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Cloud Computing And State Sales Tax

Tuan Q. Ngo*

Once a significant source of states' revenue and at times raising more revenue for states than any other single source, the state sales tax systems in state public finance now face formidable challenges. The growth of cloud computing brings to light the inherent flaw in a tax system that hinges taxability on whether the transaction is a transfer of tangible property or a service. While some states have extended their sales taxes to apply to cloud computing services, others have explicitly determined that such services are not taxable. Drawing the distinction between tangible property versus service as the basis for imposing sales tax is no longer a workable framework for cloud computing services. Addressing the systemic problem of the sales tax system requires shedding this outdated paradigm. This Note examines the piecemeal efforts undertaken by states to tax remotely accessed software transactions and the underlying rationales that support these policy decisions. The paper argues that the current framework is outdated for justifying the taxability of cloud computing services. The Note will examine the evolving tax treatment of software transactions, which provides a logical starting point for anticipating how states may tax cloud computing services in the future. The Note will also categorize the different models currently used by states to impose sales tax on access to hosted software and online databases. Next, the Note will critique the theoretical foundations that underlie these different models before arriving at a theory that is more sound and satisfactory. Finally, the Note recommends best practices for taxing software services by examining Washington's model.

* J.D. Candidate, 2013, University of California, Hastings College of the Law; B.A., Occidental College. I would like to thank Professor Darien Shanske for his insights to Professor Heather Field for her editorial guidance. This Note would not have been possible without the ongoing support of Charles "Mac" Powell.

I. INTRODUCTION

The state sales tax systems began over 70 years ago as a temporary revenue measure during the Great Depression.¹ Since then, sales and use taxes have become significant sources of state revenue, at times raising more revenue for states than any other single source and consistently accounting for more than a third of the revenue collected by state governments.² The predominance of sales and use taxes in state public finance faces formidable challenges, however, as Constitutional, technological, economic, and political forces chip away at the states' reliance on the tax.³ Sales tax revenue has continued to fall since the 1970s as a percentage of total tax revenue, and in 1998, the personal income tax replaced the sales tax for the first time as the leading source of revenue for the states.⁴ States have since raised roughly equal amounts from personal income and sales taxes—\$245 billion and \$227 billion in 2009, respectively.⁵ At this rate, public finance experts anticipate that sales tax revenue will continue to decline as a percentage of state tax revenue.⁶

The change in revenue yield is primarily due to the overall performance of the economy. Today's state tax systems have remained largely unchanged from 70 years ago when the economy was substantially dependent on manufacturing.⁷ Since then, the economy has dramatically shifted to services and intellectual property.⁸ Businesses today are mobile and ever more virtual. Electronic commerce allows transactions to occur globally and completely within the virtual space. A 2004 study estimated that internet sales would reach \$329.6 billion by 2008, but total e-commerce actually reached over \$3.7 trillion that year.⁹

1. David Brunori, *State Tax Policy: A Political Perspective* 1 (3d ed. 2011) [hereinafter Brunori].

2. *Id.* at 61. In 2009, for example, states raised over \$227 billion from sales tax. *Id.*

3. *Id.*

4. *Id.* In 1998, the personal income tax accounted for almost 34 percent of state tax revenue, while the sales tax accounted for just under 33 percent. *Id.* at 62. Sales tax base as a percentage of personal income fell from 51.4 percent in 1979 to 42.8 percent in 1998. *Id.* at 145 n. 12 (citing Donald Bruce & William F. Fox, *E-Commerce in the Context of Declining State Sales Tax Bases*, 53(4) *National Tax Journal* 1373, 1374 (2000)).

5. Brunori, *supra* note 1, at 62.

6. *Id.* at 72 (citing David Brunori, *Interview: John L. Mikesell on the Present and Future of the Sales Tax*, 17 *State Tax Notes* 1369 (1999)).

7. Brunori, *supra* note 1, at 1–2.

8. *Id.* at 2.

9. *Id.* at 69–70 (citing Donald Bruce & William F. Fox, *State and Local Sales Tax Revenue Losses from E-Commerce: Estimates as of July 2004*, 33 *State Tax Notes* 511, 511–18 (2004)).

Yet, states have been slow to change and this failure to keep pace has eroded their tax bases. Research shows that states lost about \$170 million in sales tax revenue in 1998.¹⁰ That number grew to an astounding \$7.2 billion in 2007,¹¹ proving that the cost of states' antiquated taxing systems is significant. Projections of lost sales tax revenue in 2012 are as high as \$12.6 billion.¹²

The growth of cloud computing further brings to light the inherent flaw in a tax system that hinges taxability on whether the transaction is a transfer of tangible property or a service.¹³ While some states have extended their sales taxes to apply to cloud computing services, others have explicitly determined that such services are not taxable. Distinguishing between tangible property versus service as the basis for imposing sales tax is no longer a workable framework for cloud computing services. Addressing the systemic problem of the sales tax system requires shedding this outdated paradigm.

This paper examines the piecemeal efforts undertaken by states to tax remotely accessed software transactions and the underlying rationales that support these policy decisions. The paper argues that the current framework is outdated for justifying the taxability of cloud computing services. To begin, Section II provides a brief overview of cloud computing. Section III examines the evolving tax treatment of software transactions, which provides a logical starting point for anticipating how states may tax cloud computing services in the future. Section IV categorizes the different models currently used by states to impose sales tax on access to hosted software and online databases. Section V dissects and critiques the theoretical foundations that underlie these different models and presents a theory that is more sound and satisfactory. Section VI recommends best practices for taxing software services by examining Washington's model. Finally, Section VII concludes.

II. CLOUD COMPUTING

In general, cloud computing is an arrangement wherein a provider allows customers to access—usually through the internet or mobile device—IT resources, applications (software), and computer data over

10. Brunori, *supra* note 1, at 69–70 (citing Robert J. Cline & Thomas S. Neubig, *The Sky is Not Falling: Why State and Local Revenues Were Not Significantly Impacted by the Internet in 1998*, 17 *State Tax Notes* 43, 43–46 (1999)).

11. Brunori, *supra* note 1, at 69–70 (citing Donald Bruce, William F. Fox, & LeAnn Luna, *State and Local Sales Tax Revenue Losses from E-Commerce*, 52 *ST. TAX NOTES* 537, 537–58 (2009)).

12. Brunori, *supra* note 1, at 69–70.

13. Brunori, *supra* note 1, at 72.

which the provider retains control.¹⁴ Rather than hosting its own IT infrastructure, customers pay a fee in return for the ability to remotely access software, store and run applications, and build their own applications, all hosted on the cloud maintained by a third party.¹⁵ As a result, businesses benefit from tremendous cost savings and efficiency from not having to purchase and maintain IT infrastructure.¹⁶ Cloud computing is a generic term that covers three distinct categories of services:¹⁷

- Software as a service (“SaaS”), which allows consumers to access software application owned and housed on the vendor’s server, often in datacenters outside of the customer’s state;¹⁸
- Platform as a service (“PaaS”), which allows customers to run their application on the vendor’s server;¹⁹
- Infrastructure as a service (“IaaS”), which provides the consumer with processing, storage, network capabilities, and other computing resources for the consumer to deploy and run software, including operating systems and applications.²⁰

As cloud computing services have become a normal aspect of business practices, and as the market for cloud computing services continues to balloon, state tax authorities’ appetite to tax certain cloud computing services also increases.

III. TAXATION OF COMPUTER SOFTWARE²¹

Cloud computing has raised a number of tax issues reminiscent of decades earlier when states attempted to extend sales tax to computer

14. Timothy P. Noonan, *Nuts-and-Bolts Answers on Cloud Computing*, 65 ST. TAX NOTES 527, 527 (2012).

15. See *supra* note 14.

16. Noonan, *supra* note 14.

17. Peter Mell & Tim Grance, “*The NIST Definition of Cloud Computing*,” *National Institute of Standards and Technology*, NIST Special Publication 800-145, at 2-3 (Sept. 2011), available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>, [hereinafter *NIST*].

18. *Id.* at 2 (consumers have no control over the network, servers, operating systems, storage, or application capabilities (the underlying cloud infrastructure)).

19. *Id.* at 3 (similar to the SaaS model, consumers do not manage or control the underlying cloud infrastructure, but have control over the deployed applications, and possibly the application hosting environment configurations).

20. *Id.* at 3 (consumers do not manage or control the underlying cloud infrastructure but have control over operating systems, storage, deployed applications, and, possibly, limited control of select networking components).

21. This section of the note summarizes and builds on the research conducted by Carolynn Iafrate Kranz & Iris Kitamura, *Taxing Software and Cloud Computing: Yesterday’s Law, Today’s Technology*, 62 ST. TAX NOTES 737 (2011), available at www.industrysalestax.com/docs/TaxingSoftwareCloudComputing.pdf.

software. As states now struggle with how to tax cloud computer transactions, many are using existing computer software provisions to tax these services based on the idea that the software itself is what is being used to provide cloud-based services.²² Examining the evolving application of sales and use taxes to software transactions will provide a roadmap for how states may treat cloud computing transactions.

A. TAXABLE TANGIBLE PROPERTY VS. NONTAXABLE SERVICES

All states that subject software to sales tax do so on pre-written or “canned” software sold at retail stores.²³ Canned software is typically mass-produced, not customized to customers’ specifications, and available to customers at a store, such as when an individual buys a copy of Microsoft Office at a consumer electronics store. Most of the states that tax canned software, however, also exempt custom software from sales tax and often treat such transactions as nontaxable services.²⁴ Custom software is generally defined as “software created, written, and designed for the exclusive use of a specific customer and sold to the customer for whom it was designed.”²⁵ New Jersey, for example, treats the purchase of custom software as a “nontaxable professional service transaction” not subject to sales tax.²⁶ However, other jurisdictions, including the District of Columbia, Tennessee, and West Virginia, do not distinguish between canned and custom software and subject both to sales tax.²⁷

22. See *supra* note 21, at 737.

23. Kranz & Kitemora, *supra* note 21.

24. *Id.* at 738.

25. See *id.* (citing N.J. Admin. Code § 18:24-25.1; Cal. Rev. & Tax Code § 6010.9(d) (“Custom computer program means a computer program prepared to the special order of the customer and includes those services represented by separately stated charges for modifications to an existing prewritten program which are prepared to the special order of the customer”); Pa. Policy Statement, 61 Pa. Code § 60.19 (“Custom software is computer software designed, created and developed for and to the specifications of an original purchaser”)).

26. See *id.* (citing N.J. Tech. Bul. TB-51R (July 5, 2011); Ala. Admin. Code § 810-6-1-.37(5) (“Custom software programming is not subject to tax regardless of the manner or medium of transfer to the customer since the charge for the custom software programming is a charge for professional services.”)).

27. See *id.* (citing D.C. Mun. Reg. section 474.4 (stating that sales tax applies to “gross receipts from the sale, lease, or rental, or maintenance of any computer software shall be subject to the tax . . . regardless of whether the software is canned, prepackaged or customized.”); Tenn. Code Ann. 67-6-231(a) (providing that “the retail sale, lease, licensing, or use of computer software in this state, including prewritten and custom computer software, shall be subject to the tax”); W. Va. Code §§ 11-15-3(g), 11-15B-2(b)(57) (providing that tangible personal property includes both prewritten and custom software)).

B. SOFTWARE DELIVERED VIA TANGIBLE MEDIUM VS. ELECTRONICALLY

In addition to distinguishing between pre-written and customized software, some states have based sales tax on the delivery method of the software to customers. Specifically, some states distinguish between software delivered via a tangible medium (such as a compact disk) and software delivered electronically.

Before the Internet made electronic delivery possible, taxpayers could take delivery of software by the “load and leave” method. Under this method, the software vendor “travels to the customer’s place of business to install software using tangible storage media [and] [o]nce the installation is complete, the tangible storage medium is not physically transferred to the customer but taken away by the vendor.”²⁸ Some states have declined to tax the sale of canned computer software delivered by this method based on the underlying logic that, since the vendor does not transfer over possession of the tangible property, no tangible property has been transferred.²⁹ For example, the Missouri Administrative Hearing Commission recently ruled in *FileNet Corp. v. Director of Revenue*³⁰ that a transaction involving software transferred by the load and leave method to a Missouri purchaser is not subject to Missouri use tax because 1) the use of the USB drive to transfer the software is not a tangible medium contemplated by the regulation; and 2) the sale did not constitute a sale of tangible property.³¹ The court concluded that only “canned programs delivered in a tangible medium that are transferred to and retained by the purchaser” are subject to tax.³²

While the taxability of load and leave transactions is rarely a point of controversy, given the emergence of newer technologies for delivering computer software,³³ the idea that the purchaser must retain the physical medium on which the software is transferred to be subject to tax persists even in light of evolving technologies. As such, for some states, the decision not to tax canned software delivered electronically turns on the idea “that the sale does not involve the transfer of tangible personal property.”³⁴ Notwithstanding the

28. Kranz and Kitamura, *supra* note 21, at 739.

29. These states include Arkansas, California, Georgia, Nevada, Virginia, and Colorado. *Id.* (citing Ark. Reg. GR-25B; Ark. SST Tax Matrix (Sept. 2011); Cal. Reg. 1502(f)(1)(D); Ga. Reg. 560-12-2-.111(6)(a); Nev. Admin. Code 372.880; Va. Rul. of Tax Comm., P.D. 96-143 (June 20, 1996); Colo. Dept. of Rev., “FYI Tax Publication Sales” 89 (July 1, 2011)).

30. *FileNet Corp. v. Director of Revenue*, No. 07-0146 RS, 2010 WL 3781988 (Mo. Admin. Hrg. Comm. Aug. 20, 2010).

31. Kranz & Kitamura, *supra* note 21, at 738 (citing *FileNet Corp.*, 2010 WL 3781988 at *12).

32. *See id.* (citing *FileNet Corp.*, 2010 WL 3781988 at *17).

33. Kranz & Kitamura, *supra* note 21, at 739.

34. *See id.* These states include California, Florida, Missouri, South Carolina, Virginia, and

decision in *FileNet Corp.*, most states that tax software do so regardless of how it is transferred.³⁵ Pennsylvania was among those states that have struck down long-standing policies of exempting the sale of canned software delivered electronically from sales tax when, in 2005, the Pennsylvania Commonwealth Court in *Graham Packaging Co., LP v. Commonwealth* held that canned software is taxable regardless of the delivery medium.³⁶ The court adopted the “essence of the transaction” test and concluded that canned software at issue was tangible personal property because “the purchaser is acquiring an electronic copy of a computer program that is stored on the customer’s hardware, takes up space on the hard drive and can be physically perceived by checking the computer’s files.”³⁷ Thus, canned software would be subject to sales tax, regardless of the delivery method.

C. OWNERSHIP RIGHTS VS. LICENSE USES

Finally, some states determine the taxability of software by distinguishing between the types of rights in the software given to the customer upon their purchase. A few states are of the opinion that “if a customer receives merely a license to use the software—rather than an absolute ownership interest in the software—there has not been a taxable transaction.”³⁸ Other states assert that the transaction is taxable regardless of the rights received by the customer.³⁹

Illinois, for example, has recently provided that a license of computer software is not taxable if it meets all of the following criteria:

Colorado. *Id.* at 738 (citing § Fla. Admin. Code Ann. 12A-1.062(5) (“The charge for furnishing information by way of electronic images which appear on the subscriber’s video display screen does not constitute a sale of tangible personal property”); Mo. PLR No. LR 1452 (Apr. 3, 2003) (when software is delivered via the internet, there is no transfer of tangible personal property); Cal. Code Reg. § 1502(f)(1)(D); S.C. Rev. Rul. No. 05-13 (Aug. 21, 2005); Va. Public Doc. Ruling No. 05-44 (4/4/2005); Colorado Department of Revenue, “FYI Tax Publication Sales” 89 (July 1, 2011) (effective July 1, 2012, software not delivered to the customer in a tangible medium if it is delivered electronically, and as such, it is not subject to Colorado sales and use tax)).

35. *See, e.g.*, Idaho Code § 63-3616(b) (providing that software is tangible personal property “regardless of the method by which the title, possession or right to use the software is transferred to the user”); Ill. Adm. Code 130.1935 (providing that canned software is tangible personal property “regardless of the form in which it is transferred or transmitted”); Kan. Rev. Rul. No. 19-2004-03, 07/01/2007.

36. Kranz & Kitamura, *supra* note 21, at 738 (citing *Graham Packaging Co., LP v. Commonwealth*, 882 A.2d 1076 (Pa. Cmwlth. Ct. 2005) (concluding that the parties’ focus on the delivery method was misplaced where taxpayer sought a refund of sales tax paid on the purchase of software renewal licenses, the court instead adopted the essence of transaction test and concluded that the canned software was tangible personal property)).

37. *See id.* at 739 (citing *Graham Packaging*, 882 A.2d at 1086).

38. Glickman & Petrik, *National Sales and Use Tax Update: Keeping Pace in the 21st Century*, Alston & Bird LLP, 34.

39. *Id.*

(1) it “is evidenced by a written agreement”; (2) it “restricts the customer’s duplication and use of the software”; (3) it prohibits the user from transferring the software to a third party without permission; (4) the “licensor has a policy of providing another copy at minimal or no charge if the customer loses or damages the software” or permitting an archival copy; and (5) the software must be returned or destroyed at the end of the license period.⁴⁰ Similarly, the Pennsylvania Supreme Court in *Dechert LLP v. Pennsylvania* held that the license fees for renewal of software licenses were subject to sales and use tax because the grant of a license to use tangible personal property for a fee is considered a “sale at retail.”⁴¹

Observing the different tax treatment of software delivered electronically is informative for how states may treat cloud computing transactions. Many issues raised by electronically delivered software apply to cloud computing transactions, including whether the transaction involves a transfer of tangible personal property and how the mode of delivery and types of rights granted affects the tax treatment of the transaction. Cloud computing, however, poses new questions, such as whether the transaction involves a good or service. These issues will be addressed below.⁴²

IV. CLOUD COMPUTING

A. TAXABILITY OF CLOUD COMPUTING SERVICES

Cloud computing was a \$91.4 billion business in 2011 and is projected to grow to \$206.6 billion in 2016.⁴³ Keen to the tax revenue that could be had, a handful of states have extended their sales and use taxes to cloud computing services. Whether a transaction is taxable depends on the character of the transaction. Generally, states that impose a sales tax do so on sales of tangible personal property, unless the property is specifically exempted or falls under enumerated

40. Ill. Dep’t of Revenue Gen. Info. Letter No. ST 10-0077-GIL, 08/23/2010, available at www.tax.illinois.gov/legalinformation/Letter/rulings/st/2010/ST-10-0077.pdf.

41. Kranz & Kitamura, *supra* note 21, at 739 (citing *Dechert LLP v. Pennsylvania*, 922 A.2d 87 (Pa. Cmwlth. Ct. 2007)).

42. Significant sales/use tax issues facing cloud computing services providers include: 1) In which state does the cloud provider have a sale/use tax collection responsibility; 2) What is the character of the sales transaction; 3) How should the sales be sourced?

43. Press Release, Gartner, Gartner Says Worldwide Cloud Services Market to Surpass \$109 Billion in 2012 (Sept. 18, 2012), <http://www.gartner.com/it/page.jsp?id=2163616>.

services (as services are generally not subject to sales tax).⁴⁴ Thus, a transaction characterized as a service is less likely subject to sales tax than a sale of tangible personal property.⁴⁵

Determining the appropriate character of cloud computing transactions is especially difficult for both states and taxpayers. Numerous issues arise in the context of taxing cloud computing, primarily: (1) whether such transactions involve a sale, a license or prewritten software; (2) whether the transaction is characterized as a service, and if so, which type; and (3) the applicability of the “true object of the transaction” test,⁴⁶ as it could be in the case of mixed service and tangible personal property transactions.⁴⁷

This section will proceed by first providing an illustrative example of the complexity of characterizing and taxing transactions occurring in the cloud. Next, using this example, the section will run through the different ways various states have characterized such transactions. With this as a basis, the proceeding section pinpoints the theoretical underpinnings of these various methods and illustrates why they are flawed in the context of cloud computing.

1. Illustrative Example

To illustrate the complexity of cloud computing transactions, consider the following example: 24 Hour Fitness (a cloud computing customer) contracts with Salesforce (a cloud computing service provider) to provide 24 Hour Fitness with application software that manages its various sales and management reporting activities. In a cloud computing context, 24 Hour Fitness does not download any particular software onto its computers; instead, it accesses the software via the internet, where employees of 24 Hour Fitness must log onto Salesforce via Salesforce.com. Once logged on, 24 Hour Fitness employees can upload sales data and retrieve various sales and management reports—the data entered is stored on Salesforce’s

44. Michelle Andre, *What’s News in Tax: Sales and Use Taxation in the Clouds*, KPMG, 5 (Jul. 12, 2010), www.us.kpmg.com/microsite/taxnewsflash/2010/Jul/Sales_and_Use.pdf.

45. *Id.*

46. Kimberley M. Reeder, Esq. & Margaret C. Wilson, Esq., McDermott Will & Emery, LLP, True Object of Transaction and Taxation of Services at the ABA/IPT Advanced Sales & Use Tax Seminar (Mar. 29, 2006), available at www.meetings.abanet.org/meeting/tax/IPT06/media/wilson.pdf (“Generally, sales tax is imposed on all sales of tangible personal property subject to numerous exceptions A single transaction at a single price may encompass the sale of a taxable item (or a service) and a nontaxable item (or service). In these circumstances, it is generally necessary to discern whether the ‘true object’ of the transaction was the sale of the taxable item/service or the nontaxable item/service.”).

47. Glickman & Petrik, *supra* note 38, at 20.

servers, which could be located anywhere, or in multiple places. 24 Hour Fitness employees are located throughout the country; the company pays Salesforce a monthly subscription fee to access software hosted in Salesforce's datacenters. Is the monthly fee that 24 Hour Fitness pays to Salesforce taxable? If so, what theoretical framework supports such a tax?⁴⁸

2. Different Ways of Imposing Sales Tax on Cloud Computing Services

States have generally characterized cloud-hosted software into these broad groups: 1) sale/lease of tangible personal property; 2) sale of software and pre-written software; 3) sale of taxable enumerated services as informational services and/or data processing services; and 4) sales of non-taxable services.⁴⁹

i. Access to Hosted Software is a Nontaxable Information Service

Some states concluded that access to hosted software is not a conveyance of tangible property. Instead, these states have characterized access to software via the internet as a conveyance of information—the customer does not receive software nor is the software downloaded onto the customer's computers in this conveyance. States that only tax tangible personal property concluded that because electronically transmitted information does not involve

48. Query how might the analysis of our Salesforce hypothetical change if Salesforce outsourced its infrastructure to an outside vendor, like Oracle; in other words, if Salesforce hosted all its data on Oracle's servers. In this scenario, customers sign into Salesforce.com to access Salesforce's software but the software is now hosted on Oracle's platform and all of the customers' information is located on Oracle's servers in datacenters located in various states or countries.

In the first transaction, Oracle is making a sale to Salesforce, which in turn makes a sale to 24 Hour Fitness, the second transaction. In the first transaction, Salesforce is the consumer while Oracle is the provider of infrastructure services. In the second transaction, Salesforce is the provider of hosted software and 24 Hour Fitness is the customer. Thus, there would be taxes imposed on at least two levels. Ideally, sales and use tax should not be levied on consumption of business inputs because serious problems can result. *See* Brunori, *supra* note 1, at 73–74 (“From a theoretical perspective, the tax was designed as a level on personal consumption—leaving no basis for taxing products or services before consumption occurs. When business inputs are subject to tax, the ultimate product price will contain the tax. Thus, consumers are taxed on the tax itself, an effect known as pyramiding.”). The goal of this paper is to argue that states should not impose tax on business inputs.

49. Glickman & Petrik, *supra* note 38, at 21 n. 108 (stating that tax cloud computing services as information services include Florida, Massachusetts, New Jersey, New York, Oklahoma, and West Virginia; that tax cloud computing services as data processing service include Minnesota, Mississippi, North Dakota, Rhoda Island; that tax cloud computing services as both information and data processing services include Connecticut, DC, Hawaii, New Mexico, Ohio, South Dakota, and Texas); *see also* Andre, *supra* note 44, at 5 (citing Jerome R. Hellerstein & Walter Hellerstein, *State Taxation* 12.04 (3d ed. 1998)).

an exchange of tangible personal property, the transfer is deemed not taxable.⁵⁰ Furthermore, in their view, the distinction between software and access to hosted software is as follows: Software provides “a set of statements, data, or instructions that is used directly or indirectly in a computer in order to bring about a certain result.”⁵¹ But data conveyed to customers who access hosted software is merely information that neither directly nor indirectly brings about a certain result. The distinction supports the conclusion that while the conveyance of tangible personal property is taxable,⁵² sales involving hosted software are not.⁵³

When 24 Hour Fitness’ employees access and run reports on Salesforce.com, the reports are deemed information services because 24 Hour Fitness has not downloaded the software onto its computers to allow it to use the software independent of the hosted service. In short, sales or use tax on the software does not apply when the object of the transaction is acquiring a good or service, such as information service.

50. Florida, Illinois, and Massachusetts have found that the sales of digital authentication certificates involve the conveyance of information where no software was actually downloaded to the clients’ computer, and as such, there was no transfer of tangible personal property or prewritten software and thus not taxable. See Florida Technical Assistance Advertisement 10A-051 (Fla. Dep’t of Rev. Dec. 6, 2010); ST 11-0015-GIL (Ill. Dep’t of Rev. Mar. 29, 2011) (Ill. Sales Tax Letter Ruling); Mass. Letter Ruling No. 11-3 (Mass. Dep’t of Rev. Mar. 24, 2011); see Glickman & Petrik, *supra* note 38, at 25–26.

51. Glickman & Petrik, *supra* note 38, at 25–26 (citing Ill. Sales Tax Letter Ruling ST 11-0015-GIL (Ill. Dep’t of Rev. Mar. 29, 2011)). The taxpayer provided that digital authentication certificates provided to customers were not computer software because the certificates were flat files containing only information and not used directly or indirectly to bring about a certain result. *Id.* Digital certificates are akin to a digital product because only data or information is being conveyed. *Id.* There is no transfer of personal property where nothing is downloaded to the customer’s computer, and therefore the digital certificates are not a transfer of tangible property and are not taxable. *Id.*

52. Glickman & Petrik, *supra* note 38, at 26 (citing Kan. Opinion Letter No. 0-2010-005 (Kan. Dep’t of Rev. June 6, 2010)).

53. Kendall Houghton & Maryann Luongo, *No Improved Visibility for Cloud Computing Taxation*, 61 State Tax Notes 69, 72-3 (2011) (citing Mass. Letter Ruling No. 11-4 (Mass. Dep’t of Rev. Mar. 24, 2011)) (technology company’s online services providing information services to its customers based on data it gathers from prospective employees and then provides this information to its customers in a report is a nontaxable sales of service because the services do not involve the transfer of prewritten software or a license to use software. The objective of the transaction was the database access, rather than the use of software.). See also Mass. Letter Ruling No. 08-6 (Mass. Dep’t of Rev. Mar. 26, 2008) (online access to prescription information was not taxable, even though customers received software to allow them to access and view the information); Glickman & Petrik, *supra* note 38, at 26 (citing Mass. Letter Ruling No. 08-5 (Mass. Dep’t of Rev. Mar. 24, 2008)) (“[A]ccessing the taxpayer’s website to receive data was a nontaxable service rather than a taxable software license.”).

ii. Access To Hosted Software is Deemed Constructive Ownership

In a series of advisory opinions, the New York Department of Taxation and Finance has held that the sale (license) of software-based services is taxable where the customer has access to servers that allow the customer to manage functions and where the customer has the ability to enter data.⁵⁴ Such access by customers constitutes a transfer of possession of the software, because “the customers gain constructive possession of the software, and gain the ‘right to use, or control or direct the use’ of the software.”⁵⁵ On the other hand, where the software provider, Salesforce, alone inputs the information, the transaction is a nontaxable service.⁵⁶

It appears that the transaction between 24 Hour Fitness and Salesforce under the New York advisory opinions would not be taxable. While 24 Hour Fitness has the ability to enter sales data on Salesforce.com, it does not have access to the servers. Following New York’s precedent would exempt a sizable amount of transactions resembling the 24 Hour Fitness and Salesforce scenario indicated here, where the customers do not gain access to the servers or have the ability to manipulate the source code in other cases to direct the use of the software.

iii. Location of the Hosted Software Provider or Their Datacenters

In some states, taxability turns on the location of the hosted software provider. If Salesforce were domiciled in Arizona, for example, Arizona would most likely characterize the transaction as the lease of tangible personal property because the customer has the right to use the software for a specified period.⁵⁷ Thus, Arizona would impose the use tax on the hosted software provider.

54. Glickman & Petrik, *supra* note 38, at 21 (citing Advisory Opinion No. TSB-A-09(33)S (Aug. 13, 2009)) (stating that customers had access to servers that allowed the customers to manage certain transportation functions); Advisory Opinion No. TSB-A-09(8)S (Feb. 2, 2009) (“[T]he sale of a software-based service that allowed financial institutions to edit terms of loans was taxable when the customer could directly enter and edit information . . .”).

55. *See id.* (citing Advisory Opinion No. TSB-A-09(33)S (Aug. 13, 2009); Advisory Opinion No. TSB-A-09(8)S (Feb. 2, 2009)).

56. *See id.*

57. Ariz. Priv. Taxpayer Rul. Nos. LR04-010 (Nov. 12, 2004) and LR05-008 (Sept. 8, 2005); Andre, *supra* note 44, at 5–6; Houghton & Luongo, *supra* note 53, at 71 (stating that on June 17, 2011, Texas Governor Rick Perry signed into law HB 1841, which states that a company providing internet hosting services is not engaged in business within the state of Texas and thus not subject to taxation within the state. HB 1841 defines internet hosting to mean providing computer services over the internet using equipment that the provider owns. The user may process its own data or use the provider’s software or its own on the equipment. Internet hosting does not include telecommunication services).

Alternatively, states have also imposed sales taxes on the entity that has datacenters in those particular states.⁵⁸ If Salesforce has datacenters in Arizona or Pennsylvania, monthly charges are taxable to Salesforce⁵⁹ as a lease of the software license,⁶⁰ or lease or rental of server space if the datacenters were located in Utah.⁶¹ Thus, the entity owning the datacenters—Salesforce—is subject to sales/use tax in these states. This tax would only apply on sales within the states.

V. CRITIQUE AND THEORIES OF CLOUD COMPUTING TAXATION

The distinction between tangible versus intangible, and service versus non-service is no longer a workable framework for present commercial realities, as cloud computing blurs these arcane classifications. Addressing this systemic problem requires shedding conceptions of these binaries as they relate to cloud computing. This process must begin by re-conceptualizing what property rights or services are transferred during a cloud computing transaction, and

58. Andre, *supra* note 44, at 6 (citing Kansas PLR 2009-005 (June 26, 2009)) (access to hosted services is non-taxable service where the server on which the software is stored is not located in Kansas); Houghton & Luongo, *supra* note 53, at 70-71 (citing Priv. Ltr. Rul. No. P-2011-004 (June 16, 2011)) (the fee charged for a code to access the third-party server is not subject to Kansas sales or use tax, whether sold in a physical retail environment or via the internet. Kansas does not tax a provider's charges that allow a customer to electronically access information on a remote server.). A taxpayer is not deemed to be engaged in business within Texas by the mere existence of datacenters alone. Houghton & Luongo, *supra* note 53, at 71.

59. Glickman & Petrik, *supra* note 38, at 26-27 (citing Pa. Sales & Use Tax Rul. No. SUT-10-005, 11/08/2010) (access to software solely through the Internet is not a taxable transfer of software, unless the server resides in Pennsylvania); Ariz. Taxpayer Information Rul. LR10-007 (Mar. 24, 2010); Houghton & Luongo, *supra* note 53, at 70 (taxpayer who licenses software supported on servers in Arizona is deemed to be engaged in the licensing of tangible personal property. When the taxpayer licenses server software, "it is 1) delivered by the taxpayer on the physical media or electronically to the server location; or 2) is delivered to the data center in Arizona either on media or electronically and then is distributed by the licensee to server locations." The taxpayer licensed midrange software at data processing centers in Arizona and installed the midrange software on a distributed basis worldwide.).

60. *Id.* (taxpayer is subject to tax under personal property rental classification where customer has purchased a subscription to use the software that terminates if the customer stops paying the subscription fee; the taxpayer leases the software as opposed to owning the software license.)

61. Glickman & Petrik, *supra* note 38, at 24 (citing Utah Priv. Ltr. Rul. No. 08-002 (06/10/2009)) ("the hosting of the software and customer databases is [] taxable as a 'lease' or 'rental' of server space" based on the fact that the ASP servers were located in Utah." Taxpayer provided a software-supported service for automobile dealerships that helps automate the dealerships sales and accounting and was used to communicate with automobile manufacturers with respect to items such as sales, data, parts and inventory. Relying on the "primary purpose of the transaction" test, the commission found that the transfer of the right to use the software was taxable, as the contract for the ASP was essentially a personal property transaction.).

how they transfer. There are a number of theories to support taxing this transaction. This section will analyze the theoretical underpinnings of the different tax schemes employed by the various states described above.

A. CONVEYANCE OF TANGIBLE PERSONAL PROPERTY

The first theory that analogizes the transaction as the sale of tangible personal property—such that Salesforce transfers the software to 24 Hour Fitness—is unsatisfactory in the hosted software context. Salesforce does not deliver the software to 24 Hour Fitness in any conceivable form: Salesforce neither delivers the software in a tangible medium (such as a compact disk) nor electronically since the software remains on its computers or servers. The software is entirely in Salesforce’s possession, and resides on Salesforce’s servers or Salesforce-controlled contractor servers. 24 Hour Fitness cannot independently access the software without logging onto Salesforce.com. As such, the theory that a good has been transferred is insufficient.

B. CONSTRUCTIVE OWNERSHIP OF THE UNDERLYING SOFTWARE

A second theory is to conceptualize that 24 Hour Fitness constructively owns the underlying software, a theory New York has adopted. When 24 Hour Fitness purchases a subscription to use Salesforce management software, 24 Hour Fitness is deemed to constructively possess Salesforce’s software because 24 Hour Fitness employees can use, control, or direct the software, even though 24 Hour Fitness does not physically possess a copy of the software. However, ownership does not necessarily mean complete control of the software or of the source code. If ownership is understood as a bundle of various rights, the exclusion of some right—here, the right to the source code—does not negate ownership entirely. This theory supports the idea there is a lease or license arrangement between the parties. While the theory has many merits and could be viable to support the taxability of access to hosted software, it is unsatisfactory because, generally, the agreement between the hosted software provider and the customer is a subscription to access the software, where the customers do not have the authority to manipulate the software or the source code.

C. LOCATION-BASED ANALYSIS

States that base taxability of cloud computing transactions on the location of the hosted software provider rely on the idea that cloud computing transactions are by themselves not taxable until they are connected to another form of tangible property. In the instance where taxability turns on the residence of the provider of hosted software, one could construct a fiction that the software is a tangible object whose "body" attaches to the company and thus resides in the state where the company is domiciled. The internet is a door through which the hosted software customers enter and use the software for a limited time period. In the instance where taxability depends on the location of datacenters, one would have to conceptualize that the software is a tangible object whose "body" is attached to the servers and that the Internet is a door by which the customers enter and use software located on the servers. Only by conceiving access to hosted software in these two manners does location-based analysis makes sense.

This fiction is inconsistent with the idea that data is a stream of information moving across the internet, where bit data is split into fragments, dispersed among different servers, sometimes located in different states. When employees of 24 Hour Fitness upload sales data using Salesforce software, for example, that data is disassembled into smaller units and stored in different servers across the world. When the employee logs onto Salesforce.com to obtain a sales report, Salesforce runs a query to retrieve that data, and the bytes of data stored in different servers are then transmitted to the customer, where it is then reassembled to appear on the customer's computer in a report format. In this model, then, it is possible that data is not stored on servers in the state that is levying taxes on Salesforce.

Furthermore, the hallmark of cloud computing is the idea that businesses will no longer have to own the software nor the servers in order for them to operate their business. Leasing these services from and outsourcing these services to third parties relieves businesses of the high costs associated with administering these programs and servers. Thus, the software and server providers could reside entirely outside of the United States, and yet only serve customers in the United States. In this instance, neither Arizona nor Pennsylvania could tax these transactions.

D. TRANSACTION AS A SERVICE

The strongest theory in support of imposing sales tax on access to hosted software is to envision the transaction as a service. Three views support this theory. First, the transaction is a service because

Salesforce employees maintain the software/servers that enable the transmission of information over the Internet to 24 Hour Fitness' computers. This theory supports the imposition of state sales tax based on the residence of *Salesforce* or the location of its servers because the employees servicing the software/servers reside at the location of the software/servers. This view, however, could produce bizarre results and could lead to tax evasion. A company, theoretically, could locate its software/server outside the U.S. and thus deny states' the ability to tax these transactions. However, this conclusion is inconsistent with the idea that sales tax is imposed on the place of use or where the benefits are received, and the theory proves to be unconvincing and unsatisfactory.

Alternatively, one could conceive access to hosted software as a service by envisioning the transmission of data over the internet as a service. When 24 Hour Fitness employees request a sales report on Salesforce.com, the source code acts to assemble the data in the form of a report. The performance of service, therefore, is the assembling of data done by the source code. This theory supports states imposing sales tax based on the customers' location—in this case the location of 24 Hour Fitness's employees. Since 24 Hour Fitness employees are located across the United States, a state could impose sales tax anywhere 24 Hour Fitness has employees using the software. This theory would be consistent with the idea that sales tax is imposed on the place of use, assuming that 24 Hour Fitness employees use the product at a single location.⁶²

These transactions operate in much the same way as more traditional business enterprises. Imagine this fiction: The Salesforce software is an assistant available for rent. When 24 Hour Fitness pays Salesforce for a monthly subscription, 24 Hour Fitness is renting an assistant from Salesforce. When 24 Hour Fitness' employees want to retrieve data, the assistant is "working" to gather the data and deliver it to 24 Hour Fitness' employees. The assistant is "working" for tax purposes in all the same places as the 24 Hour Fitness' employees.

Finally, it is possible to imagine that 24 Hour Fitness is contracting for data processing services. 24 Hour Fitness sends a vast quantity of data to Salesforce every month and Salesforce sends it back in an organized form to 24 Hour Fitness. The nature of the transaction is that 24 Hour Fitness is paying Salesforce to organize its data in the

62. One could argue that imposing tax based on the location of the cloud computer customer (e.g., 24 Hour Fitness) would be too burdensome to administer; the cloud computing service provider (e.g., Salesforce) would have to keep track of where the use originates and apportion the tax accordingly. A possible solution is to require the cloud computing service provider to keep track and break down sales figures by states—for example, "this state uses X amount of computing time, therefore Y percent of the monthly fee can be taxed in this location."

same way a company would pay a librarian to organize its books. Alternately, one could say that 24 Hour Fitness is giving Salesforce data that is otherwise useless, which it then buys back in a different form after Salesforce has manipulated it. The real world analogy would be to a mining company that sells iron ore to General Motors, which then processes that ore, machines it, and ultimately uses it to manufacture a truck that it sells back to the mining company, which uses the truck to make its business more efficient. There, General Motors is performing a service—turning iron ore into a useful product.

VII. WASHINGTON: MOVING IN THE RIGHT DIRECTION

The preceding section demonstrated that existing theories underpinning various methods of taxing hosted software are unworkable. This section proposes a model that has promise. Unlike most states that passed piecemeal guidance in the form of letter rulings and other administrative notices that may not be supported in existing law and make it difficult for business to comply,⁶³ Washington state has, instead, enacted the most comprehensive legislation specifically taxing remotely accessed software and other cloud computing services.

Some states have recognized the unworkable framework in treating access to hosted software as the sale of tangible software and have instead carved out a special category for cloud computing transactions. Some, such as New York, have taken the position that online services are taxable as information services.⁶⁴ Some treat charges to access a database as taxable data processing services,⁶⁵ while others treat them as communication services.⁶⁶ The distinction

63. Kranz & Kitamura, *supra* note 21, at 737.

64. N.Y. Tax Law § 1105(c)(1); Glickman & Petrik, *supra* note 38, at 23.

65. Glickman & Petrik, *supra* note 38, at 24 (“Section 151.0101(a)(12) of the Texas Code subjects ‘data processing’ services to tax, which are defined as ‘word processing, data entry, data retrieval, data search, information compilation, payroll and business accounting data production . . . and other computerized data and information storage or manipulation,’ including ‘the use of a computer or computer time for data processing whether the processing is performed by the provider of the computer or computer time or by the purchaser or other beneficiary of the service.’”); Andre, *supra* note 44, at 6; Glickman & Petrik, *supra* note 38, at 24.

66. Glickman & Petrik, *supra* note 38, at 23 (citing S. C. Rev. Rul. No. 05-13 (Aug. 21, 2005) (charges to access an ASP in use software is taxable as a communication service. ASP charges are similar to charges by database access services, except database processing services are exempt from taxation); Glickman & Petrik, *supra* note 38, at 23 (citing S.C. Code Ann §12-36-910(C)) (data processing means the manipulation of information furnished by a customer through all or part of a series of operations involving an interaction of procedures, processes, methods, personnel, and computers. It also means the electronic transfer of or access of that information. Examples of the

between communication and data processing services is unclear.⁶⁷ Regardless, treating cloud computing transactions as services is a fundamental shift. Instead of trying to fit cloud computing transactions into the tidy binary of tangible versus intangible, these states acknowledge the uniqueness of cloud computing transactions. Washington provides the most comprehensive and clear articulation of the taxability of cloud computing transactions. Like many states, Washington subjects “digital goods” to sales tax.⁶⁸ It conceives of digital goods as tangible personal property transferred electronically (e.g., electronic music downloads, photographs transferred electronically, movies streamed over the Internet).⁶⁹ But instead of extending sales taxes to hosted software using the digital goods framework, Washington has concluded that hosted software transactions, which the state has classified as online searchable databases, are digital automated services, not digital goods.⁷⁰ This section will proceed to explore the legislative history and language of Washington’s ESHB 2075 and SHB 2620, passed in 2009 and 2010 respectively and collectively referred to the “Digital Products Bills.”

A. THE DIGITAL PRODUCTS BILLS

In 2007, the Washington Legislature directed the Department of Revenue (“Department”) to study the taxation of electronically delivered products.⁷¹ In conducting the study, the Department was

processing include, without limitation, summarizing, computing, extracting, storing, retrieving, sorting, sequencing, and the use of computers).

67. See Glickman & Petrik, *supra* note 38, at 23 (citing S.C. Reg. 117-329.4(k)). The South Carolina Department Of Revenue (“DOR”) admits that communication and data processing is similar, yet instead of comprehensively changing the rules, it seems to draw an arbitrary line. Glickman & Petrik, *supra* note 38, at 23. To further complicate the issue, in Priv. Ltr. Rul. #10-2, 07/29/2010, South Carolina DOR concluded that fees charged for certain “online subscription services were subject to sales and use tax, since they are for access to and use of a communication system or service under code section 12-36-910(B) and -1310(B).” *Id.* “The DOR also relied on a South Carolina regulation, which provides that “Database Access Transmission Services or On-Line Information Services, including, but not limited to, legal research services, credit reporting/research services, and charges to access an individual website (including Application Service Providers)” is an example of a communication service subject to tax. The subscription services in question provided the infrastructure to allow subscribers to communicate, share information, and transact business with their suppliers, employees, and vendors, etc. in an electronic environment. Sales of the subscription services should be sourced to the business location where the end user who accesses or uses the subscription service is primarily located.” *Id.* at 23-24.

68. Glickman & Petrik, *supra* note 38, at 25 (citing Wash. Rev. Code § 82.08.020(1)(b)).

69. See *id.* at 14.

70. Glickman & Petrik, *supra* note 38 at 25 (citing *Online Searchable Databases are Digital Automated Services*, Wash. State Dep’t of Rev. Special Notice (Nov. 2, 2010), http://dor.wa.gov/Docs/Pubs/SpecialNotices/2010/SN_10_Database.pdf).

71. Engrossed Substitute H.B. 2075, 61st Leg. (Wash. 2009), § 101.

assisted by a committee comprised of legislators, academics, and members representing the government and industry, including Amazon Vice President of Indirect Taxes Richard Prem and Microsoft Senior Director of State Taxes Bruce Reid.⁷² Despite recognizing that the current laws dealing with digital products “may not be durable in the face of changing technology,”⁷³ differing views on fundamental issues surrounding the taxation of digital products prevented the committee from reaching a consensus on a specific tax policy proposal.⁷⁴ Instead, the committee in September 2008 recommended to the Legislature that legislation implementing digital products tax policy should (a) protect the sales and use tax base; (b) establish simplicity, fairness, transparency, neutrality,⁷⁵ certainty, consistency, durability, and equity in the tax code despite changes in technology and business models; (c) maintain conformity with the Streamlined Sales and Use Tax Agreement; and (d) encourage economic development in Washington.⁷⁶ The committee also warned that legislation having a “general imposition approach” is possible only if it contains meaningful and easily administered broad-based exemptions for business inputs; maintains conformity with the SSUTA; and protects and promotes the location of server farms and data centers in Washington.⁷⁷

72. *Study of the Taxation of Electronically Delivered Products*, Wash. State Dep’t of Revenue Final Report (Dec. 5, 2008), www.dor.wa.gov/Docs/Reports/DigitalGoods/Digital_Goods_Study_Final_Report.pdf [hereinafter *Taxation of Electronically Delivered Products*]. See Final Bill Report, Engrossed Substitute H.B. 2075, 61st Leg., at 1-2 (Wash. 2009), available at <http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bills/House%20Bills/2075-S.E.pdf> (stating that, prior to 2008, retail sales taxes were imposed on retail sales of most articles of tangible personal property and some services. Downloaded prewritten computer software is included within the definition of tangible personal property but downloaded products (such as digital music, movies, and books) are not specifically included within the definition of tangible personal property. Washington’s Department of Revenue treated download music, videos, and books as tangible personal property. However, on September 20, 2007, the SSUTA was amended, defining three specified digital goods (digital audio-visual, digital audio, and digital books) as not being tangible personal property. To remain compliant with the SSUTA, Washington had to enact a separate provision by January 1, 2010, to continue imposing sales and use tax on these three products. To comply with SSUTA, and faced with the prospect of a shrinking tax base if digital goods are removed from the retail sales and use tax base, Washington Legislature had to enact new legislations.).

73. *Taxation of Electronically Delivered Products*, *supra* note 72, at 4.

74. *Id.* The list could be summarized as: (a) protect the sales and use tax base; (b) establish certainty in the tax code; (c) maintain conformity with the SSUTA and (d) encourage economic development.

75. *Id.*

76. *Taxation of Electronically Delivered Products*, *supra* note 72, at 4.

77. Engrossed Substitute H.B. 2075, 61st Leg. (Wash. 2009), § 201(7).

B. DIGITAL AUTOMATED SERVICES AND ONLINE SEARCHABLE DATABASES

Following the committee's recommendations, the Legislature enacted the Digital Products Bills, the first comprehensive legislation addressing the sales and use taxation of digital products. Pursuant to the Bills, digital products, defined as goods and services transferred electronically,⁷⁸ are divided into two broad categories—digital goods and digital automated services—both of which are subject to sales tax.⁷⁹ Whereas digital goods—including sound, images, data, facts, or information transferred electronically—have long been subject to sales tax, digital automated services are services that have been automated and are transferred electronically that use one or more software applications.⁸⁰ The Digital Tax Bills apply sales and use tax to all digital products, regardless of how they are accessed—whether they are downloaded, streamed, subscription services, networking, etc.⁸¹

One of the more controversial changes was the characterization of access to hosted software, which Washington considers online searchable databases. When Washington enacted ESHB 2075, it had originally determined that online searchable databases were digital goods but were not subject to tax because online searchable databases met the exemption for “standard digital information.”⁸² After closer review, however, the Department determined that online searchable databases are not digital goods but instead database automated services, and therefore, the digital goods exemption does not apply.⁸³ In extending sales tax to hosted software, Washington moved away from the digital goods framework and instead relied on a separately created category, digital automated services.⁸⁴ Whereas digital goods include sounds, images, data, facts, or information thereof transferred electronically, online searchable databases are digital automated services because “they are transferred electronically and use one or more software applications . . . [and while] these services provide ‘data, facts, or information’ similar to a digital good, they also provide

78. *Digital Products*, WASH. STATE DEP'T OF REV. SPECIAL NOTICE (June 29, 2010), www.dor.wa.gov/Docs/Pubs/SpecialNotices/2010/sn_10_DigitalProducts.pdf [hereinafter *Digital Products*].

79. Engrossed Substitute H.B. 2075, 61st Leg. (Wash. 2009), § 201(7); see also, *Digital Products Bills (ESHB 2075 & SHB 2620)*, Dor.Wa.Gov (Nov. 14, 2012, 11:39 PM), www.dor.wa.gov/Content/GetAFormOrPublication/PublicationBySubject/TaxTopics/DigitalProductsQA.aspx [hereinafter *Digital Bills*].

80. *Online Searchable Databases are Digital Automated Services*, WASH. STATE DEP'T OF REV. SPECIAL NOTICE (Nov. 2, 2010), www.dor.wa.gov/Docs/Pubs/SpecialNotices/2010/SN_10_Database.pdf. [hereinafter *Online Searchable Databases*].

81. *Digital Bills*, *supra* note 79.

82. *Online Searchable Databases*, *supra* note 80.

83. *Online Searchable Databases*, *supra* note 80.

84. See *supra* note 74.

additional functions, such as search, retrieve, and storage capabilities.”⁸⁵ Additionally, a purchaser is subject to sales tax regardless of whether the purchaser obtains a permanent or nonpermanent right of use, that is, a monthly subscription or otherwise.⁸⁶

This shift is an outgrowth of Washington’s anticipation and acknowledgement that business models and technology are rapidly changing.⁸⁷ Even more so, Washington is anticipating that the rapid change could even make digital good and remote access software categories obsolete.⁸⁸ As such, it perhaps makes sense that remote access software falls within the large category of database automated services.

C. EXCLUSIONS FROM DATABASE AUTOMATED SERVICES

Following the advice of the committee, the Legislatures included in the Digital Products Bills important exclusions from database automated services. In an effort to protect Washington business models, explicitly server farms, “storage, hosting, and back-up services” are specifically excluded from the definition of digital automated services. Exclusion under this category include the storage of digital products, digital codes, and computer software, master copies of software; providing of space on a server for web hosting; and the backing up of data or other information.

To preserve existing industry treatment, the Legislature excluded data processing services. Data processing services means “primarily automated services provided to a business or other organization where the primary object of the service is the systematic performance of operations by the service provider on data supplied in whole or in part by the customer to (1) extract the required information in an appropriate form, or (2) to convert the data to usable information.”⁸⁹ Data processing services include check processing, image processing, form processing, survey processing, payroll processing, claim processing, and similar activities.⁹⁰

Another important exclusion includes services that require,

85. *Online Searchable Databases*, *supra* note 80.

86. *Digital Bills*, *supra* note 79. See Engrossed Substitute H.B. 2075, 61st Leg. (Wash. 2009), § 301(8), 305(1)(e).

87. Carolyn Iafrate Kranz & Kelly C. Miller, *Sales Tax Implication of Cloud Computing, Presentation at SEATA 62nd Annual Meeting*, Industry Sales Tax Solutions, slide 16 (July 23, 2012), www.state.wv.us/taxrev/publications/seata/CloudComputing.pdf [hereinafter Kranz & Miller].

88. Kranz & Miller, *supra* note 87.

89. *Digital Products*, *supra* note 82.

90. *Digital Products*, *supra* note 82.

primarily, human efforts by the seller, and the human effort originated after the customer requested the service. In this context, “primarily” means that greater than 50 percent of the effort to perform the service involved human labor. This exclusion is meant to achieve tax neutrality for online and offline activities.⁹¹ To determine whether the 50 percent or greater threshold is satisfied, three factors are considered: costs, time, and revenue.

- Costs: the relative costs incurred by the service provider to provide the human labor component and the automated component. Labor costs are greater than 50 percent of the total costs to perform the service, provides evidence that the service requires primarily human effort.
- Time: the relative time spent on performing human labor and the automated component. Time spent performing the human labor component involving greater than 50 percent of the total time spent performing the service, provides evidence that the service requires primarily human effort.
- Revenue: the extent to which revenue earned may be attributed to human labor or an automated component. Where more than 50 percent of the revenue earned is a direct result of the human effort performed, this too provides that the service requires primarily human effort.⁹²

Washington provides a model in which states could begin to construct sales tax systems that acknowledges a modern business reality and accommodate cloud computing transactions, taking into account exclusions that may be important for business purposes, such as achieving tax neutrality for online and offline activities.

VIII. CONCLUSION

The states’ sales and use tax, once a significant source of state revenue, has continued to decline as a percentage of state tax revenue due to formidable challenges, especially with the growth of cloud computing services. Cloud computing has brought to light the inherent flaw in a tax system that hinges taxability on whether the transaction is a transfer of tangible property or a service. While some states have

91. Kranz & Miller, *supra* note 87.

92. *Taxation of Digital Product & Digital Codes* 6 (Wash. State Dep’t of Revenue, Discussion Draft), www.dor.wa.gov/Docs/Rules/draft/DRAFTDigitalProductsRule15503.pdf.

extended their sales taxes to apply to cloud computing services, others have explicitly determined such services are not taxable. Drawing the distinction between tangible property versus service as the basis for imposing sales tax is no longer a workable framework for cloud computing services. Addressing the systemic problem of the sales tax system requires shedding this outdated tangible property-service paradigm.

Instead of comprehensive reforms, states have engaged in piecemeal efforts that draw from outdated theories for justifying the taxability of cloud computing services. This paper outlined three theories for how to envision access to hosted software and endorses the theory that the transaction is most likely a service. Rather than attempting to analogize hosted software to a tangible goods, states could create an enumerated category for hosted software.

The paper further outlined the different methods states use to tax or not tax access to hosted software. It critiqued analogizing hosted software to tangible property as an outdated model because the software is never delivered to the customers. The fiction that the customer constructively owns the software, while having many merits to support the imposition of sales tax, is unsatisfactory because its application by some states would exempt a sizable amount of transactions where the customers do not gain access to the servers or have the ability to manipulate the source code to direct the software. Finally, the paper critiqued the location-based method, where states impose taxation based on the location of the software provider or their datacenters, as a bad policy because it invites companies to locate in jurisdictions not imposing the tax. Location-based taxation is also not in line with the idea that sales tax should be imposed on consumption and the consumers should bear the costs, not the seller. The paper pointed to Washington as establishing the most comprehensive framework for treating cloud computing transactions, and its suggested legislation should serve as a model upon which other states could construct a sales tax system that acknowledges a modern business reality and accommodate cloud computing transactions.
