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¶13.06A. Cloud Computing [New]

## ¶ 13.06A Cloud Computing

The advent of cloud computing and its profound reshaping of the architecture of computer networks and their applications raise a broad array of troublesome issues relating to security, privacy, technical standards, intellectual property, and federal income taxation. <sup>421.7</sup> Cloud computing raises troublesome state tax issues as well. <sup>421.8</sup> To be sure, many cloud computing issues essentially involve the application of familiar principles to unfamiliar transactions—or, perhaps more accurately, the effort to force these unfamiliar transactions into familiar categories. We consider these issues in this treatise where those “familiar principles” are discussed. <sup>421.9</sup> Nevertheless, because cloud computing transactions are unfamiliar to many readers and because they do raise some novel questions, it is appropriate to provide an overview of cloud computing issues in a separate section of the treatise and to treat in this section the most important subset of issues that cloud computing raises—namely, their classification and consequent treatment for sales and use tax purposes.

### ¶ 13.06A[1] What Is Cloud Computing?

According to the National Institute of Standards and Technology (NIST), cloud computing

is 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. <sup>421.10</sup>

The five “essential characteristics” of cloud computing are:

- On-demand self-service;
- Broad network access;
- Resource pooling;
- Rapid elasticity; and
- Measured service. <sup>421.11</sup>

As the NIST further observes, however, cloud computing is “an evolving paradigm.” <sup>421.12</sup>

There are three “models” of cloud computing. <sup>421.13</sup> The Software as a Service (SaaS) model allows a customer to access a provider's applications on a cloud infrastructure (i.e., the collection of hardware and software that enables the essential characteristics of cloud computing described above). Under the SaaS model, a customer does not manage or control the underlying cloud infrastructure, with limited exceptions. The Platform as a Service (PaaS) model allows a customer to deploy its created or acquired applications on a cloud infrastructure using programming languages, libraries, services, or tools supported by the provider. As with the SaaS model, the customer does not manage or control the underlying cloud infrastructure. However, the customer has control over the deployed applications and, potentially, configuration settings for the application-hosting environment. The Infrastructure as a Service (IaaS) model allows a customer access to processing, storage, networks, and other computing resources, where the customer can deploy and run software, including operating systems and applications. Under the IaaS model, the customer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications. Providers of SaaS and PaaS are often called “application service providers.” “Application services” generally refer to services that allow customers to access software on the provider's system, typically by means of a Web browser.

To a casual observer, the definition of cloud computing, the identification of its essential characteristics, and the description of the

three models may provide little clarity as to what cloud computing is and what it is not. At its core, cloud computing allows users remote access to software, storage, or even hardware. Accordingly, cloud computing is *not* usually the equivalent of using software, storage, or hardware as most of us have become accustomed to thinking about those terms. For example, an individual seeking to acquire software for use on her computer would typically need to make sure that the software would function on her computer, which would require a certain amount of disk space, a compatible operating system, a minimum processor speed, etc. By contrast, if the individual user instead sought access to similar software in the cloud, she would not need to worry about her computer's disk space, operating system, or processor speed because the application service provider would be providing the necessary storage, operating system, and processing. As a technological matter, the infrastructure supplied by the application service provider is a necessary component of cloud computing and cannot meaningfully be separated from the underlying software. Whether this makes any difference for tax purposes is another question, of course, and one that we explore in detail below.

## ¶ 13.06A[1][a] Cloud Computing and State Taxation: Preliminary Caveats

Before we explore the state tax consequences of cloud computing, several preliminary observations are in order. First, in the eyes of some observers, hosted software (i.e., software housed on a server and accessed remotely) and data storage may not, in all contexts, fall within the definition of cloud computing. For purposes of the ensuing discussion, however, we consider both hosted software and remote data storage to fall under the umbrella of cloud computing. Second—and as an extension of the first point—it is important to recognize that the phrase “cloud computing” is imprecise and does not describe a particular transaction or application. The term potentially includes a wide variety of service offerings, including some that are quite different from one another. A meaningful and accurate discussion of the state tax consequences of cloud computing requires an understanding of the particular transactions at issue. For example, the tax consequences resulting from the sale of Web hosting services may or may not be the same as those resulting from the sale of application services. Third, it is important to note that cloud computing services may be sold by a business directly to the ultimate consumer (B2C) or to another business (B2B) whose employees ultimately use the services.<sup>421.14</sup> Whether the purchaser is an individual or a business—though likely unimportant as a technological matter—may result in different tax consequences. Fourth, it bears noting that many (if not most) electronic transactions do *not* constitute “cloud computing.” For example, the electronic transmission of music, videos, books, or software to a computer generally is not considered to be cloud computing. The tax treatment of items transmitted electronically (sometimes characterized as “digital products”<sup>421.15</sup>) may differ from cloud computing transactions, and we do not discuss the tax treatment of such items here, except to the extent that it affects the analysis of cloud computing transactions.<sup>421.16</sup>

Finally, and most important of all, we must recognize from the outset that any effort to force the complex reality of cloud computing into the Procrustean bed of our existing tax rules may well be doomed to failure. Sales and use taxes are transaction-based taxes, as are state corporate income taxes, at least insofar as we seek to assign income on the basis of the location of sales, as every state does. The very notion that taxpayers and tax administrators will be capable of deconstructing cloud computing transactions according to our existing tax rules—based on the characterization and location of software and hardware, for a “transaction” that involves computing resources that “are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand,”<sup>421.17</sup> and with simultaneous interactions between cloud providers and purchasers employing multiple servers located throughout the country if not the world—may border on the fanciful. While some cloud computing transactions are considerably less complex and may well be amenable to traditional state tax analysis, we need to acknowledge that our existing tax regime simply may be incapable of accommodating many cloud computing transactions in an administrable fashion.<sup>421.18</sup> Hence, we may eventually be compelled to take a different, and ultimately simpler, approach to these issues; for example, by assigning the sale or the income based on some practical proxy for the “location” of the transaction, such as the location of the provider or purchaser. With that said, we turn to the hand we were dealt—namely, the existing rules governing state taxation, and we do our best to analyze the sales and use tax consequences of cloud computing transactions within those rules.

## ¶ 13.06A[2] Sales and Use Taxation of Cloud Computing Transactions: Overview

Cloud computing raises a host of sales and use tax issues for both providers and purchasers of cloud computing services. The initial question, at least from a practical perspective, is whether there is personal jurisdiction over (or nexus with) one or both of the parties to the cloud computing transaction, a question that may turn on the jurisdictional implications of the cloud computing transaction itself.<sup>421.19</sup> We consider the jurisdictional questions raised by sales and use taxation of cloud computing in connection with our general

examination of nexus for sales and use tax collection purposes.<sup>421.20</sup> Once it has been established that there is jurisdiction over the provider or purchaser<sup>421.21</sup> of cloud computing services, a series of additional inquiries is necessary, including whether the particular cloud computing transaction is a type of good or service subject to sales and use tax, whether a taxable “sale” or “use” has occurred, and where the taxable “sale” or “use” occurs. We address these questions below.

The taxability of cloud computing transactions for sales and use tax purposes is in principle no different from the taxability of transactions involving other goods, services, or intangibles under the sales and use tax. Accordingly, the taxability of a cloud computing transaction in a state depends on whether there is a sale or use of a taxable good, service, or intangible in the state. The challenge in analyzing cloud computing transactions is that these complex and unfamiliar transactions often do not fit easily into existing statutory classifications that determine taxability in a state. Because the definition of “sale” or “use” may depend on whether the item is characterized as tangible personal property, a service, or an intangible, we first address the questions of characterizing cloud computing transactions, and we then turn to the questions of whether there is a sale or use and, if so, whether such sale or use occurs within the state.

### **¶ 13.06A[3] Characterizing Cloud Computing Transactions: Tangible Personal Property, Service, or Intangible?**

Characterizing a cloud computing transaction is central to its treatment for sales and use tax purposes. Not only will this often determine whether the transaction is taxable at all, because the state generally may not tax the sale or use of services or intangibles, but even if the service or the intangible is taxable, the characterization of the transaction may have implications for *where* the transaction is taxable. In their approach to the characterization question, states understandably have often looked to general principles that they have employed in other contexts for characterizing transactions as well as to the particular rules that they have developed for characterizing transactions involving computer software. Because we treat these issues extensively elsewhere in this treatise,<sup>421.22</sup> we simply summarize those principles here and focus on their application in the cloud computing context.

### **¶ 13.06A[3][a] Distinguishing Between Sales or Leases of Tangible Personal Property and Sales of Services or Intangibles in the Cloud Computing Context**

The distinction between tangible personal property and services or intangibles in the cloud computing context is in substance no different from the same distinction that is drawn in other contexts. Although classifying cloud computing as the sale of a service or an intangible is not always the end of inquiry into taxability, because the service or intangible itself may be taxable,<sup>421.23</sup> the determination as to whether cloud computing involves the sale or rental of tangible personal property or the provision of services or intangibles will often be dispositive of the taxability question.

The traditional tests for distinguishing sales or rentals of tangible personal property from sales of services—for example, “the true object,” “dominant purpose,” and “essence of the transaction” tests<sup>421.24</sup>—have informed the efforts of state tax authorities to draw this line in the context of cloud computing. For example, in addressing the question of whether a hosted software solution for sending, receiving, and tracking large digital files over the Internet was subject to tax, the Colorado Department of Revenue relied on the Colorado Supreme Court’s thoughtful opinion explicating the distinction between a taxable sale of tangible personal property and nontaxable sale of services or intangibles in the context of the sale of commercial art.<sup>421.25</sup> The department first noted that Colorado “imposes sales and use tax on the sale, use, storage, and consumption of tangible personal property, which includes standardized software, but does not impose sales or use tax on services.”<sup>421.26</sup> The department further observed that the state supreme court had identified the criterion for drawing the distinction between taxable sales or rentals of tangible personal property and nontaxable sales of services or intangibles—namely, “whether the ‘true object, dominant purpose, or essence’ of the transaction is, in fact, corporeal tangible personal property or an intangible right or service.”<sup>421.27</sup> The department found that the “essence” of the service at issue was similar to the e-mail services of several well-known providers. Although customers might be considered to “use” the servers of those providers (and the software provided), the department concluded that such providers are “most commonly understood to be providers of a service, not lessors of computer servers or software.”<sup>421.28</sup>

The department further explained that its characterization of the hosted software offering as a service rather than as the rental of tangible personal property was reinforced by the key factor of control of the property. As the department declared:

If the property at issue is primarily under the custody and control of the provider, then there is a tendency to view the

transaction as a service. If the user has significant control over the property, then there is a tendency to view the transaction as one for the rental of tangible personal property. Users of the [provider's] service have some degree of control over the servers and software. Users initiate the uploading of a file and designate the recipient. Users can control whether files are stored on the system and the duration of that storage. However, these seem minor in relation to the degree of control exercised by the [provider], which has physical custody of the property and staff that program and control the systems. In some respects, this is similar to the case of a person who rents both a truck and a truck operator for a single price: the operator has custody and control over the truck, although the customer has some control where and when it is operated. Colorado, as do many other states, views the transaction as the provision of a service and not the rental of tangible personal property. <sup>421.29</sup>

A series of letter rulings by the Massachusetts Department of Revenue further illustrate the application of the familiar tests for distinguishing between sales or rentals of tangible personal property and sales of services in the context of cloud computing. Like many states, <sup>421.30</sup> Massachusetts characterizes all prewritten software as tangible personal property (regardless of its form of delivery), <sup>421.31</sup> and a regulation provides that in general "charges for the access or use of software on a remote server are subject to tax." <sup>421.32</sup> However, if "there is no charge for the use of the software, and the object of the transaction is acquiring a good or service other than the use of the software, sales or use tax does not apply." <sup>421.33</sup> In one ruling, the department considered the sale of software developed by the taxpayer to aid customers in the employee application gathering and selection process. <sup>421.34</sup> The software remained on the taxpayer's server and was accessible by customers over the Internet. The software (1) allowed prospective employees of a customer to search job postings and submit applications; (2) included a behavioral assessment designed to evaluate whether a particular applicant is likely to succeed at a job; and (3) analyzed data submitted by the applicants to determine which applicants meet the minimum qualifications and fit the job descriptions. The taxpayer then provided a report with these results to the customer. The department concluded that "the object of the customers' purchase of the product is to obtain database access including reports by the taxpayer, rather than the use of the software itself" and accordingly the taxpayer's product constituted a nontaxable service. <sup>421.35</sup>

In another ruling, the Massachusetts Department of Revenue examined a service that enabled customers to access financial information about businesses "to mitigate credit and supplier risk, increase cash flow and drive increased profitability." <sup>421.36</sup> The core service offering allowed customers to search and "create customizable reports containing summary trade data, basic credit scores, legal filings, and general company information." <sup>421.37</sup> Customers could purchase "upgraded" data packages—for an additional fee—that provide access to more data. Additionally, customers could purchase certain "workflow add-ons" that allowed them to automate credit decisions, enter account information and establish rules to trigger labeling (e.g., flag an account for review if a credit indicator hits a certain level), manage risk exposure, create customizable credit applications, and pass information between the taxpayer and customer systems. The department observed that the object of the taxpayer's core service offering and upgraded data packages was to obtain database access rather than use the software, and, accordingly, the service offering and data packages were not taxable. At the same time, however, the department concluded that the object of the workflow add-ons was to access the taxpayer's software and was therefore taxable. <sup>421.38</sup>

In yet another ruling, the Massachusetts Department of Revenue considered a series of services offered by a provider of business services for physicians' practices, including proprietary Internet-based software, a continually updated proprietary database of pay reimbursement process rules, back-office service operations that perform administrative aspects of billing, and clinical data management for physician practices. <sup>421.39</sup> In its ruling, the department offered the following significant observation specifically bearing on cloud computing:

Charges for prewritten software, whether it is electronically downloaded to the customer or accessed by the customer on the seller's server (*including the "Software as a Service" business model*) are generally taxable. However, the marketing description of a product as "software-as-a service" does not determine taxability of that product, nor does the fact that customers do not download software or otherwise install software on their own computers or other devices. <sup>421.40</sup>

In analyzing the question of whether the service offerings, individually or bundled with the others, were subject to sales or use tax, the department reiterated the principles from its earlier rulings, noting that in separating services from the right to use software it generally looked to "to an 'object of the transaction' test to determine taxability." <sup>421.41</sup> In concluding that none of the service offerings was taxable, the department noted that "[w]hile such services are facilitated by software, the object of the transaction is the purchase of information management services performed by Company's staff, database access, and data processing." <sup>421.42</sup>

## ¶ 13.06A[3][b] The Computer Software “Template”

States' initial efforts to provide guidance with respect to cloud computing transactions have been heavily influenced—perhaps too heavily influenced—by their taxation of computer software. As state law regarding state taxation of computer software evolved,<sup>421.43</sup> many state taxing regimes drew a distinction between “canned” or “prewritten” software and “customized” software (i.e., software created to meet the needs of a particular customer). Every state now taxes prewritten software, at least if delivered in tangible form, but many states exempt customized software as nontaxable services or intangibles.<sup>421.44</sup> When prewritten software is delivered electronically, some states tax it—indeed, they often define electronically delivered prewritten software as tangible personal property,<sup>421.45</sup> although other states tax electronically delivered canned software without pretending that it is tangible.

Within this framework, computer software can be placed in one of four general categories, with the following tax consequences:

1. *Prewritten, tangible (or defined as tangible)*: Always taxable as the sale of tangible personal property.
2. *Customized, tangible*: Sometimes taxable as the sale of tangible personal property, or nontaxable if “true object” is sale of nontaxable services, intangibles.
3. *Prewritten, delivered electronically*: Sometimes explicitly taxable, or generically nontaxable as the sale of services, intangibles.
4. *Customized, delivered electronically*: Sometimes explicitly taxable as the sale of services, intangibles, or generically nontaxable as the sale of services, intangibles.

Insofar as the states approach taxation of cloud computing transactions through the lens of their laws governing the taxation of computer software, this framework may assist in understanding the states' analysis of cloud computing transactions, even though, with the exception of the first category (prewritten, tangible), the framework provides no more definitive answers regarding taxability in the cloud computing context than it does in the computer software context.

## ¶ 13.06A[3][c] Cloud Computing as Prewritten Computer Software

As we have observed above,<sup>421.46</sup> all states tax prewritten software delivered in tangible form (regardless of what once might have been regarded as the “true object” of the transaction); many states characterize all prewritten software as tangible personal property (regardless of the form in which it is delivered) and tax it as such; and some states do not tax prewritten software when it is delivered electronically. In addition, a few state statutes tax prewritten software without explicitly providing whether it is tangible personal property, a service, or an intangible.<sup>421.47</sup> Although all cloud computing models differ in significant respects from traditional sales of computer software, some states have determined that certain cloud services constitute canned or prewritten computer software and are taxable (or nontaxable) depending on the states' approach to prewritten software.

### ¶ 13.06A[3][c][i] Cloud computing transactions characterized as prewritten computer software defined as tangible personal property.

One of the more puzzling trends in the taxation of cloud computing is how casually some state taxing authorities have concluded that certain cloud computing transactions involve prewritten computer software defined by statute or regulation as tangible personal property, and are taxable as such, assuming other statutory requirements are met.<sup>421.48</sup> As the description of cloud computing revealed,<sup>421.49</sup> all cloud services deliver more than just the use of software; the cloud provider's operating system, servers, and other hardware usually are vital to the provision of cloud services. Yet the state taxing authorities that have deemed cloud computing services to be prewritten computer software have sometimes done so with relatively little analysis of the underlying service offering. For example, taxing authorities in Arizona, Indiana, New York, Pennsylvania, and Utah have concluded summarily that various cloud services constitute canned or prewritten computer software, although without necessarily finding that the particular services at issue were taxable on the facts presented.<sup>421.50</sup> Despite what may sometimes appear to be a perfunctory analysis of cloud transactions by state taxing authorities, the fault may lie in part with taxpayers (or their advisors) insofar as they have described the service offering in far too simplistic a manner. For example, if a taxpayer describes its service offering simply as “hosted software,” rather than describing the infrastructure necessary to provide the service, it is understandable to why a taxing authority might treat the service as canned or prewritten software.

A Massachusetts ruling addressed the sales taxation of a company that hosted business newsletters on its servers.<sup>421.50.1</sup> Its customers were businesses that wished to distribute newsletters to their customers using the company's "e-communications platform," which combined "built-in content management, publishing/layout and a full array of digital marketing delivery capabilities."<sup>421.50.2</sup> In order to provide its customers these capabilities, the company licensed their use of its online software. The company designated these combined services and transactions as the "Offering."<sup>421.50.3</sup> A Massachusetts regulation provided that taxable sales of software included "transfers of rights to use software installed on a remote server."<sup>421.50.4</sup> In holding the Offering taxable, the Massachusetts Department of Revenue reasoned:

While we agree that Company's Offering involves the performance of some nontaxable services, such as bulk e-mailing, tracking newsletters and compiling reports for customers in some cases, it combines these services with a license or right to access and use of Company's software on a remote server. Moreover, the customer is performing most of these tasks themselves. Pursuant to the Agreement, all of the Company's customers have the ability to operate, direct, and substantially control the software and produce their own newsletters. We understand that Company compiles the customer's articles and displays and formats the newsletter for the customer in some instances. However, the object of the customers' purchase of the Offering is to obtain a right to use software on Company's server for the purpose of creating a newsletter that will ultimately be distributed to the customer's subscribers. The Offering includes a right to use software on a server hosted by the Company, as described [by the applicable regulation], and is subject to the Massachusetts sales tax.<sup>421.50.5</sup>

The Massachusetts Department of Revenue again stressed the "object of the transaction" approach in a ruling involving a "leading provider of virtual computing solutions or offerings."<sup>421.50.6</sup> The ruling described the taxpayer's offerings as involving

initiating and maintaining a screen-sharing connection between a host computer and one or more remote computers (or other devices) connected to the Internet. The host computer runs an operating system and/or one or more applications, and the remote computer shares screen output access to the entire desktop or a particular application on the host computer (and, if applicable, may also share access to input control via keyboard and pointing device). Company maintains a dedicated network of switches, routers, servers, storage equipment and other hardware, together with proprietary software that is stored, executed, maintained, updated and controlled on Company's servers.<sup>421.50.7</sup>

The taxpayer's three main offerings were (1) remote access; (2) remote support; and (3) online conferencing. Remote access allowed customers to access their computers with a remote computer or device. Remote control allowed third-party or internal support organizations to gain control of remote computers for the purpose of providing technical support. Online conferencing included remote screen sharing and might also include remote keyboard control, voice participation, electronic chat, raised hands, polling, and conference recording.<sup>421.50.8</sup>

After a thoroughgoing analysis of each of the offerings, the department concluded:

[A]lthough the Company may provide some personal and professional services to its customers in connection with each of the three offerings, such services are inconsequential, and the object of the transaction is the use of software in each case. Moreover, with respect to each of the three offerings, the customer's involvement with and use of Company's software is essential to meeting the customer's objectives.<sup>421.50.9</sup>

The department commented further that

[i]n determining the object of the transaction, the Department generally looks to the customer's experience in using the product rather than the "behind-the-scenes" operations where the software is accessed on a seller's server. We note that each offering discussed in this ruling is designed so that the customer accesses and uses the prewritten software with little or no interaction with Company's employees, and that no analysis, content or data is provided to the customer by Company beyond the functionality of the software itself.<sup>421.50.10</sup>

The Utah State Tax Commission considered the taxability of a professional report service, which gave subscribers online access to information regarding the financial condition of businesses in order to allow subscribers to manage credit and supplier risk.<sup>421.50.11</sup> For a separately stated charge, the taxpayer also made available "workflow add-ons," which were Web-based tools for manipulating the online information (as well as other information supplied by the subscriber), making credit approval decisions, creating online credit applications, and managing accounts. The commission ruled that the professional report service component of the taxpayer's offering



constituted nontaxable services but that the workflow add-ons were taxable prewritten software. <sup>421.50.12</sup>

### **¶ 13.06A[3][c][ii] Cloud computing transactions characterized as prewritten computer software, but nontaxable because of electronic delivery.**

Even if certain cloud computing transactions are characterized as the sale of prewritten software, <sup>421.50.13</sup> they may nevertheless be nontaxable in some states if they are delivered electronically. For example, on two occasions, the Missouri Department of Revenue considered whether sales of access to provider-owned hosted software were subject to Missouri sales tax. <sup>421.51</sup> In one ruling, the service at issue involved hosted software that allowed health care clients to “manage their customer billing functions and to manage operational requirements pertaining to clinical documentation, and patient and employee management.” <sup>421.52</sup> The other ruling involved a hosted software system to automate the trading process for certain securities transactions. <sup>421.53</sup> Under Missouri law, canned computer software programs are generally taxable as the sale of tangible personal property. <sup>421.54</sup> A Missouri regulation provides that canned computer programs are taxable if delivered in a “tangible medium.” <sup>421.55</sup> In both rulings, the department of revenue concluded that the hosted software qualified as a canned software program but was subject to tax only if it was sold in a tangible format. Because neither taxpayer provided the canned software in a tangible medium, the department determined that the sales were not subject to sales or use tax. Interestingly, an earlier Missouri ruling, which addressed hosted software *provided by the customer*, analyzed the software as a nontaxable service. <sup>421.56</sup>

The Iowa Department of Revenue reached a conclusion similar to that reached by the Missouri Department of Revenue on the taxability of provider-owned hosted software (including prewritten software). <sup>421.57</sup> The department observed that a taxable sale does not occur when “the substance of the transaction is delivered to the purchaser digitally, electronically, or by utilizing cable, radio waves, microwaves, satellites, or fiber optics.” <sup>421.58</sup> Because the software was available for use electronically and was not delivered in tangible form, the hosted software was not subject to Iowa sales tax. The Florida Department of Revenue likewise concluded that the sale of remote access of canned software was not subject to tax because it was not delivered in tangible form. <sup>421.59</sup>

### **¶ 13.06A[3][d] Cloud Computing as the Sale or Lease of Tangible Personal Property Without Regard to Whether It Involves Prewritten Computer Software**

Even if a cloud computing transaction is not deemed to be a sale of tangible personal property on the theory that it constitutes the sale of prewritten software, <sup>421.60</sup> the transaction might nonetheless be characterized as involving the sale or lease of tangible personal property. For example, if a taxpayer rents a particular server, it is likely that the transaction will be treated as the rental of tangible personal property. However, the states' treatment of data storage or sales of hosting services is less consistent. In one ruling, the Utah Tax Commission considered a company that provided information and data hosting services for its customers on server equipment at its location in Utah. <sup>421.61</sup> The company provided storage and backup of data and the tools to support the customer's information systems infrastructure. The commission characterized the service as “an outsourced technology department.” <sup>421.62</sup> In concluding that the arrangement constituted the taxable lease of tangible personal property, the commission quoted an earlier ruling in which it had observed that “the leasing of disk space in Utah for storage would typically be viewed as the lease of tangible personal property.” <sup>421.63</sup> Similarly, guidance from other states has indicated that hosting services are taxable as rentals of tangible personal property. <sup>421.64</sup> Conversely, as the earlier discussion reveals, several states have characterized hosting services as nontaxable services. <sup>421.65</sup>

### **¶ 13.06A[3][e] Cloud Computing as a Service**

If a state does not characterize a particular cloud computing transaction as involving the sale or rental of tangible personal property or as a transaction involving the sale of prewritten software that is taxable regardless of its characterization, <sup>421.66</sup> it frequently will be because the state has concluded that the cloud computing transaction constitutes a service. <sup>421.66.1</sup> The question then becomes whether or not the service is taxable.

### **¶ 13.06A[3][e][i] Distinguishing between taxable and nontaxable services.**

The basic problem of distinguishing between sales of taxable and nontaxable services is analogous to the problem of distinguishing between sales of tangible personal property and sales of services and intangibles. Moreover, the tests that state taxing authorities

employ for drawing these lines in both contexts are similar in that they typically look for the “object” of the transaction in light of the relevant statute. For example, two state taxing authorities have addressed the question of whether data backup and recovery services are taxable or nontaxable services.<sup>421.67</sup> The facts at issue in each ruling were essentially the same. The taxpayers provided a service to ensure the safe storage of customers' data, enabling customers to replace the data if the original data is lost or stolen. In each case, software was downloaded by customers (at no charge), and the software would function only in conjunction with the taxpayer's service. Under these facts, the Utah Tax Commission concluded that the primary object of the transaction was for a customer to preserve and protect existing data—a service that was not taxable in Utah.<sup>421.68</sup> The provision of software to customers to access the backup service was considered to be “merely incidental to the provision of the service.”<sup>421.69</sup> As such, the software was consumed by the taxpayer rather than being “resold.”<sup>421.70</sup> The New York Department of Taxation and Finance concluded that taxpayer was not making a sale of a taxable information service, because a customer would not receive any new information from the taxpayer; rather, it would receive a copy of its own data.<sup>421.71</sup> The department further concluded that even though the taxpayer was not selling software, it was nevertheless making a taxable use of the software in the course of providing its nontaxable service.

### ¶ 13.06A[3][e][ii] Cloud computing as a taxable service.

The South Carolina Department of Revenue has addressed the taxability of application service providers on a number of occasions. A 2010 private letter ruling discussed a Web-based platform that allowed subscribers to interact and communicate with suppliers, employees, vendors, and others.<sup>421.72</sup> The service provided “the infrastructure to allow the various users to communicate and transact business with one another in an electronic environment.”<sup>421.73</sup> The department concluded that the service constituted taxable “communications,” sourced to the primary business location where the end user accessed or used the service.<sup>421.74</sup> In two earlier revenue rulings,<sup>421.75</sup> the department considered whether computer software provided through an application service provider is subject to South Carolina sales and use tax.<sup>421.76</sup> Both revenue rulings cited a 1989 ruling in which the department concluded that “database access transmissions” were taxable communications services.<sup>421.77</sup> The department defined “database access transmissions” as “the transmission of computer database information and programs...whether automatically transmitted or transmitted as a result of a subscriber accessing a computer.”<sup>421.78</sup> In both revenue rulings, the department summarily concluded that charges by an application service provider were similar to charges for database access service, and accordingly were subject to sales and use tax.

The Texas Comptroller of Public Accounts has addressed a variety of cloud computing transactions on numerous occasions. In a publication describing taxable services,<sup>421.79</sup> the comptroller gives examples of taxable data processing services, which include

check preparation; accounts payable or receivable preparation; web hosting, web site creation and maintenance; *data storage*, including offsite backup of electronic files; conversion of data from one type of medium to another (i.e. converting paper documents or videotapes to digital files); and the performance of a totalisator service with the use of computational equipment required by the Texas Racing Act. *Data processing services providers include sellers of software as a service and application service providers.*<sup>421.80</sup>

The comptroller has been consistent, in recent years, in classifying cloud computing services as taxable data processing. For example, the comptroller has determined that each of the following cloud services constituted “data processing”:

- Voice recognition software provided over the Internet that turns clinician dictations into formatted draft documents;<sup>421.81</sup>
- Access to a Web site design center that allows a customer to design, provide, and test content and to have administrator functions;<sup>421.82</sup>
- A Web application used to record and manage business transactions, from customer relationship management to enterprise resource planning;<sup>421.83</sup>
- A Web-based reporting system that allows customers to enter data from remote locations and retrieve reports from customers' offices;<sup>421.84</sup>
- Application software that, upon a customer entering an SKU (used to identify the item purchased or sold) along with one or more addresses, provides a corrected address, taxability information, and properly calculated taxes;<sup>421.85</sup>
- An Internet-based application that reads information contained in a communication (such as a fax, letter, voice call, email, etc.) and generates a summary report;<sup>421.86</sup> and
- A Web portal to facilitate the exchange of information between insurance carriers and their insurance agents.<sup>421.87</sup>



Connecticut subjects “computer and data processing services” to sales tax.<sup>421.88</sup> The phrase includes “providing computer time, storing and filing of information, retrieving or providing access to information, designing, implementing or converting systems providing consulting services, and conducting feasibility studies.”<sup>421.89</sup> Accordingly, a legal ruling determined that online data storage services were subject to sales and use tax.<sup>421.90</sup>

Washington subjects “digital automated services” to sales and use tax.<sup>421.91</sup> “Digital automated services” generally means “any service transferred electronically that uses one or more software applications.”<sup>421.92</sup> This broad definition is then narrowed through the exclusion of specified items.<sup>421.93</sup> To the extent that Washington’s taxation of digital automated services represents the state’s desire to tax cloud computing transactions, the broad definition could prove to be a successful means of doing so; after all, most cloud computing services “use one or more software applications.”<sup>421.93.1</sup>

The Colorado Court of Appeals considered the applicability of a municipal sales and use tax code definition of “software” to the purchases of access to online databases and a calendar and scheduling hosting service.<sup>421.93.2</sup> The ordinance provided that “taxable services” includes “[c]omputer software contained on cards, tapes, discs, coding sheets, or other machine-readable or human-readable form.”<sup>421.93.3</sup> After holding that the use tax on services applied to electronic transfers of software,<sup>421.93.4</sup> the court held further that the company’s purchases of access to the hosting service was a taxable purchase of software, relying on testimony that “[w]hen accessing a commercial database, the customer is...granted a right to use the database host’s computer system and software.”<sup>421.93.5</sup>

### **¶ 13.06A[3][e][iii] Cloud computing as a nontaxable service.**

Several states have concluded that certain cloud transactions constitute nontaxable services, based largely on the determination that they involve the sale of services rather than the sale of tangible personal property. Once that determination has been made, the sale of the cloud computing service, like the sale of most services in most states, is not taxable because there is no enumerated taxable service classification into which the cloud computing transaction falls.

Two Wisconsin letter rulings illustrate this point. In both, the Wisconsin Department of Revenue concluded that access to Web-based software constituted the sale of nontaxable services rather than the leasing of tangible personal property.<sup>421.94</sup> Although the department summarily concluded that the transactions involved nontaxable sales of services, both rulings suggest that under different facts, a cloud computing transaction could be considered the leasing of tangible personal property.<sup>421.95</sup> Tax administrators from other states have summarily concluded that Web hosting is not an enumerated service and thus is not subject to sales tax.<sup>421.96</sup>

The Massachusetts Department of Revenue issued a letter ruling addressed to a service that allows a doctor to prepare and submit a patient’s prescription.<sup>421.97</sup> Using a wireless device or Internet browser, the doctor may access patients’ insurance eligibility, drug billing information, and medical information stored on servers. The doctor then selects and electronically submits a proposed prescription to the system, which cross-references the proposed prescription with potential adverse reactions due to allergies or previously prescribed medication. The doctor can then submit the prescription to the pharmacy over the Internet. The service also monitors the prescription and includes the prescription in the patient’s medical history maintained on the servers. On these facts, the department concluded that the services involved nontaxable database access and data-processing services rather than taxable telecommunications services.

As we observed earlier in connection with the taxation of prewritten software,<sup>421.97.1</sup> the Utah State Tax Commission considered the taxability of a professional report service, which gave subscribers online access to information regarding the financial condition of businesses in order to allow subscribers to manage credit and supplier risk.<sup>421.97.2</sup> For a separately stated charge, the taxpayer also made available “workflow add-ons,” which were Web-based tools for manipulating the online information (as well as other information supplied by the subscriber), making credit approval decisions, creating online credit applications, and managing accounts. The taxing authority ruled that the professional report services were nontaxable services but that the workflow add-ons were taxable prewritten software.<sup>421.97.3</sup>

In another ruling, the Utah State Tax Commission considered the taxability of premium online news services offered by telecommunications companies.<sup>421.97.4</sup> The news services provided cell phone access to the premium content of online, Internet-based news Web sites. Customers were required to separately obtain Internet connections and/or telecommunications services in order to use the services. Additionally, customers using the services could only stream or view content. Customers could not download content, modify code, create documents, or manipulate files on the provider’s system. Under these facts, the commission ruled that the news services were neither taxable ancillary telecommunications services nor any other form of taxable service.<sup>421.97.5</sup>

## ¶ 13.06A[3][f] Cloud Computing as an Intangible

If a state does not characterize a particular cloud computing transaction as involving the sale or rental of tangible personal property, as a transaction involving the sale of prewritten software regardless of its characterization, or as a service, there remains the possibility that the state has concluded that the transaction involves the transfer or use (license) of an intangible. The question then becomes whether or not the transaction is taxable.

## ¶ 13.06A[3][f][i] Cloud computing as a taxable license of an intangible.

The New Mexico taxing authority addressed the taxability of a “service” that allowed subscribers to (1) access their computers remotely; (2) host meetings; (3) host training sessions; and (4) give third-party or internal technicians remote access to the customers' computers for the purpose of providing technical support.<sup>421.97.6</sup> The taxpayer did “not sell or license any software to its customers,” although it did provide customers access to its services by allowing them to download an applet.<sup>421.97.7</sup> The applet was “incidental to the service subscription and [was] provided at no additional charge.”<sup>421.97.8</sup> After concluding that the subscription fees were not attributable to “the sale of tangible personal property, computer software, services, data access charges, or telecommunications services,” the taxing authority ruled that the taxpayer's receipts were nonetheless taxable, because they were receipts from the licensing of an intangible, which are taxable gross receipts under New Mexico law.<sup>421.97.9</sup>

## ¶ 13.06A[4] “Sale” or “Use”

Cloud computing can raise difficult questions as to whether the transaction in question constitutes a taxable “sale” or “use.” A “sale” for sales tax purposes is typically defined as “[a]ny transfer of title or possession, or both, exchange, barter, license, lease, or rental, conditional or otherwise, in any manner or by any means whatsoever, of tangible personal property for a consideration.”<sup>421.98</sup> Assuming that a cloud computing transaction involves “consideration” for “tangible personal property,” there may be a question whether there is a “transfer of title or possession.” For example, on several occasions, the Tennessee Department of Revenue concluded that a service that allowed customers to access software remotely over the Internet did not constitute a “sale” because there was no “transfer.”<sup>421.99</sup> On the other hand, the New York Department of Taxation and Finance concluded that the access of a taxpayer's software by its customers constitutes a “transfer of possession,” because customers gain “constructive possession” of the software and have “the right to use, or control or direct the use” of the software.”<sup>421.100</sup> The Utah Tax Commission similarly determined that fees received for “web services” constituted a sale because the company at issue “in substance grants subscribers the right to use the Company's proprietary software under a lease or contract.”<sup>421.101</sup>

The Kansas Department of Revenue has issued guidance addressing the taxability of cloud computing transactions on several occasions.<sup>421.102</sup> Although the department has consistently determined that remote access to software is not subject to sales tax, the reasoning underlying these determinations is not entirely clear. Perhaps the most useful guidance is provided by an opinion letter observing that hosted software is not an enumerated service and does not qualify as taxable “prewritten computer software” because the software is not “delivered to subscribers or installed on their computers.”<sup>421.103</sup> Rather, “[t]he service provider has title and possession of the software.”<sup>421.104</sup> Nebraska guidance similarly suggests that there is no sale when an application service provider “retains title to the software and does not grant a license with ownership rights to the customer.”<sup>421.105</sup> On the one hand, it may seem quite strange that a fee received for access to software is not considered a “sale.” On the other hand, to conclude that a “transfer” has occurred when software is accessed remotely may stretch the concept of “transfer” beyond its generally recognized meaning.

Even if no “transfer” occurs, one might consider certain cloud computing transactions to constitute taxable “licenses,” “leases,” or “rentals” of tangible personal property. For example, the Arizona Department of Revenue has characterized hosted software transactions as “leases” or “rentals” of tangible personal property.<sup>421.106</sup> The Wisconsin Tax Commission has likewise suggested that sale of application services may constitute the lease of tangible personal property.<sup>421.107</sup>

In addition to the question of whether computing transactions constitute “sales,” “leases,” or “licenses,” the question also arises as to whether such transactions amount to a taxable “use” of tangible personal property. “Use” is often defined as “the exercise of any right or power over tangible personal property.”<sup>421.108</sup> It is entirely possible that a seller of cloud computing may not be making a taxable “sale” (due to a lack of a transfer of title or possession) but that the purchaser could be making a taxable use. For example, the Nebraska Department of Revenue cautions that although certain cloud computing transactions may not be taxable (as described

above), an application service provider is still responsible for paying sales or use tax on its purchase of software if the software resides on a computer in Nebraska. <sup>421.109</sup>

## ¶ 13.06A[5] Where Does the Sale or Use Occur?

One of the most perplexing issues with respect to sales and use taxation of cloud computing transactions is the determination of where the sale or use occurs—the “sourcing” issue. <sup>421.110</sup> Recall that most states that have determined that a particular SaaS/hosted software transaction is subject to sales or use tax have done so on the theory—and fiction—that the transaction constitutes the sale of tangible personal property, based on the determination that the transaction involves canned or prewritten software, which is treated as tangible personal property. <sup>421.111</sup> Accordingly, in that context, the sourcing issue is a difficult one in large part because the application of the traditional rules for determining where a sale of tangible personal property occurs can be awkward at best when applied to cloud computing. Traditionally, sales of tangible personal property are sourced to their “destination,” which normally means the place of “delivery” or where title passes. <sup>421.112</sup> However, when software or hardware is accessed remotely, where delivery occurs is not self-evident. Two different sourcing regimes have emerged among states with respect to cloud computing transactions: location of the server on which the software is located and location of the user.

### ¶ 13.06A[5][a] Location of the Server

Several states have determined that hosted software transactions should be sourced to the location of the server on which the hosted software is stored. For example, prior to a change in the law, the Utah State Tax Commission concluded on several occasions that sales of hosted software should be attributed to the state where the server that housed the software was located. <sup>421.113</sup> In a letter ruling addressing a company's provision of hosted software to clients, the commission observed:

Company's clients might possess the software when the software is downloaded onto the Company servers if the clients are leasing server space. However, because the Company's servers are not located in Utah, the clients do not possess the software in Utah and the sales transactions are not taxable by Utah. The clients' 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. <sup>421.114</sup>

In a Tennessee ruling, the department of revenue concluded that although the granting of a license to use computer software constituted a taxable “sale,” a taxpayer's remote access of software located on a server outside of Tennessee was not taxable by Tennessee. <sup>421.115</sup> Similarly, a Pennsylvania ruling concluded that a variety of Web-based services were not subject to tax because the server or data center was not in Pennsylvania. <sup>421.116</sup>

Determining the source of sales of cloud computing services by reference to the server on which software is located has its advantages. First, any serious issue over whether the seller has nexus with the state will probably be avoided if the seller has tangible personal property in the state (e.g., a server), subject to the provisions of the Internet Tax Freedom Act. <sup>421.117</sup> Second, the location of the server is likely to be known by the seller. Third, the location of the server may be a single location, at least with regard to a particular customer. Collectively, these features tend to support the “location of the server” regime from the standpoint of administrative ease, although, as we have already observed, the “single location” assumption may be problematic because of the widespread use of multiple servers in cloud-based applications. <sup>421.118</sup> Whatever its administrative advantages, however, the “location of the server” regime makes no sense from a tax policy standpoint, assuming that the retail sales tax should reflect the destination principle. <sup>421.119</sup> The destination would ordinarily be the customer's location, not the seller's. The location of a server (or other hardware of the seller) is likely to correspond to the customer's location only in unusual circumstances and is thus a poor choice for attributing sales of cloud computing services, aside from its administrative benefits. Moreover, insofar as businesses can easily locate (or relocate) servers in low-tax or no-tax jurisdictions, tax planning and avoidance would be encouraged by a server-location sourcing rule.

### ¶ 13.06A[5][b] Location of the User

A number of state taxing authorities have attributed hosted software transactions to the location of the customer. The New York the Department of Taxation and Finance has considered the source of hosted software sales on several occasions. <sup>421.120</sup> In each case, the department determined that the situs of the sale was the location of the customer's employees who used the software. In the event

that the customer's employees who used the software were located both in and outside New York, the department concluded that tax should be collected based on the portion of the receipts attributable to the customer's employee-users located in New York.

In 2008, Utah enacted a law addressing the source of sales of computer software when there is no transfer of a copy of the software to the purchaser. <sup>421.121</sup> Such sales generally are sourced based on "an address for or other information on the purchaser if (a) the address or other information is available from the seller's business records; and (b) use of the address or other information from the seller's records does not constitute bad faith." <sup>421.122</sup> A Utah letter ruling addressing the sale of hosted software summarized this law as providing that the locations of sales are based on the addresses of the purchasers. <sup>421.123</sup> Guidance promulgated by the Arizona Department of Revenue likewise reflects the view that fees derived from sales of hosted software should be sourced to the location of the consumer. <sup>421.124</sup>

A Pennsylvania ruling addressed the sales and use tax consequences of "accessing taxable canned software on remote servers." <sup>421.124.1</sup> The taxpayer at issue purchased and installed software on servers that could be accessed remotely by the taxpayer's employees and the taxpayer's customers from within and outside Pennsylvania. The department determined that the taxpayer was required to collect sales tax from customers when the user is located in Pennsylvania. Similarly, the taxpayer was required to remit use tax to Pennsylvania when the software was used by employees in Pennsylvania. Significantly, the department noted that "[i]f the billing address for canned software accessed remotely is a Pennsylvania address, then the presumption is that all users are located in the Commonwealth." <sup>421.124.2</sup> A taxpayer can rebut this presumption by completing an exemption certificate and providing the percentage of users who are located in Pennsylvania. In contrast to an earlier ruling, the department explicitly rejected the proposition that the location of the server that hosts the software affects the sourcing of the sale.

A Hawaii letter ruling considered sales and licenses of software used outside Hawaii. <sup>421.125</sup> Although the ruling does not offer a detailed description of the services or products at issue, the Hawaii Department of Taxation strongly implied that the transaction involves SaaS (software as a service). <sup>421.126</sup> The department concluded that regardless of whether the software is considered "a product, a service, or some combination of the two," the transaction was exempt from Hawaii general excise tax because the software is consumed entirely outside of Hawaii and the taxpayer has no customers in the state. <sup>421.127</sup>

A New Mexico ruling considered both the taxability and sourcing of a cloud computing "service" that allowed subscribers to have remote computer access, participate in online meetings and training sessions, and provide (or receive) remote technical support. <sup>421.127.1</sup> After ruling that the taxpayer's activities were properly characterized as the licensing of intangibles, the receipts from which are subject to New Mexico gross receipts tax, <sup>421.127.2</sup> the New Mexico taxing authority ruled further that for gross receipts tax purposes, "the location of the license is the place where it will normally be exercised." <sup>421.127.3</sup> Thus, "[w]hen the customer is in New Mexico, with a computer located in New Mexico, the location of the license is in New Mexico," and the licensing receipts are subject to the New Mexico gross receipts tax. <sup>421.127.4</sup>

Just as the "location of the server" regime has its advantages and disadvantages, so the "location of the user" regime has its advantages and disadvantages, although they are largely the "flip side" of the server regime. First, from a tax policy standpoint, the customer-location rule reflects the destination principle that is widely accepted as the appropriate rule for implementing the retail sales tax and other consumption taxes. <sup>421.128</sup> Furthermore, sourcing hosted software to the customer's location would result in equivalent treatment between cloud computing and transactions involving the sale of prewritten computer software in tangible form. There is no policy justification for taxing our purchase of, say, TurboTax that is delivered on a disc (or, indeed, downloaded onto our computers) at our locations while not taxing our purchase of an "online" version of TurboTax, which involves the use of hosted software in the "cloud." Second, at least in circumstances in which the customer owes use tax and is responsible for and likely to be compliant with its own tax obligations—namely, in the B2B context—the customer will be in a position where it can source the tax to its proper location, which it is likely to know.

Nevertheless, the "location of the user" regime is not without its own problems. The seller might not have the requisite information to determine the purchaser's location, particularly if the "user" for purposes of the sourcing rule is the ultimate user rather than the purchaser. <sup>421.129</sup> Furthermore, even if the seller has the requisite information about the purchaser, if the seller has no nexus with the state, tax collection of B2C transactions relying on purchaser compliance is likely to be no more effective in cloud computing contexts than in other contexts. "Taxing honesty" has not proven to be a winning tax strategy.

<sup>421.7</sup>

The following discussion of cloud computing issues draws freely from W. Hellerstein & J. Sedon, "State Taxation of Cloud

Computing: A Framework for Analysis," 117 J. Tax'n 11 (July 2012), and we are very grateful to Jon Sedon for his invaluable contribution to this discussion.

421.8

See, e.g., M. Eisenstein & B. Slote, "Let the Sunshine In: The Age of Cloud Computing," State Tax Notes, Nov. 28, 2011, p. 573; C. Griffith, "Will PaaS get a Pass from Sales and Use Tax?," State Tax Notes, July 23, 2012, p. 267; M. Jacobs & K. Miller, "The State Tax Implications of Cloud Computing," State Tax Notes, Sept. 13, 2010, p. 709; K. Houghton & M. Luongo, "No Improved Visibility for Cloud Computing Taxation," State Tax Notes, July 4, 2011, p. 69; K. Houghton, et al., "Partly Cloudy Forecast for State Taxes on Cloud Computing," State Tax Notes, Sept. 2, 2010, p. 781; C. Kranz & I. Kitamura, "Taxing Software and Cloud Computing: Yesterday's Law, Today's Technology," State Tax Notes, Dec. 12, 2011, p. 737; T. Noonan, "Nuts-and-Bolts Answers on Cloud Computing," State Tax Notes, Aug. 20, 2012, p. 527; A. Rosen, L. Robinson & H. Holderness, "Cloud Computing: The Answer Is 'No'," State Tax Notes, Oct. 8, 2012, p. 101.

421.9

See, e.g., ¶¶ 9.18[3][f] (discussing treatment of cloud computing services in the sales factor of corporate income tax apportionment formulas) and 19.02[11] (discussing nexus issues raised by cloud computing).

421.10

National Institute of Standards and Technology, U.S. Dep't of Commerce, The NIST Definition of Cloud Computing, Special Publication 800-145 (hereinafter cited as NIST, Cloud Computing), available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

421.11

NIST, Cloud Computing. The NIST explains the "essential characteristics" as follows:

On-demand self-service. A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider.

Broad network access. Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, tablets, laptops, and workstations).

Resource pooling. The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand. There is a sense of location independence in that the customer generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction (e.g., country, state, or datacenter). Examples of resources include storage, processing, memory, and network bandwidth.

Rapid elasticity. Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward commensurate with demand. To the consumer, the capabilities available for provisioning often appear to be unlimited and can be appropriated in any quantity at any time.

Measured service. Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.

National Institute of Standards and Technology, U.S. Dep't of Commerce, The NIST Definition of Cloud Computing, Special Publication 800-145, available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

421.12

NIST, Cloud Computing, available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

421.13

The ensuing description of cloud computing relies on NIST, Cloud Computing, available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

421.14

Throughout this discussion, we use the term “cloud computing service” in a generic or nontechnical sense from a state tax standpoint. In other words, unless the context clearly indicates otherwise, by using this (or similar phraseology) denominating a cloud computing application as a “service,” we are not intending to suggest that the cloud computing application under discussion is treated as a “service” as distinguished from a “good,” digital or otherwise, from a state tax standpoint.

421.15

See supra ¶¶ 13.06[7] and ¶ 19A.04[2][c][vii].

421.16

For a discussion of many of these more traditional transactions, albeit in digital form, see supra ¶¶ 13.06[6] and 13.06[7].

421.17

NIST, Cloud Computing, available at <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

421.18

Indeed, the Vermont Legislature may have understood this point, having recently put a temporary moratorium on “prewritten software accessed remotely” and at the same time appointed a committee to consider, among other things, “the taxation of software, platform, and infrastructure as services accessed remotely.” H. 782, §§ 52, 53 (approved May 15, 2012), available at [www.tax.org](http://www.tax.org) (Tax Analysts Doc 2012-11141).

421.19

We say “from a practical perspective” because one could just as easily say that the initial question is whether the state subjects the cloud computing transaction to tax, whether or not there is jurisdiction over the parties to the transaction. Typically, however, taxpayers first determine whether there is jurisdiction to enforce a tax before determining whether the substantive taxing provisions reach the transactions under consideration.

421.20

See, e.g., ¶ 19.02[11].

421.21

Although the purchaser's nexus with the state may be of little significance in the B2C context, because individual consumers are no more likely voluntarily to remit a use tax on the purchase of cloud computing services than they are to remit a use tax on the purchase of a book from Amazon, in B2B transactions a business with nexus in the state may well take its tax payment and collection obligations seriously, particularly if it is a large business that is routinely audited by state taxing authorities. Moreover, the purchaser of cloud computing services in a B2B transaction may also be a seller in a subsequent (B2B or B2C) transaction, so it must be attentive to the possibility that a purchase of cloud computing services in the B2B transaction will trigger tax collection nexus with respect to a subsequent transaction in the same state.

421.22

See ¶ 12.08 and supra ¶ 13.06.

421.23

See infra ¶¶ 13.06A[3][e] and 13.06A[3][f].

421.24

See ¶ 12.08.



421.25

Priv. Ltr. Rul. PLR-11-7, Colo. Dep't of Revenue, Dec. 20, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (relying on *City of Boulder v. Leanin' Tree, Inc.*, 72 P3d 361 (Colo. 2003)), discussed in ¶ 12.08[2][a] and infra ¶ 13.07[4][b].

421.26

Priv. Ltr. Rul. PLR-11-7, Colo. Dep't of Revenue, Dec. 20, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.27

Priv. Ltr. Rul. PLR-11-7, Colo. Dep't of Revenue, Dec. 20, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (citing *Leanin' Tree*, 72 P3d 361, 365 (Colo. 2003)).

421.28

Priv. Ltr. Rul. PLR-11-7, Colo. Dep't of Revenue, Dec. 20, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). See also Ltr. Rul. 12-8, Mass. Dep't of Revenue, July 16, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (remote storage is nontaxable service when the customer does not operate, direct, or control the subject hardware). Accord Ltr. Rul. 12-11, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (remote back-up storage and restoration).

421.29

Priv. Ltr. Rul. PLR-11-7, Colo. Dep't of Revenue, Dec. 20, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.30

See infra ¶ 13.06A[3][b].

421.31

Mass. Gen. Laws Ann. ch. 64H, § 1 (Westlaw 2013); 830 Mass. Code Regs. §§ 64H.1.3(2), 64H.1.3(3) (Westlaw 2013).

421.32

830 Mass. Code Regs. § 64H.1.3(14)(a) (Westlaw 2013).

421.33

830 Mass. Code Regs. § 64H.1.3(14)(a) (Westlaw 2013).

421.34

Ltr. Rul. 11-4, Mass. Dep't of Revenue, Apr. 12, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.35

Ltr. Rul. 11-4, Mass. Dep't of Revenue, Apr. 12, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.36

Ltr. Rul. 11-2, Mass. Dep't of Revenue, Mar. 4, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.37

Ltr. Rul. 11-2, Mass. Dep't of Revenue, Mar. 4, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.38

On similar facts, the Indiana Department of Revenue concluded that the core service offering and data packages constituted nontaxable services, but the workflow add-ons were taxable as prewritten computer software. Rev. Rul. ST 11-05, Ind. Dep't of State Revenue, Oct. 11, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). It should be noted that the Indiana Commissioner of Revenue issued a directive in October 2011 announcing that, to achieve compliance with the Streamlined Sales and Use Tax Agreement, see generally Chapter 19A, the department would impose sales and use tax on products transferred electronically only if

the products meet the definition of specified digital products, prewritten computer software, or telecommunications services. Comm'rs Directive 41, Ind. Dep't of State Revenue, Oct. 1, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.39

Ltr. Rul. 12-5, Mass. Dep't of Revenue, May 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.40

Ltr. Rul. 12-5, Mass. Dep't of Revenue, May 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (emphasis supplied).

421.41

Ltr. Rul. 12-5, Mass. Dep't of Revenue, May 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.42

Ltr. Rul. 12-5, Mass. Dep't of Revenue, May 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). Accord Priv. Ltr. Rul. 12-2, SC Dep't of Revenue, June 12, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (physician business services). See also Ltr. Rul. 12-4, Mass. Dep't of Revenue, May 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (sales of "call tracking services" whereby company collects and analyzes information regarding car dealerships' prospective customers, measures advertising performance, and evaluates employee call handling skills is nontaxable because "object" of the transaction is a telemarketing service). But see Ltr. Rul. 12-13, Mass. Dep't of Revenue, Nov. 9, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (ruling that automated email communications and marketing message system that allowed physicians and other service professionals to communicate with patients and customers was taxable software, and distinguishing Letter Ruling 12-5, because it "was based on unique facts involving substantial nontaxable personal services that were part of the sale and provided for a bundled price").

421.43

See supra ¶ 13.06.

421.44

See RIA State Tax Guide ¶ 259-A (chart), available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) and reproduced in ¶ 12.02, Table 12.11 .

421.45

See, e.g., Mass. Gen. Laws Ann. ch. 64H, § 1 (Westlaw 2013); Mich. Comp. Laws § 205.51a(q) (Westlaw 2013); Ohio Rev. Code Ann. § 5739.01(YY) (Westlaw 2013). The Streamlined Sales and Use Tax defines "tangible personal property" as including "prewritten computer software," which need not be tangible, although states "may exempt 'prewritten computer software' 'delivered electronically' or by 'load and leave.'" See ¶ 19A.04[2][c]; SSUTA App. C, pts. I, II.

421.46

See supra ¶ 13.06A[3][b].

421.47

See, e.g., Wash. Rev. Code § 82.04.050(6)(a) (Westlaw 2013). The statutory basis for determining whether canned or prewritten software in general, and cloud computing services in particular, are taxable may be significant, because the availability of certain exemptions may turn on whether the software is characterized as tangible personal property.

421.48

As we have just observed above, a few state statutes simply subject such software to tax without explicitly providing that it is tangible personal property, a service, or an intangible. See, e.g., Wash. Rev. Code § 82.04.050(6)(a) (Westlaw 2013).

421.49

See supra ¶ 13.06A[1].

421.50

See, e.g., Taxpayer Info. Rul. LR11-011, Ariz. Dep't of Revenue, June 22, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Taxpayer Info. Rul. LR11-010, Ariz. Dep't of Revenue, June 22, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Rev. Rul. ST 09-03, Ind. Dep't of State Revenue, Mar. 30, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Letter of Finding 09-0418, Ind. Dep't of State Revenue, Jan. 1, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-11(17)S, NY Dep't of Tax'n & Fin., June 1, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(44)S, NY Dep't of Tax'n & Fin., Sept. 24, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(41)S, NY Dep't of Tax'n & Fin., Sept. 22, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(33)S, NY Dep't of Tax'n & Fin., Aug. 13, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(8)S, NY Dep't of Tax'n & Fin., Feb. 2, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Sales & Use Tax Rul. SUT-12-001, Pa. Dep't of Revenue, May 31, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("cloud computing"); Sales & Use Tax Rul. SUT-10-005, Pa. Dep't of Revenue, Nov. 8, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 10-011, Utah State Tax Comm'n, Feb. 24, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 09-003, Utah State Tax Comm'n, Apr. 7, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 08-012, Utah State Tax Comm'n, Jan. 21, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). As noted in the text, these rulings support the generic proposition that various cloud computing transactions fall within the description of taxable canned or prewritten software. They do not all hold that the particular transaction under consideration was in fact taxable. See, e.g., Sales & Use Tax Rul. SUT-10-005, Pa. Dep't of Revenue, Nov. 8, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("access to software solely through the Internet is not a taxable transfer of software *unless the server or data center resides in Pennsylvania*," which it did not on the facts presented) (emphasis supplied).

421.50.1

Ltr. Rul. 12-6, Mass. Dep't of Revenue, May 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.2

Ltr. Rul. 12-6, Mass. Dep't of Revenue, May 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.3

Ltr. Rul. 12-6, Mass. Dep't of Revenue, May 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.4

830 Mass. Code Regs. 64H.1.3(3)(a) (Westlaw 2013).

421.50.5

Ltr. Rul. 12-6, Mass. Dep't of Revenue, May 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). See also Ltr. Rul. 12-8, Mass. Dep't of Revenue, July 16, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (sales of cloud computing that include software licensed by seller are taxable).

421.50.6

Ltr. Rul. 12-10, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). For a general discussion of the "true object" test, see ¶ 12.08[1].

421.50.7

Ltr. Rul. 12-10, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.8

Ltr. Rul. 12-10, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.9

Ltr. Rul. 12-10, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.10

Ltr. Rul. 12-10, Mass. Dep't of Revenue, Sept. 25, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). See also Ltr. Rul. 12-13,

Mass. Dep't of Revenue, Nov. 9, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (ruling that an e-mail communications and marketing message system, which "operates on an almost entirely automated basis," is taxable). In a ruling addressing an essentially identical fact pattern (and possibly the same taxpayer) as *Letter Ruling 12-10*, the New Mexico taxing authority ruled that the offerings did *not* involve the sale of computer software. Rather, it was the sale of a taxable license. Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012. For a more detailed discussion of the New Mexico ruling, see *infra* ¶ 13.06A[3][f]. The Tennessee Department of Revenue offered yet another interpretation of essentially the same fact pattern, holding that the remote access and remote support functions were not taxable services, relying, as did the Massachusetts taxing authority, on the true object test but drawing a different conclusion. Ltr. Rul. 12-30, Tenn. Dep't of Revenue, Nov. 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). The Tennessee taxing authority ruled further, however, that two other services offered by the taxpayer, which allowed multiple persons to view a subscriber's screen and that enabled subscribers to conduct online training sessions, were taxable ancillary telecommunications services. See Ltr. Rul. 12-30, Tenn. Dep't of Revenue, Nov. 21, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). For a discussion of the treatment of cloud computing as a taxable service, see *infra* ¶ 13.06A[3][e], and for a discussion of ancillary telecommunications services, see ¶ 15.10[1][a].

421.50.11

Priv. Ltr. Rul. 10-012, Utah State Tax Comm'n, Dec. 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.12

Priv. Ltr. Rul. 10-012, Utah State Tax Comm'n, Dec. 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.50.13

See *supra* ¶ 13.06A[3][c][i].

421.51

Priv. Ltr. Rul. LR 5816, Mo. Dep't of Revenue, Aug. 6, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. LR 5753, Mo. Dep't of Revenue, July 16, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.52

Priv. Ltr. Rul. LR 5816, Mo. Dep't of Revenue, Aug. 6, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.53

Priv. Ltr. Rul. LR 5753, Mo. Dep't of Revenue, July 16, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.54

Mo. Code Regs. Ann. tit. 12, § 10-109.050(1) (Westlaw 2013).

421.55

Mo. Code Regs. Ann. tit. 12, § 10-109.050(3)(A) (Westlaw 2013).

421.56

Priv. Ltr. Rul. LR 4504, Mo. Dep't of Revenue, Jan. 25, 2008, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.57

Policy Ltr., "Taxability of Hosted Software and Related Training Services," Iowa Dep't of Revenue, Jan. 11, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.58

Policy Ltr., Iowa Dep't of Revenue, Jan. 11, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (citing Iowa Code § 423.3(67)).

421.59

Technical Assistance Advisement 05A-026, Fla. Dep't of Revenue, June 2, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.60

See supra ¶ 13.06A[3][c].

421.61

Priv. Ltr. Rul. 06-004, Utah State Tax Comm'n, July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.62

Priv. Ltr. Rul. 06-004, Utah State Tax Comm'n, July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.63

Priv. Ltr. Rul. 06-004, Utah State Tax Comm'n, July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.64

See, e.g., Priv. Taxpayer Rul. LR 09-007, Ariz. Dep't of Revenue, Dec. 3, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Letter of Finding No. 04-20091023, Ind. Dep't of State Revenue, Dec. 1, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (while suggesting that hosting services were taxable as the lease of tangible personal property, concluding, on the facts, that no tax was due because the servers are located outside of Indiana).

421.65

See supra ¶ 13.06A[3][a].

421.66

See, e.g., Wash. Rev. Code § 82.04.050(6)(a) (Westlaw 2013).

421.66.1

It might also be because the state has concluded that the cloud computing transaction involves an intangible. See *infra* ¶ 13.06A[3][f].

421.67

Advisory Op., TSB-A-05(40)S, NY Dep't of Tax'n & Fin., Oct. 26, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 07-013, Utah State Tax Comm'n, Dec. 21, 2007, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.68

Priv. Ltr. Rul. 07-013. Utah State Tax Comm'n, Rul. 07-01 July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.69

Priv. Ltr. Rul. 07-013. Utah State Tax Comm'n, Rul. 07-01 July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.70

Priv. Ltr. Rul. 07-013. Utah State Tax Comm'n, Rul. 07-01 July 27, 2006, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.71

Advisory Op., TSB-A-05(40)S, NY Dep't of Tax'n & Fin., Oct. 26, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). The department also observed that the data being stored was not considered "tangible personal property," so the charge for the storage was not subject to tax. Furthermore, the data was stored on the taxpayer's equipment, which the taxpayer operated and maintained. Accordingly, subscription charges were not receipts from the rental of equipment.

421.72

Priv. Ltr. Rul. 10-2, SC Dep't of Revenue, July 29, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.73

Priv. Ltr. Rul. 10-2, SC Dep't of Revenue, July 29, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.74

Priv. Ltr. Rul. 10-2, SC Dep't of Revenue, July 29, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). South Carolina's sales and use tax applies to "gross proceeds accruing or proceeding from the charges for the ways or means for the transmission of the voice or messages, including the charges for use of equipment furnished by the seller or supplier of the ways or means for the transmission of the voice or messages." SC Code Ann. §§ 12-36-910(B)(3)(a), 12-36-1310(B)(3)(a) (Westlaw 2013). See also Ltr. Rul. 12-8, Mass. Dep't of Revenue, July 16, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (taxable telecommunications include data transfer fees for transmission of data or information by various means, including transmissions over the Internet).

421.75

Rev. Rul. 05-13, SC Dep't of Revenue, Aug. 21, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Rev. Rul. 03-5, SC Dep't of Revenue, Dec. 9, 2003, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.76

Rev. Rul. 05-13, SC Dep't of Revenue, Aug. 21, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.77

Rev. Rul. 89-14, SC Dep't of Revenue, July 7, 1989, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.78

Rev. Rul. 89-14, SC Dep't of Revenue, July 7, 1989, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.79

Taxable Services, Texas Comp. of Pub. Acc'ts, available at [http://www.window.state.tx.us/taxinfo/taxpubs/tx96\\_259.pdf](http://www.window.state.tx.us/taxinfo/taxpubs/tx96_259.pdf).

421.80

Taxable Services, Texas Comp. of Pub. Acc'ts, available at [http://www.window.state.tx.us/taxinfo/taxpubs/tx96\\_259.pdf](http://www.window.state.tx.us/taxinfo/taxpubs/tx96_259.pdf) (emphasis supplied). Under Texas law, 20 percent of the charge for data processing services is exempt from sales and use tax. Tex. Tax Code § 151.351 (Westlaw 2013).

421.81

Policy Ltr. Rul. 201004665L, Tex. Comp. of Pub. Acc'ts, Apr. 29, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.82

Policy Ltr. Rul. 200904664L, Tex. Comp. of Pub. Acc'ts, Apr. 20, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.83

Policy Ltr. Rul. 200805095L, Tex. Comp. of Pub. Acc'ts, May 28, 2008, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.84

Policy Ltr. Rul. 200801068L, Tex. Comp. of Pub. Acc'ts, Jan. 17, 2008, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.85

Policy Ltr. Rul. 200401223L, Tex. Comp. of Pub. Acc'ts, Jan. 14, 2004, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). (revising Policy Ltr. Rul. 200311223L, Tex. Comp. of Pub. Acc'ts, Nov. 17, 2003, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com)).

421.86

Policy Ltr. Rul. 200009754L, Tex. Comp. of Pub. Acc'ts, Sept. 28, 2000, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).



421.87

Policy Ltr. Rul. 200002080L, Tex. Comp. of Pub. Acc'ts, Feb. 29, 2000, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). See also Policy Ltr. Rul. 201207533L, Tex. Comp. of Pub. Acc'ts, July 31, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (finding a wide variety of cloud services taxable).

421.88

Conn. Gen. Stat. § 12-407(a)(37) (Westlaw 2013). The rate applied to "computer and data processing services" is one percent rather than the 6.35 percent rate applied to most other taxable sales, Conn. Gen. Stat. §§ 12-408(1) (Westlaw 2013), which may reflect the fact that most data processing sales are B2B and, as a matter of principle, should not be part of the retail sales tax base. See ¶ 12.06[1].

421.89

Conn. Agencies Regs. § 12-426-27(b)(1) (Westlaw 2013).

421.90

Legal Rul. 93-1, Conn. Dep't of Revenue Servs., July 28, 1993, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.91

Wash. Code Rev. § 82.08.010(1)(a) (Westlaw 2013).

421.92

Wash. Code Rev. § 82.04.192(3)(a) (Westlaw 2013).

421.93

Wash. Code Rev. §§ 82.04.192(3)(b)(i)-(xvi) (Westlaw 2013).

421.93.1

See C. Allen & B. Heller, "Taxing and Sourcing Digital Transactions in Washington State," State Tax Notes, Oct. 8, 2012, p. 117.

421.93.2

Ball Aerospace & Techs. Corp. v. City of Boulder, \_\_ P3d \_\_ (Colo. App. 2012) .

421.93.3

*Ball Aerospace*, \_\_ P3d \_\_, \_\_ (Colo. App. 2012) (quoting the ordinance).

421.93.4

For a discussion of this aspect of the decision and of the court's treatment of the purchase of access to online databases, see *supra* ¶ 13.06[6].

421.93.5

*Ball Aerospace*, \_\_ P3d \_\_, \_\_ (Colo. App. 2012) .

421.94

Priv. Ltr. Rul. W1025002, Wis. Dep't of Revenue, Mar. 24, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. W0921002, Wis. Dep't of Revenue, March. 6, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.95

The department's analysis suggests that if a customer has unlimited access to the server, loads its own software, is responsible for security measures regarding its use of the computer equipment and software, and decides how, when, and where its output will be

provided through its own manipulation of the software, a cloud transaction would be considered to be the lease of tangible personal property.

421.96

See, e.g., Priv. Ltr. Rul. LR 5416, Mo. Dep't of Revenue, Feb. 23, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Rev. Rul. 01-10-2, Neb. Dep't of Revenue, Mar. 1, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Ltr. Rul. 11-38, Tenn. Dep't of Revenue, July 29, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Ruling of the Tax Comm'r, Pub. Doc. No. 12-191, Va. Dep't of Tax'n, Nov. 29, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97

Ltr. Rul. 08-6, Mass. Dep't of Revenue, Mar. 26, 2008, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.1

See supra ¶ 13.06A[3][c][i].

421.97.2

Priv. Ltr. Rul. 10-012, Utah State Tax Comm'n, Dec. 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.3

Priv. Ltr. Rul. 10-012, Utah State Tax Comm'n, Dec. 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.4

Priv. Ltr. Rul. 12-002, Utah State Tax Comm'n, Jan. 10, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.5

Priv. Ltr. Rul. 12-002, Utah State Tax Comm'n, Jan. 10, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). The commission was careful to note: "This ruling does not apply to electronic subscriptions to news magazines. In such situations, the news magazines' content is transferred to customers and the customers are not merely viewing the content via the internet." Many states, including Utah, tax various digital products. See, e.g., Utah Code Ann. § 59-12-103(1)(m) (Westlaw 2013). For a general discussion of the taxation of digital products, see supra ¶ 13.06[7]. For a discussion of the taxation of enhanced telecommunications services, see ¶ 15.10[1][a].

421.97.6

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.7

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.8

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.97.9

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.98

See, e.g., Fla. Stat. § 212.02(15)(a) (Westlaw 2013); see also N.Y. Tax Law § 1101(b)(5) (Westlaw 2013). See supra ¶ 13.01[2].

421.99

Ltr. Rul. 07-35, Tenn. Dep't of Revenue, Nov. 26, 2007, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("[b]ecause title and possession of the software always reside with Taxpayer, there is no transfer for purposes of [the Tennessee statute]"). In a subsequent ruling, the department reiterated that "[n]o sale or use of tangible personal property occurs in Tennessee when the

Taxpayer accesses the...software application via the Internet, because the Vendor does not transfer title, possession, or control of the...software application to the Taxpayer at any time." Ltr. Rul. 11-58, Tenn. Dep't of Revenue, Oct. 10, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). Nevertheless, the department went on to note that "the granting of a license to use computer software constitutes a taxable sale," but was not attributed to Tennessee because the server on which the software was located was outside of Tennessee. Ltr. Rul. 07-35, Dep't of Revenue, Oct. 10, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). In another ruling, the department observed that "database software always remains on the Taxpayer's servers and the Taxpayer maintains control of the software at all times. For a monthly fee, the Taxpayer's customers may gain access to the database, but this access is only gained remotely via the Internet. Therefore, no retail sale of the...software occurs." Ltr. Rul. 11-21, Tenn. Dep't of Revenue, June 10, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.100

Advisory Op., TSB-A-09(33)S, NY Dep't of Tax'n & Fin., Aug. 13, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (citing NY Sales & Use Tax Reg. § 526.7(e)(4) (NY Comp. Codes R. & Regs. tit. 20, § 526.7(e)(4) (Westlaw 2012))).

421.101

Priv. Ltr. Rul. 10-011, Utah State Tax Comm'n, Feb. 24, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.102

See, e.g., Op. Ltr. O-2012-00, Kan. Dep't of Revenue, Feb. 6, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. P-2011-010, Kan. Dep't of Revenue, Dec. 27, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. P-2011-004, Kan. Dep't of Revenue, June 16, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Info. Guide EDU-71R, "Revised Sales Tax Guidelines: Taxing Charges for Computer Products and Services and Internet Related Sales and Services," Kan. Dep't of Revenue, July 23, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Op. Ltr. O-2010-005, Kan. Dep't of Revenue, June 22, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Kan. Priv. Ltr. Rul. P-2005-011, Kan. Dep't of Revenue, May 31, 2005, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.103

Op. Ltr. O-2012-00, Kan. Dep't of Revenue, Feb. 6, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.104

Op. Ltr. O-2012-00, Kan. Dep't of Revenue, Feb. 6, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). However, when a taxpayer leases a server (or space on a server) located in Kansas and prewritten software is installed on the server, both the sale of the software and the lease of the server (or space on a server) are subject to Kansas sales or use tax. Kan. Info. Guide EDU-71R, "Revised Sales Tax Guidelines: Taxing Charges for Computer Products and Services and Internet Related Sales and Services," Kan. Dep't of Revenue, July 23, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.105

Info. Guide 6-511-2011, Neb. Dep't of Revenue, July 27, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.106

See, e.g., Taxpayer Info. Rul. LR11-010, Ariz. Dep't of Revenue, June 22, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Taxpayer Info. Rul. LR10-007, Ariz. Dep't of Revenue, March. 24, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Ariz. Priv. Taxpayer Rul. LR04-007, Ariz. Dep't of Revenue, Aug. 31, 2004, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.107

Priv. Ltr. Rul. W1025002, Wis. Dep't of Revenue, Mar. 24, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. W0921002, Wis. Dep't of Revenue, March. 6, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.108

See, e.g., Fla. Stat. § 212.02(20) (Westlaw 2013); NY Tax Law § 1101(b)(7) (Westlaw 2013); see generally ¶ 16.02.

421.109

Info. Guide 6-511-2011, Neb. Dep't of Revenue, July 27, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.110

Although the use of the term "source" to denominate the location of a sale is a relatively recent development in the context of retail sales taxation and may seem a bit strange to readers who are accustomed to thinking about source in the context of income taxation, see, e.g., IRC § 861 (defining "income from sources within the United States"), the term has been used with increasing frequency in the sales tax context with the Streamlined Sales Tax Agreement's adoption with a series of "sourcing rules" for determining the state in which a sale takes place. See ¶ 19A.06.

421.111

See supra ¶ 13.06A[3][c].

421.112

See ¶ 18.02.

421.113

See, e.g., Priv. Ltr. Rul. 09-003, Utah State Tax Comm'n, Apr. 7, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 08-012, Utah State Tax Comm'n, Jan. 21, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Ltr. Rul. 08-002, Utah State Tax Comm'n, Aug. 4, 2008, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) (superseded June 10, 2009, rescinded effective Dec. 1, 2010).

421.114

Priv. Ltr. Rul. 09-003, Utah State Tax Comm'n, Apr. 7, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.115

Ltr. Rul. 11-58, Tenn. Dep't of Revenue, Oct. 10, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.116

Sales & Use Tax Rul. SUT-10-005, Pa. Dep't of Revenue, Nov. 8, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). But see Sales & Use Tax Rul. SUT-12-001, Pa. Dep't of Revenue, May 31, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("cloud computing"), and discussed infra ¶ 13.06A[5][b]. It should be noted that the 2010 ruling has been removed from the department's Web site.

421.117

If the seller has no presence in the state other than the server, the Internet Tax Freedom Act would prevent the state from imposing a tax collection obligation on the seller. See ¶ 19.02A[1].

421.118

See supra ¶ 13.06A[1].

421.119

See ¶ 18.02[1].

421.120

See, e.g., Advisory Op., TSB-A-11(17)S, NY Dep't of Tax'n & Fin., June 1, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(44)S, NY Dep't of Tax'n & Fin., Sept. 24, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(41)S, NY Dep't of Tax'n & Fin., Sept. 22, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(33)S, NY Dep't of Tax'n & Fin., Aug. 13, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Advisory Op., TSB-A-09(8)S, NY Dep't of Tax'n & Fin., Feb. 2, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.121

2008 Utah Laws Ch. 384 (H.B. 206), codified at Utah Code Ann. § 59-12-211(12) (Westlaw 2013).

421.122

Utah Code Ann. § 59-12-211(4), (12) (Westlaw 2013).

421.123

Priv. Ltr. Rul. 10-011, Utah State Tax Comm'n, Feb. 24, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com). See also Priv. Ltr. Rul. 10-012, Utah State Tax Comm'n, Dec. 7, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.124

See, e.g., Taxpayer Info. Rul. LR11-011, Ariz. Dep't of Revenue, June 22, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Taxpayer Info. Rul. LR11-010, Ariz. Dep't of Revenue, June 22, 2011, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Taxpayer Info. Rul. LR10-007, Ariz. Dep't of Revenue, Mar. 4, 2010, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com); Priv. Taxpayer Rul. LR04-007, Ariz. Dep't of Revenue, Aug. 31, 2004, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.124.1

Sales & Use Tax Rul. SUT-12-001, Pa. Dep't of Revenue, May 31, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("cloud computing").

421.124.2

Sales & Use Tax Rul. SUT-12-001, Pa. Dep't of Revenue, May 31, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com) ("cloud computing").

421.125

Ltr. Rul. 2012-06, Haw. Dep't of Tax'n, Mar. 23, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.126

In the course of its letter, the department raised a host of questions relevant to the analysis of cloud computing, such as:

- Should SaaS be treated like electronically delivered software?
- Is a license agreement imperative, and what happens if there is none?
- Is SaaS simply a "license to use"?
- Is SaaS an information service or database?
- What if tangible backup copies are provided to the licensee?
- What if the agreements provide for periodic updates?
- Is a sale sourced to the customer's billing/shipping address?
- Is a sale sourced to where the hosting server is located, because the software is "used" in that state?
- Is a sale sourced to where users access it?
- What if it's not known where the users are?

Ltr. Rul. 2012-06, Haw. Dep't of Tax'n, Mar. 23, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.127

Ltr. Rul. 2012-06, Haw. Dep't of Tax'n, Mar. 23, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.127.1

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.127.2

See supra ¶ 13.06A[3][f] for a fuller discussion of the tax characterization aspects of this ruling.

421.127.3

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.127.4

Rul. 401-12-2, NM Tax'n & Revenue Dep't, Sept. 28, 2012, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).

421.128

See ¶ 18.02[1]; Organization for Economic Cooperation and Development, Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions 24 (2001).

421.129

The problem here is analogous to the problem faced by the online advertising provider in Advisory Op., TSB-A-09(8)C, NY Dep't of Tax'n & Fin., June 16, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com), involving the sourcing of receipts for purposes of the sales factor of the New York corporate franchise (income) tax. The taxpayer provided online advertising services to customers and asked the New York Department of Taxation and Finance for guidance on sourcing its receipts for sales factor purposes. The department concluded that the "governing principle" is to source receipts to New York on the basis of the number of people who view or read the advertisement in New York. In addition, the department noted that if the taxpayer "does not have any way of knowing where a prospective customer is when (s)he views or reads an advertisement on the Web site, [the taxpayer] may use some reasonable method...subject to the approval of the Tax Department." NY Advisory Op., TSB-A-09(8)C, NY Dep't of Tax'n & Fin., June 16, 2009, available at [www.checkpoint.thomsonreuters.com](http://www.checkpoint.thomsonreuters.com).