital Goods and Services Tax Fairness Act of 2011⁹⁷ could greatly inhibit the ability of the states to subject cloud computing transactions to sales tax. The general intent of this bill is to eliminate multiple and discriminatory taxation of digital goods and services, namely transactions such as music downloads, movie downloads, etc.⁹⁸ The basic provisions of the bill are twofold: (1) only sales of digital goods or services to retail end users are subject to taxation, (2) taxable transactions are sourced using a destination method based on the tax address of the customer, defined in the bill so that the seller is dependent on the customer's good faith disclosure of this address.⁹⁹

The language of the bill is very broad and courts could easily determine that cloud computing services are protected by it. The bill states: "The term 'digital good' means any good or product that is delivered or transferred electronically, including software, information maintained in digital format, digital audio-visual works, digital audio works, and digital books."¹⁰⁰ It is clear that SaaS would be included in the bill's definition of a digital good. The bill continues: "The term 'digital service' means any service that is provided electronically, including the provision of remote access to or

97. H.R. 1860, 112th Cong. (2011); S. 971, 112th Cong. (2011).

98. H.R. 1860 § 3.

99. *Id.* § 4.

100. *Id.* § 5(5).

use of a digital good.”¹⁰¹ This definition could easily incorporate IaaS and PaaS transactions.

While the bill does not exempt digital goods and service transactions from being subject to sales tax, two major provisions of the bill could make it very difficult for states to ever collect a meaningful sum of revenue from cloud computing. First, the bill explicitly classifies electronically delivered software as a digital good. Most states that tax such SaaS transactions do so following the theory they are selling tangible personal property and the medium does not matter¹⁰²; therefore in most cases these states would need to rewrite existing legislation in order to continue taxing these SaaS transactions. As with any new legislation, this would provide SaaS providers with an opportunity to lobby against the legislation. In addition, some states require supermajority or even a citizen vote to approve any sort of tax increase.¹⁰³ Second, the bill introduces mandatory sourcing rules for digital goods and service transactions that are particularly vulnerable to manipulation, and could lead to avoidance by the taxpayer. Basically, the bill allows a cloud computing provider that sells digital services to a customer in multiple locations to accept the customer’s declaration of where the products will be used. Therefore, a customer that operates in multiple states could identify the states that do not tax cloud computing transactions and assert that those are the locations where the product will be used. At the extreme, a customer could avoid taxation by establishing a new purchasing office in a state that does not tax cloud computing transactions.

These two provisions of the House Bill 1860 could lead to

101. *Id.* § 5(6)(A).

102. *See generally infra* Appendix B: Table II.

103. A total of sixteen states have some sort of supermajority or vote of the people provision for tax increases. *See States with a Supermajority Requirement to Raise Taxes*, CENTER FOR FISCAL ACCOUNTABILITY, <http://www.fiscalaccountability.org/index.php?content=supersub1> (last visited Dec. 20, 2012). Nine states have constitutional broad supermajority requirements. *Id.* Of these, Delaware, Mississippi, and Oregon require three-fifths vote for all tax increases, Arizona, California, Nevada, and Louisiana require a two-thirds vote for all tax increases. Oklahoma and South Dakota require supermajority for all tax increases except for reducing or eliminating a tax break. Washington and Wisconsin have broad statutory two-thirds vote requirements. Both Colorado and Missouri require a simple majority vote of the people to raise taxes. In Missouri this requirement only applies to tax increases that are over a certain threshold. Both Colorado and Missouri have mechanisms to allow the legislature to pass tax increases with a two-thirds supermajority instead of a vote of the people in the case of emergencies. Finally, Arkansas, Florida, Kentucky, and Michigan all require supermajority to raise certain taxes.

significant revenue loss for states that want to tax cloud computing, particularly as the cloud computing industry continues to grow.¹⁰⁴ Gartner, a technology research and advisory company, has projected 2014 worldwide cloud revenue to be around \$150 billion, with 50% of that revenue coming from the United States.¹⁰⁵ By making it more difficult for states to subject cloud computing transactions to sales tax, and by assuming that states will ultimately be able to collect sales tax on some of the transactions, as much as \$50-\$60 billion of transactions could go untaxed. Assuming an average sales tax rate of 6.5%, this amounts to lost revenue of \$325-\$390 million per annum. This figure will only continue to grow as the cloud computing industry continues to flourish.

Overall, the promising feature of the House Bill 1860 is that it provides a framework for uniform taxation of cloud computing across jurisdictions, which is clearly superior to the current system, where some states explicitly tax digital goods transactions and some do not.¹⁰⁶ To add to the complexity of the current situation, the states that do tax the transactions do not all use the same sourcing methods, thus eventually subjecting some transactions to taxation in multiple jurisdictions.¹⁰⁷ The bill, however, presents several roadblocks for states that seek to maintain sales tax revenue in a quickly changing economy.¹⁰⁸ In particular, the bill would define cloud computing transactions as services and not tangible personal property.¹⁰⁹ While services are not taxable in most states, states could enact legislation delineating them as taxable. If states decide to enact legislation to make cloud computing transactions taxable, they would first have to create a clear definition of what a taxable cloud computing service is. This in itself is not an easy task due to the fact that there are three primary cloud computing models and countless transactional forms in which the cloud could be manifested.

104. See Michael Mazerov, Special Report, *Digital Goods and Services Tax Act in Current Form Would Hurt States*, 61 STATE TAX NOTES 545 (2011) (discussing House Bill 1860).

105. Press Release, *Gartner Says Worldwide Cloud Services Market to Surpass \$68 Billion in 2010*, GARTNER NEWSROOM (June 22, 2010), <http://www.gartner.com/it/page.jsp?id=1389313>.

106. H.R.1860, 112th Cong. §§ 3-5 (2011).

107. See generally STATE TAXATION, *supra* note 39, ¶ 19A.

108. See Michael Mazerov, “*Digital Goods and Services Tax Fairness Act*” Would Impair Funding for Education, Health Care and Other State and Local Services, CTR. ON BUDGET & POLICY PRIORITIES (May 29, 2012), <http://www.cbpp.org/files/5-29-12sfp.pdf>.

109. H.R. 1860 § 5(6)(A).

VII. RECOMMENDATIONS FOR POLICYMAKERS

Due to the complexity that arises when trying to tax cloud computing and the ease of manipulating the substance and jurisdictions of such transactions to avoid taxation, Congress should address taxation of cloud computing transactions. The proposed Digital Goods and Services Tax Fairness Act takes a step in this direction but potentially at the cost of considerable revenue loss for states. Of course, as with any legislation there are potential pros and cons. While a uniform system of state taxation over the cloud would benefit taxpayers by greatly decreasing uncertainty related to the taxation of these transactions, and also state revenue departments by curbing tax planning, there are costs associated with taking advantage of differing rules associated with cloud computing. First, a uniform system would remove a state's ability to attract cloud computing investments to the state by creating a system in which cloud computing is not taxed. In addition, the task of writing legislation that fifty states would agree increases each individual state's welfare is nearly impossible; some states may believe their ability to design a cloud computing taxing system that best fits their needs has been limited by the federal government. There exist examples of state cooperation in tax policy, such as the Streamlined Sales Tax Project and the Multistate Tax Commission; however, neither of these groups have the cooperation of all state taxing jurisdictions.¹¹⁰

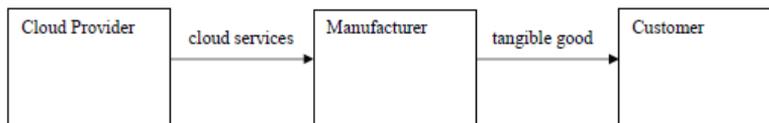
The primary issues that a cloud computing taxation bill needs to address is whether cloud computing transactions should be subject to sales tax, how they will be sourced for sales tax, and how transactions will be characterized and sourced for income tax purposes.

From a normative perspective, in which a sales tax should tax personal consumption, cloud computing transactions should only be taxable to individuals and not to businesses. In particular, a normative sales tax would tax both goods and services consumed by an individual. This would render meaningless the distinction between whether the cloud computing transaction is a purchase or lease of

110. Arkansas, Kansas, Michigan, Minnesota, North Dakota, South Dakota, and Washington are members of both the SSUTA and the Multistate Tax Commission; Georgia, Indiana, Iowa, Kentucky, Nebraska, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Rhode Island, Tennessee, Utah, Vermont, West Virginia, Wisconsin, and Wyoming are members of only the SSUTA; Alabama, Alaska, Colorado, the District of Columbia, Hawaii, Idaho, Missouri, Montana, New Mexico, Oregon, Texas, and Utah are compact members only of the Multistate Tax Commission. *See supra* notes 72, 81.

tangible personal property versus a data or information service—as long as the product is ultimately consumed by the purchaser then it is subject to taxation. In addition, cloud computing transactions would not be subject to sales tax because these cloud computing services are considered inputs into the business. Ultimately, a company will sell a good or service to a personal consumer and at that point these cloud computing services, which were overhead operating costs for the company, will be priced into the product or service sold to the personal consumer; the business-to-business (B2B) cloud computing transaction will eventually be taxed when a final good or service is sold to a personal consumer.

But by taxing the B2B cloud computing transaction initially, the transaction would end up being taxed twice. As an example, consider the supply chain below:



In this case, a cloud provider is selling cloud based raw materials, inventory management software, to a manufacturer. Assume the total cost to the manufacturer is \$100. If the transaction is taxed for sales tax purposes the net cost to the manufacturer is actually \$100 plus the tax paid on the transaction, so assuming a 7% sales tax rate the cost is \$107. This \$107 expense is ultimately included as an overhead expense, and through product costing it is included in the price the customer ultimately pays for the tangible good, which is a taxable event. Therefore, if the B2B transaction between the cloud provider and the sale of the final tangible good to the customer are both taxed, then the cloud computing transaction is taxed at each step of the supply chain.

Current sales tax law differs on many points from a true normative sales tax system, so Congress could certainly approach the question of whether or not to subject cloud computing to sales taxation from other angles. In particular, an advantageous approach would be to ask whether or not the consumer, either personal or business, would have to pay sales tax on the functionally equivalent transaction to the cloud transaction. This is already the perspective that many states used in determining that electronically delivered

software should be taxed. The question becomes a little more difficult, however, when considering PaaS and IaaS. With IaaS, the general transaction typically involves a customer leasing server space, data storage space, etc. from the cloud service provider. In this setting, if the cloud were not available the customer would alternatively have to purchase mainframe computers and servers from a company such as IBM or Dell. In this case the company would certainly pay sales tax because it is purchasing tangible property; therefore, it is not a stretch to hold that similar IaaS transactions should also be subject to sales tax. The basic PaaS transaction involves a customer developing and launching applications on the cloud provider's platform. Absent being able to do this in a scalable manner on the cloud, the customer would have to invest a large amount of money in platform architecture services that would involve some taxable hardware but would largely be driven by custom programming, networking, implementation, etc. that would likely be nontaxable services. Therefore, if the legislature wished to use the taxation of the alternative as a benchmark then PaaS would likely not be taxable.

In terms of sourcing cloud computing transactions for sales tax purposes, cloud computing providers face a number of complex issues when determining to which jurisdictions tax needs to be remitted. To simplify sourcing in this relatively nontransparent business environment, uniform sourcing rules are needed to avoid the potential for large state revenue losses. This author recommends that all sales tax on cloud computing transactions be sourced based on the destination where the product or service is consumed. However, as noted above under SSUTA type guidelines¹¹¹ this can be difficult to determine with the cloud. Therefore, for the purposes of taxable cloud computing transactions, destination should be defined as the address of the purchaser's U.S. headquarters. Since many cloud computing transactions provide a benefit that will be used by an array of employees and locations within the company, it is reasonable to source the transaction to the location that likely has the largest concentration of employees in the U.S., such as the customer's domestic headquarters.

In summary, the author's primary suggestions for federal legislation regarding the taxation of cloud computing transactions are:

111. See *supra* Part V.A.

- Uniform treatment across states is needed in order to prevent significant revenue loss, particularly as cloud computing continues to become more and more prevalent.
- In most cases, SaaS should be subject to sales taxation because SaaS is replacing traditional distribution of software on physical medium, which is subject to taxation.
- IaaS and PaaS present more complex analyses in terms of determining whether they should be subject to sales tax based on the taxation of the tangible property and services that these cloud computing models replace. However, the federal legislature should formulate legislation that defines IaaS and PaaS transactions that are subject to tax.
- For sales tax purposes, due to the ambiguity of the current sourcing rules in regard to cloud computing, all taxable transactions should be sourced using a destination-based rule, where destination is defined as the principle place of business of the purchaser.
- For income tax purposes, SaaS transactions should be characterized as a sale of tangible personal property and included in the numerator of the sales factor based on the aforementioned destination rule.¹¹² Depending on the characteristics of the particular transactions, IaaS and PaaS could be characterized as the sale of tangible personal property or the sale of a service. Due to the complexity of calculating a traditional cost of performance sourcing measure for cloud computing transactions characterized as services, they should also be sourced using the aforementioned destination rule.
- Due to the fact that it is nearly impossible and economically unfeasible to track the location where a customer uses a cloud computing application, cloud computing transactions should not be subject to use tax in the states in which the cloud application is used.

VIII. CONCLUSION

The advent and quick growth of the cloud computing industry has created an uncertain outlook as to the appropriate treatment of cloud computing transactions for both state income tax and sales tax purposes. Both nexus and sourcing present issues that corporations

112. See *supra* Part V.B.

and courts will eventually need to address. These should be addressed as quickly as possible by state or even federal legislation, before the courts are overwhelmed with difficult tax cases regarding these nonfungible transactions.

APPENDIX A: TABLE I

The following table provides guidance as to how each state has decided to tax prewritten and custom software delivered by either physical medium or through an electronic transfer.

Table 1. Taxation of Prewritten and Custom Software, by State

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
Alabama ¹¹³	Taxable	Taxable	Exempt	Exempt
Alaska	N/A	N/A	N/A	N/A
Arizona ¹¹⁴	Taxable	Taxable	Exempt	Exempt
Arkansas ¹¹⁵	Taxable	Exempt	Taxable	Exempt
California ¹¹⁶	Taxable	Exempt	Exempt	Exempt
Colorado ¹¹⁷	Taxable	Exempt	Exempt	Exempt
Connecticut ¹¹⁸	Taxable	Taxable	Taxable ¹¹⁹	Taxable
Delaware	N/A	N/A	N/A	N/A
Florida ¹²⁰	Taxable	Exempt	Exempt	Exempt
Georgia ¹²¹	Taxable	Exempt	Exempt	Exempt

113. See ALA. ADMIN. CODE r. 810-6-1-.37 (2012), available at <http://www.alabamaadministrativecode.state.al.us/docs/rev/McWord6REV1.pdf>.

114. See Ariz. Transaction Privilege Tax Rul. TPR 93-48, 1994 WL 16014507 (Jan. 3, 1994), available at <http://www.azdor.gov/LinkClick.aspx?fileticket=oZ1pG6vnXL4%3d&tabid=70&mid=478>.

115. See ARK. CODE ANN. § 26-52-304 (West 2012).

116. See *Nortel Networks, Inc. v. Bd. of Equalization*, 191 Cal. App. 4th 1259 (Cal. Ct. App. 2011).

117. See COLO. REV. STAT. ANN. § 39-26-102 (West 2012).

118. See CONN. GEN. STAT. ANN. § 12-407 (West 2012), available at <http://www.cga.ct.gov/2011/pub/chap219.htm#Sec12-407.htm>.

119. Custom software is taxed at a 1% rate as a computer or data processing service. See *id.* §§ 12-407(36) to -407(37)(A); 12-408.

120. See Fla. Dep't of Revenue, Tech. Assist. Advisement 03A-020, 2003 WL 21368735 (Apr. 30, 2003), available at https://revenue.law.state.fl.us/LawLibrary/Documents/2003/04/TAA-103028_d68f89de-81e9-4221-880a-6c521c953e50.pdf#search=%2203A-020%22.

121. See GA. CODE ANN. § 48-8-30 (West 2012); GA. COMP. R. & REGS. 560-12-2-.111

Table 1. (continued)

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
Hawaii ¹²²	Taxable	Taxable	Taxable	Taxable
Idaho ¹²³	Taxable	Taxable	Exempt	Exempt
Illinois ¹²⁴	Taxable	Taxable	Exempt	Exempt
Indiana ¹²⁵	Taxable	Taxable	Exempt	Exempt
Iowa ¹²⁶	Taxable	Exempt	Exempt	Exempt
Kansas ¹²⁷	Taxable	Taxable	Exempt	Exempt
Kentucky ¹²⁸	Taxable	Taxable	Exempt	Exempt
Louisiana ¹²⁹	Taxable	Taxable	Exempt	Exempt
Maine ¹³⁰	Taxable	Taxable	Exempt	Exempt
Maryland ¹³¹	Taxable	Exempt	Exempt	Exempt
Massachusetts ¹³²	Taxable	Taxable	Exempt	Exempt

(2012), available at <http://rules.sos.state.ga.us/cgi-bin/jump.cgi?ID=14475&d=1>.

122. Hawaii does not have a state sales tax; however, Hawaii has an excise tax that is almost identical to a traditional sales tax. See HAW. REV. STAT. § 237-13 (West 2012), available at http://www6.hawaii.gov/tax/har/har_237.pdf.

123. See IDAHO ADMIN. CODE r. 35.01.02.027 (2012), available at <http://adminrules.idaho.gov/rules/current/35/0102.pdf>.

124. See ILL. ADMIN. CODE tit. 86, § 130.1935 (2012), available at <http://www.ilga.gov/commission/jcar/admincode/086/086001300S19350R.html>.

125. See IND. CODE ANN. §§ 6-2.5-1-24, 6-2.5-1-27, 6-2.5-4-1 (West 2012), available at <http://www.in.gov/legislative/ic/2010/title6/ar2.5/ch1.html>.

126. See IOWA CODE ANN. § 423.3 (West 2012).

127. See KAN. STAT. ANN. § 79-3602 (West 2012).

128. See KY. REV. STAT. ANN. §§ 139.010, 139.200 (West 2012), available at <http://www.lrc.ky.gov/KRS/139-00/CHAPTER.HTM>.

129. See LA. REV. STAT. ANN. §§ 47:301, 47:305 (2011).

130. See ME. REV. STAT. tit. 36, §§ 1752, 1861 (2011), available at <http://www.mainelegislature.org/legis/statutes/36/title36ch0sec0.html>.

131. See MD. CODE ANN., Tax-General §§ 11-219(b), 11-102(a), 11-101(k)(1) (West 2012).

132. See 830 MASS. CODE REGS. 64H.1.3 (2012), available at <http://>

Table 1. (continued)

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
Michigan ¹³³	Taxable	Taxable	Exempt	Exempt
Minnesota ¹³⁴	Taxable	Taxable	Exempt	Exempt
Mississippi ¹³⁵	Taxable	Taxable	Taxable	Taxable
Missouri ¹³⁶	Taxable	Exempt	Exempt	Exempt
Montana	N/A	N/A	N/A	N/A
Nebraska ¹³⁷	Taxable	Taxable	Taxable	Taxable
Nevada ¹³⁸	Taxable	Exempt	Exempt	Exempt
New Hampshire	N/A	N/A	N/A	N/A
New Jersey ¹³⁹	Taxable	Taxable ¹⁴⁰	Exempt	Exempt
New Mexico ¹⁴¹	Taxable	Taxable	Taxable	Taxable

<http://www.mass.gov/dor/businesses/help-and-resources/legal-library/regulations/64h-00-sales-and-use-tax/830-cmr-64h13-computer-industry-services-and.html>.

133. See MICH. COMP. LAWS ANN. §§ 205.51a, 205.92 (West 2012), available at [http://www.legislature.mi.gov/\(S\(qixpztbnmni4cr45ivuaofak\)\)/mileg.aspx?page=getObject&objectName=mcl-chap205](http://www.legislature.mi.gov/(S(qixpztbnmni4cr45ivuaofak))/mileg.aspx?page=getObject&objectName=mcl-chap205).

134. See MINN. STAT. ANN. § 297A.61 (West 2012), available at <https://www.revisor.mn.gov/statutes/?id=297A.61>; MINN. R. 8130.9910 (2012), available at <https://www.revisor.leg.state.mn.us/rules/?id=8130.9910>.

135. See MISS. CODE ANN. § 27-65-23 (West 2012), available at <http://www.mscode.com/free/statutes/27/065/0023.htm>.

136. See MO. CODE REGS. ANN. tit. 12, § 10-109.050 (2012), available at <http://www.sos.mo.gov/adrules/csr/current/12csr/12c10-109.pdf>.

137. See NEB. REV. STAT. ANN. § 77-2701.16 (West 2012), available at [http://uniweb.legislature.ne.gov/laws/statutes.php?statute=77-2701.16≺ 316 NEB. ADMIN. CODE § 1-088 \(2012\), available at http://www.revenue.ne.gov/legal/regs/salestax/1-088.html](http://uniweb.legislature.ne.gov/laws/statutes.php?statute=77-2701.16≺ 316 NEB. ADMIN. CODE § 1-088 (2012), available at http://www.revenue.ne.gov/legal/regs/salestax/1-088.html).

138. See NEV. REV. STAT. ANN. §§ 360B.420, 360B.470, 360B.485 (2011), available at <http://www.leg.state.nv.us/nrs/nrs-360b.html>; NEV. ADMIN. CODE § 372.880 (2012), available at <http://www.leg.state.nv.us/nac/NAC-372.html#NAC372Sec880>.

139. See N.J. STAT. ANN. ch. 54:32B (West 2012).

140. Exemption is available for electronically delivered software that is used exclusively for business use. See *id.* § 54:32B-8.56.

141. See N.M. STAT. ANN. §§ 7-9-4, 7-9-5(A) (West 2012), available at <http://www.tax.newmexico.gov/SiteCollectionDocuments/Tax-Library/Statutes-and->

Table 1. (continued)

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
New York ¹⁴²	Taxable	Taxable	Exempt	Exempt
North Carolina ¹⁴³	Taxable	Taxable	Exempt	Exempt
North Dakota ¹⁴⁴	Taxable	Taxable	Exempt	Exempt
Ohio ¹⁴⁵	Taxable	Taxable	Taxable	Exempt
Oklahoma ¹⁴⁶	Taxable	Exempt	Exempt	Exempt
Oregon	N/A	N/A	N/A	N/A
Pennsylvania ¹⁴⁷	Taxable	Taxable	Exempt	Exempt
Rhode Island ¹⁴⁸	Taxable	Taxable	Exempt	Exempt
South Carolina ¹⁴⁹	Taxable	Exempt ¹⁵⁰	Taxable	Exempt

Department-Directives/Recent-Regulation-Changes/Gross_Receipts_and_Compensating_Tax_Act.pdf; N.M. CODE R. §§ 3.2.1.7(F)(3), 3.2.1.15(J)(1), 3.2.1.18 (West 2012), available at <http://www.nmcpr.state.nm.us/nmac/parts/title03/03.002.0001.htm>.

142. See N.Y. TAX LAW §§ 1101(b)(6), 1115(a)(35) (McKinney 2012).

143. See N.C. GEN. STAT. ANN. art. 5 (West 2012), available at http://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_105/Article_5.html.

144. See N.D. CENT. CODE ANN. §57-39.2-02.1(1) (West 2011), available at www.legis.nd.gov/cencode/t57c39-2.pdf.

145. See OHIO REV. CODE ANN. § 5739.01(B)(1) (West 2012), available at <http://codes.ohio.gov/orc/5739.01>.

146. See OKLA. STAT. ANN. tit. 68, §§ 1352(24), 1354(A)(1), 1357(32) (West 2012), available at <http://www.oklegislature.gov/osStatuesTitle.aspx>; OKLA. ADMIN. CODE ch. 65 (2012), available at <http://www.tax.ok.gov/rules/PRrules08/PRO65-09.pdf>.

147. See 61 PA. CODE § 60.19 (2012), available at <http://www.pacode.com/secure/data/061/chapter60/s60.19.html>.

148. See R.I. Div. of Taxation, Reg. SU 11-25 (Oct. 1, 2011), available at <http://www.tax.ri.gov/regulations/salestax/11-25.pdf>.

149. See S.C. CODE ANN. REGS. 117-330 (2012), available at <http://www.scstatehouse.gov/coderegs/117.php>; S.C. Rev. Rul. 96-3 (Jan. 12, 1996), available at <http://www.sctax.org/Tax+Policy/Revenue%20Ruling/rr96-3.html>.

150. Prewritten electronic medium is exempt as long as the transaction does not include a

Table 1. (continued)

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
South Dakota ¹⁵¹	Taxable	Taxable	Taxable	Taxable
Tennessee ¹⁵²	Taxable	Taxable	Taxable	Taxable
Texas ¹⁵³	Taxable	Taxable	Taxable	Taxable
Utah ¹⁵⁴	Taxable	Taxable	Exempt	Exempt
Vermont ¹⁵⁵	Taxable	Taxable	Exempt	Exempt
Virginia ¹⁵⁶	Taxable	Exempt ¹⁵⁷	Exempt	Exempt
Washington ¹⁵⁸	Taxable	Taxable	Exempt	Exempt
West Virginia ¹⁵⁹	Taxable	Taxable	Taxable	Taxable
Wisconsin ¹⁶⁰	Taxable	Taxable	Exempt	Exempt

transfer of tangible property. *See* S.C. Rev. Rul. 96-3.

151. *See* S.D. CODIFIED LAWS § 10-45-2 (2012), available at <http://legis.state.sd.us/statutes/DisplayStatute.aspx?Statute=10-45-2&Type=Statute>; S.D. ADMIN. R. 64:06:02:79 (2012), available at <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=64:06:02:79>; S.D. ADMIN. R. 64:06:02:80 (2012), available at <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=64:06:02:80>.

152. *See* TENN. CODE ANN. §§ 67-6-102, 67-6-231, 67-6-702 (West 2012).

153. *See* 34 TEX. ADMIN. CODE 3.308 (2012), available at [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=34&pt=1&ch=3&rl=308](http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=34&pt=1&ch=3&rl=308).

154. *See* UTAH CODE ANN. §§ 59-12-102, 59-12-103 (West 2012), available at <http://www.le.utah.gov/UtahCode/section.jsp?code=59-12>; UTAH ADMIN. CODE r. 865-19S-92 (2012), available at <http://www.rules.utah.gov/publicat/code/r865/r865-19s.htm#T59>.

155. *See* VT. STAT. ANN. tit. 32, §§ 9701(7), 9771(1) (West 2012), available at <http://www.leg.state.vt.us/statutes/sections.cfm?Title=32&Chapter=233>.

156. *See* VA. CODE ANN. §§ 58.1-602, 58.1-609.5 (West 2012), available at <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC5801000000600000000000>.

157. Prewritten electronic medium is exempt as long as the transaction does not include a transfer of tangible property. *See id.*

158. *See* WASH. REV. CODE ANN. §§ 82.04.050(6), 82.04.215 (West 2012), available at <http://apps.leg.wa.gov/rw/default.aspx?cite=82.04>.

159. *See* W. VA. CODE ANN. §§ 11-15-1 to -3 (West 2012), available at <http://www.legis.state.wv.us/wvcode/code.cfm?chap=11&art=15>.

160. *See* WIS. STAT. ANN. §§ 77.51, 77.52 (West 2012), available at <https://docs.legis.wisconsin.gov/document/statutes/ch.%2077>.

Table 1. *(continued)*

State	Prewritten Physical Medium	Prewritten Electronic Medium	Custom Physical Medium	Custom Electronic Medium
Wyoming ¹⁶¹	Taxable	Taxable	Exempt	Exempt

161. See WYO. STAT. ANN. §§ 39-15-101(a)(ix), 39-15-103 (West 2012), available at <http://legisweb.state.wy.us/statutes/statutes.aspx?file=titles/Title39/T39CH12.htm>; WYO. ADMIN. R. ch. 2, § 15(d)(i) (West 2012), available at <http://soswy.state.wy.us/Rules/RULES/8605.pdf>.

APPENDIX B: TABLE II

The following table contains the conclusions of guidance provided by various states in regard to the taxability of cloud computing.

Table 2. State Guidance on Taxability of Cloud Computing

State	Authority	Holding
Arizona	Dep't of Revenue, Taxpayer Info. Rul. LR10-007 (Mar. 24, 2010)	"Taxpayer is engaged in the business of leasing software, and is thus subject to tax under the A.R.S. § 42-5071 personal property rental classification on the gross receipts it derives from activities associated with leases to an Arizona customer. Taxpayer's gross receipts derived from software leased to out-of-state lessees, to out-of-state persons (e.g., using the software exclusively outside the state, [sic] or to persons leasing for resale or re-lease are deductible under A.R.S. § 42-5071. Under any other circumstances, the taxability of Taxpayer's leases to Arizona customers is unaffected by whether such customers allow subsequent use of the property by parties other than the users specifically licensed by Taxpayer. Clients' scope of use of Taxpayer's software offerings does not appear to vary from the localized levels of manipulation and use by clients' CPUs that are standard with any application software, with the only remote aspect being the secondary storage locations of the prewritten software."
	Dep't of Revenue, Taxpayer Info. Rul. LR11-010 (June 22, 2011)	"Company is engaged in the business of leasing tangible personal property in the form of prewritten software and computer hardware, and is thus subject to transaction privilege tax under the personal property rental classification on its gross receipts from activities associated with leases to Arizona customers. To the extent that Company derives gross receipts separately attributable to golf course management and consulting services, such gross receipts would be included in the tax base for the personal property rental classification, as explained in A.A.C. R15-5-1502(D), unless Company can show that it is engaged in a separate line of business of providing these nontaxable services."
Colorado	Dep't of Revenue, Private Ltr. Rul. PLR-11-007 (Dec. 20, 2011)	File storage cloud service is not subject to sales and use tax.
Illinois	Dep't of Revenue, Gen. Info. Ltr. ST 10-0062-GIL (Aug. 4, 2010)	"Information or data that is electronically downloaded is not considered the transfer of tangible personal property in this State. See 86 Ill. Adm. Code 130.2105(a)(3). Please note that canned (prewritten) computer software is considered tangible personal

Table 2. (continued)

State	Authority	Holding
		property regardless of the form in which it is transferred or transmitted, including tape, disc, card, electronic means or other media. See 86 Ill. Adm. Code 130. 1935. Accordingly, if one is not transferring any canned (prewritten) computer software and no tangible personal property of any kind is being transferred, then no Retailers' Occupation Tax or Use Tax would be incurred on the transaction."
Indiana	Dep't of Revenue, Info. Bulletin #8: Sales Tax (Nov. 2011)	"Prewritten computer software maintained on computer servers outside of Indiana also is subject to tax when accessed electronically via the Internet (i.e., "cloud computing"). The accessing of prewritten computer software by Indiana residents constitutes a transfer of the software because the customers gain constructive possession and the right to use, control, or direct the use of the software."
Iowa	Dep't of Revenue, Policy Ltr. 12300002: Cloud Computing (Jan. 11, 2012)	The taxability of cloud computing is not expressly addressed by the Iowa Code. The Department of Revenue has taken the position that where the taxpayer has hosted software accessible to its customers only via the Internet with no software downloaded by or delivered to the customers nor a title transfer or transfer of possession, then the gross receipts from such activity are not subject to sales tax because the sale of downloaded software is not considered a taxable sale.
Kansas	Dep't of Revenue, Op. Ltr. O-2012-001 (Feb. 6, 2012)	"None of the taxable services enumerated in K.S.A. 79-3603 can be construed as hosted software services, services provided by an ASP, or SaaS services. Accordingly, there is nothing in the sales tax imposition statutes that supports taxing charges for hosted software. Technically, the charges for hosted service aren't 'exempted' or 'excepted' from sales tax because tax isn't imposed on the service charges in the first place. Since tax has never been imposed on the services, tax payment and collection duties never exist. Since tax payment and collection duties never exist, there is nothing to carve out a tax exemption from or to draft an exemption for. "Charges for hosted software services are not taxable as sales of 'prewritten computer software' under K.S.A. 79-3603(s) because the software that is installed on a remote server isn't delivered to subscribers or installed on their computers. The service provider has title and possession of the software. The department has ruled that any software that is delivered to a service subscriber that allows the subscriber access to the provider's remote application software is part of the non-taxable service. Such software is not taxable as a sale of prewritten software so long as the software is not billed to subscriber as a separate line item charge."

Table 2. (continued)

State	Authority	Holding
Massachusetts	Dep't of Revenue, Ltr. Rul. 12-8: Cloud Computing (July 16, 2012)	<p><u>"Ruling Requests</u></p> <p>"1. Are sales of Cloud Computing that involve use of the customer's own software or use of open-source (free) software provided by third parties taxable when sold to customers in Massachusetts?</p> <p>"2. Are sales of Cloud Computing that include use of software licensed by Company taxable when sold to customers in Massachusetts?</p> <p>"3. Are separately stated data transfer fees taxable when sold to customers in Massachusetts?</p> <p>"4. Are sales of Remote Storage Service taxable when sold to customers in Massachusetts?</p> <p><u>"Rulings</u></p> <p>"1. Sales of Cloud computing [sic] that involve the customer's use of its own software or software available free on the Internet are not taxable when sold to customers in Massachusetts.</p> <p>"2. Sales of Cloud Computing that use software licensed by Company are taxable when sold to customers in Massachusetts, whether or not there is a separately stated charge for the software and whether or not there is a sub-license of the software to the customer.</p> <p>"3. Separately stated data transfer fees are taxable telecommunications services when sold to customers in Massachusetts provided the sourcing rules in 830 CMR 64H.1.6(4) are met.</p> <p>"4. Sales of Remote Storage Service are not taxable when sold to customers in Massachusetts."</p>
Nebraska	Dep't of Revenue, Info. Guide 6-511-2011: Sales and Use Tax Guide for Computer Software (July 27, 2011)	<p>"Charges by an ASP for services that allow customers remote access to software applications via the Internet or other online connection, sometimes referred to as cloud computing, are not taxable when the ASP retains title to the software and does not grant a license with ownership rights to the customer. This is true regardless of whether the software is located on a server in Nebraska or on a server outside the state. The ASP is responsible, however, for paying sales or use tax on its purchase of software if the software resides on a computer in Nebraska."</p>
New York	Dep't of Taxation & Fin., Advisory Op. TSB-A-09(8)S (Feb. 2, 2009)	<p>"The subscriber has the right to obtain a password that permits access to the platform and allows it to use and control the software. Thus, provision of the second product described above is the sale of pre-written computer software and is subject to tax when provided to a subscriber in New York. The situs of the sale for purposes of determining the proper local tax rate and jurisdiction is the location of the subscriber or its agents or employees who use the software. If the subscriber's employees who use the software are located both in and out of New York State, [seller/provider] must collect tax based on the portion of the receipt attributable to the users located in New</p>

Table 2. (continued)

State	Authority	Holding
		York.”
	Dep’t of Taxation & Fin., Advisory Op. TSB-A-10(28)S (July 2, 2010)	“The location of the code embodying the software is irrelevant, because the software can be used just as effectively by the customer, even though the customer never receives the code on a tangible medium or by download. The accessing of Petitioner’s software by Client A’s employees constitutes a transfer of possession of the software, because Client A gains constructive possession of the software and gains the ‘right to use, or control or direct the use of’ the software. Therefore, petitioner should collect tax from Client A based on where the software is being used.”
	Dep’t of Taxation & Fin., Advisory Op. TSB-A-10(32)S: Sales Tax (July 23, 2010)	“Petitioner’s license of its application software that enables customers to find, filter, and organize company information from the data feeds constitutes the sale of tangible personal property because the licensed software constitutes prewritten computer software as defined in Tax Law section 1101(b)(14), and receipts for the software license would be subject to sales tax under Tax Law section 1105(a). This application software remains a distinct product when sold in conjunction with access to data feeds because a customer can purchase the software or access to the data feed without purchasing the other product and Petitioner bills a separate charge for the software.”
	Dep’t of Taxation & Fin., Advisory Op. TSB-A-10(38)S (Aug. 20, 2010)	“To the extent that these services might be considered information services subject to the taxes imposed pursuant to section 1105(c) of the Tax Law, it appears these services will qualify for the exemption from tax for sales of information which is personal and individual and is not or may not be substantially incorporated into reports submitted to others. Therefore, provided the information as to one client’s activity is not sold, nor available for sale, nor substantially incorporated into reports furnished to other advertisers, and does not contain data from a common data base, the information service being provided by Company X to its clients is personal and individual in nature and is not subject to the sales tax.”
	Dep’t of Taxation & Fin., Advisory Op. TSB-A-10(44)S (Sept. 22, 2010)	“Prewritten software is considered tangible personal property ‘regardless of the means by which it conveyed to a purchaser’ (Tax Law section 1101[b][6]). Retail sales of tangible personal property are subject to sales tax (Tax Law section 1105[a]). A sale includes ‘[a]ny transfer of title or possession or both’ and includes a ‘license to use.’ Sales Tax Regulation section 526.7(e) provides that, in general, ‘a sale is taxable at the place where the tangible personal property or service is delivered or the point at which possession is transferred by the vendor to the purchaser or his designee.’ Sales Tax Regulation section 526.7(e)(4) further provides that, with respect to a ‘license to use,’ a transfer of

Table 2. (continued)

State	Authority	Holding
		possession has occurred if the customer obtains actual or constructive possession, or if there has been ‘a transfer of the right to use, or control or direct the use of tangible personal property.’ ‘[C]onstructive possession’ of software or ‘the right to use, or control’ software for purposes of Regulation section 526.7(e)(4) is determined based on the location where the client uses or directs the use of the software and not on the location of the code embodying the software (TSB-A08[62]S).”
Pennsylvania	Dep’t of Revenue, Sales and Use Tax Rul. SUT-12-001 (May 31, 2012) ¹⁶²	<p>“In the case of taxable canned software accessed remotely that is sold to Taxpayer’s customers, Taxpayer is required to collect sales tax from customers when the user is located in Pennsylvania. Likewise, in the case of the Taxpayer’s employees who use the taxable software purchased by the Taxpayer, the software is subject to use tax in Pennsylvania when the software is used by employees in Pennsylvania. If the billing address for canned software accessed remotely is a Pennsylvania address, then the presumption is that all users are located in the Commonwealth.</p> <p>“The sale and use of software that otherwise would be subject to tax is not subject to sales tax if the end user of the software is located outside of the Commonwealth, even if the cloud server that hosts the</p>

162. Ruling SUT-12-001 comes to the opposite conclusion of and supersedes previous ruling SUT-10-005 (which has been removed from the Department of Revenue’s website as no longer valid). See Pa. Dep’t of Revenue, Sales and Use Tax Rul. SUT-10-005 (Nov. 8, 2010). The old ruling stated:

1. A web-based service that allows for remote assistance and support is not a taxable service if access to the software is solely through the Internet and the server or data center is not located in Pennsylvania.
2. A web-based service that allows remote access to a computer is not a taxable service if access to the software is solely through the Internet and the server or data center is not located in Pennsylvania.
3. Virtual or on-line meetings are not taxable if access to the software is solely through the Internet and the server or data center is not located in Pennsylvania.
4. On-line training sessions that include the distribution of course materials, testing and assessments, publishing upcoming courses to a catalog, and maintaining a reusable content library via an organizer’s computer are not taxable services if access to the software is solely through the Internet and the server or data center is not located in Pennsylvania.

Id. See generally Stephen Blair, *Cloud Computing—A Shift in Pennsylvania Sales Tax Policy*, ALPERN ROSENTHAL (July 6, 2012), <http://www.alpern.com/cloud-computing-tax-policy?print=1>: (discussing the switch in Department’s position on taxation of cloud computing); Sharon R. Paxton, *Pennsylvania Changes Position on Taxation of “Cloud Computing,”* MCNEES WALLACE & NURICK (July 2012), <http://www.mwn.com/pubs/xprPubDetail.aspx?xpST=PubDetail&pub=289#pennsylvaniachanges> (same).

Table 2. (continued)

State	Authority	Holding
		software is located in Pennsylvania.”
South Carolina	Dep’t of Revenue, SC Rev. Rul. 05-13 (Oct. 1, 2005)	In regard to taxability of ASP: “Charges by an Application Service Provider are similar to charges by database access services and are therefore subject to the sales and use tax under the provisions of Code Sections 12-36-910(B)(3) and 12-36-1310(B)(3).” In regard to taxability of maintenance contracts of software delivered over an electronic medium: “Charges for maintenance agreements (whether optional or mandatory) for computer software sold and delivered by electronic means via a modem and telephone line from a remote location are not subject to the tax, provided no part of the software (including back-up diskettes and tapes) that is covered by the maintenance agreement is software delivered by tangible means and provided the “true object” of the maintenance agreement is to acquire services and is not to acquire tangible personal property (e.g. software updates provided by tangible means).”
Texas	Comptroller of Pub. Accounts, Policy Ltr Rul. 200805095L (May 28, 2008)	“[T]axability under Section 151.0035 does not hinge on whether the customer does some or all of the entry of the data that is processed in a taxable manner by a vendor such as Taxpayer, nor does it restrict how much preliminary data preparation may be performed by the customer. Data entry is merely one form of taxable data processing services, not a prerequisite to a finding of taxable data processing. There have been numerous instances where a company has been found to be providing taxable data processing services, despite the fact that its customers input the data that is processed.”
Utah	State Tax Comm’n, Final Priv. Ltr. Rul. 08-012 (Jan. 21, 2009)	“In this present situation, similar to PLR’s 01-027 and 08-002, Corporation A sells the prewritten computer software, which its customers access remotely. Following the logic of PLR 01-027, Corporation A’s customers possess the software when the software is downloaded onto the ASP server, which the customers are leasing. However, because the ASP’s server is not located in Utah, the customers do not possess the software in Utah and the sales transactions are not taxable by Utah. The customers’ remote access of the software without downloading the software onto a computer located in Utah does not create possession of the software in Utah. Instead, such access is akin to merely going to an internet site and viewing a database without downloading the software, as discussed in PLR 01-027. PLR 08-002 is clearly distinguishable from the present case because the servers for PLR 08-002 were located in Utah while the service in this case is not. In PLR 08-002, because the servers with the software were located in Utah, the Base Service fee was taxable. In the present case, because the server is located outside of Utah, Corporation A’s services are not

Table 2. *(continued)*

State	Authority	Holding
		taxable by Utah. Basically, this factual difference of the servers' locations throws the current situation outside the imposition of the tax that occurred in PLR 08-002."
Vermont	An Act Relating to Miscellaneous Tax Changes for 2012, House Bill No. 782 (adopted May 15, 2012)	<p>"The imposition of sales and use tax on prewritten computer software by 32 V.S.A. chapter 233 shall not be construed to apply to charges for remotely accessed software made after December 31, 2006. Taxes paid on such charges shall be refunded upon request if within the statute of limitations and documented to the satisfaction of the commissioner. 'Charges for remotely accessed software' means charges for the right to access and use prewritten software run on underlying infrastructure that is not managed or controlled by the consumer."</p> <p>Section 52 of the Act created a committee to study issues related to the taxation of software as a service to report to the Vermont house and senate by January 15, 2013.</p>
Washington	Dep't of Revenue, Special Notice (Nov. 2, 2010)	<p>"The Department has determined that online searchable databases (OSD) are digital automated services (DAS). As such, they do not qualify for the exemption provided for digital goods used solely for a business purpose. OSDs are subject to retail sales or use tax unless some other exemption applies. In recognition of prior inconsistent advice, and in order to accommodate taxpayers adjusting to this guidance, the Department will accept prior reporting of exempt or taxable sales. However, as of January 1, 2011, the Department will enforce this policy."</p>