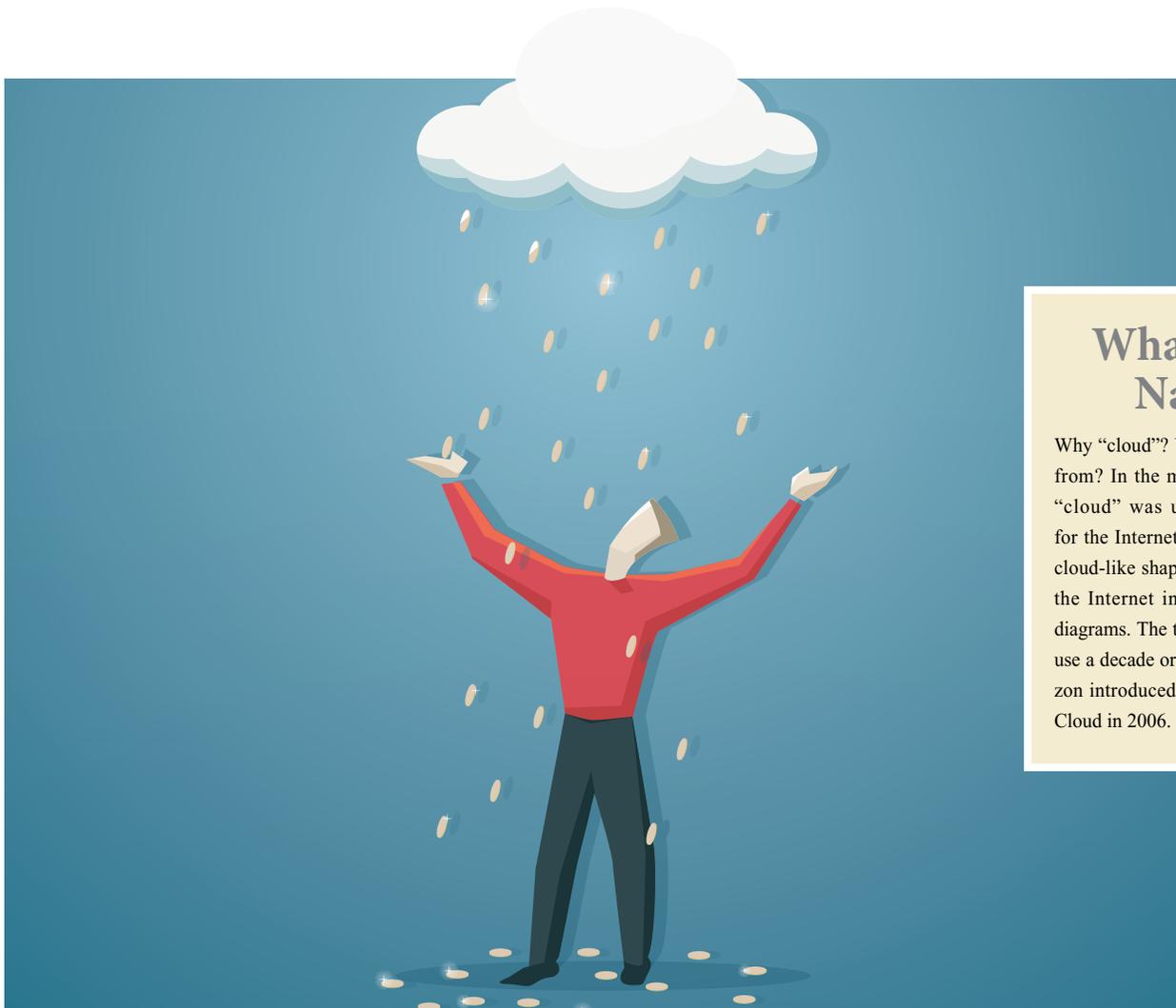


Pennies From Heaven?

States look to cloud-based computing for tax revenues as old sources evaporate or move online.



What's in a Name?

Why “cloud”? Where did that come from? In the mid-1990s, the word “cloud” was used as a metaphor for the Internet, and a standardized cloud-like shape was used to depict the Internet in computer network diagrams. The term came into wider use a decade or so later, when Amazon introduced its Elastic Compute Cloud in 2006.

BY SUZANNE WEISS

More and more of what we do every day through our computers and smartphones takes place in “the cloud”—vast networks of servers that allow us to store, manage and process data remotely, via the Internet.

A growing range of activities takes us in and out of the cloud all day long. When we sync our iPhones, search

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Google apps and maps, read our e-mail, create a photobook on Shutterfly, download a movie from Netflix, withdraw cash from an ATM, or network on Facebook, Twitter or LinkedIn, to name a few, we are using the cloud.

At the same time, an increasing number of businesses, from small startups to large corporations, are shifting to cloud-based computing as a way of cutting costs and improving efficiency. Technological advances have created a wave of computing capabilities delivered as a service, and vendors are competing intensely to match the needs of different customers.

Cloud computing offers businesses on-demand software, storage, processing and other fundamental computing capabilities that can be purchased in units rather than requiring a large, upfront capital investment. In many cases, the use of the cloud

Where Exactly Is the Cloud?

Far from the vaporous celestial mass its name suggests, the cloud is as solid and earthbound as can be. Its infrastructure consists of thousands of data centers around the world, collectively housing an enormous and growing number of servers—several million, according to recent industry estimates.

Google, Amazon and Microsoft—among the biggest players in the cloud world—have consistently avoided disclosing details of the number, size and location of their data centers. But at Microsoft’s recent 2013 Worldwide Partner Conference, CEO Steve Ballmer provided an interesting tidbit about the scale of Microsoft’s server operations. “We have something over a million servers in our datacenter infrastructure,” Ballmer said, adding that Microsoft’s recently launched Xbox One video game console alone will be backed by 300,000 servers.

Major data centers—the largest of which occupy more than 2 million square feet—are industrial-scale operations using as much electricity as a small town. Computers in such facilities run 24/7 and consume large amounts of power, as do the sophisticated systems used to cool them.

Data centers can also be a significant source of air pollution in the form of exhaust from the huge diesel generators they are allowed to use as backup power. To address such concerns, some cloud providers are investing in computers and storage systems that are more and more power-efficient, and in innovative cooling and climate-control strategies.

For example, Facebook recently built its first data center outside the United States in a Swedish town near the Arctic Circle where the outside air will be drawn in to cool the tens of thousands of servers inside. All of the servers and other equipment will be powered by locally generated hydroelectric energy so reliable, Facebook spokesmen say, that the use of backup generators can be cut by 70 percent.

At the other end of the spectrum, Apple has built a 137-acre solar array in Yerington, Nev., that will not only supply renewable energy for its data center in nearby Reno, but also contribute to the local power grid through a partnership with NV Energy.

Google, too, has invested in several state-of-the-art data centers, and now posts on its website detailed information about the energy efficiency of its facilities.

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has allowed businesses to eliminate the expense of maintaining an in-house IT department.

Roughly half of the nation’s businesses are now using one or more cloud-based services, according to Forbes magazine. And a recent report by Forrester Research predicted the global market for cloud-based services will increase from an estimated \$50 billion this year to \$240 billion by 2020.

The Tax Temptation

With so many business transactions being conducted through the cloud, small wonder that cash-strapped state governments are now looking closely at this rapidly developing market as a potential source of revenue.

“The thing that is being called cloud computing, while we’ve been doing pieces of it for some years, is now looking to be a new business model in a large way, and it affects every tax type you’ve got,” says Verenda Smith, director of administration and policy at the Federation of Tax Administrators, a Washington, D.C., group that represents state revenue departments.

Cloud computing is just the latest technological trend, how-

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VERMONT REPRESENTATIVE HEIDI SCHEUERMANN (R)

ever, to expose the deficiencies of 20th-century state sales tax systems created to generate revenue from face-to-face exchanges of tangible goods that are now being replaced by digital, downloadable products.

Online shopping has grown into a \$226 billion-a-year business. Technically, consumers are supposed to pay taxes on out-of-state or online purchases—many states require them to disclose such purchases on their tax return forms. But most people don’t.

In 2012 alone, states lost out on a collective \$23 billion as a result of not being able to collect sales-tax revenue on remote sales.

Over the last decade, 27 states and the District of Columbia have adopted laws or regulations imposing sales tax on certain digital transactions—primarily downloading music, books, movies and games. They have done so by either changing the definition of tangible personal property (TPP) or creating a new class of taxable transactions.

Roughly half of these states have taken an additional step, expanding their definition of taxable digital products or transactions to include cloud-based services.

Among them is South Dakota, which does not have an income tax and consequently relies heavily on sales-tax revenue. “If it moves, we tax it,” says Senator Deb Peters (R). “Our law makes it clear: Any product or service purchased online is taxed. There are no carve-outs—it’s all TPP.”

In some states, the taxation of cloud computing has come about not through legislation but “by tax administrators interpreting outdated laws,” says Stephen Kranz, a partner with the law firm of McDermott Will & Emery and an expert on state tax systems.

Ad hoc, piecemeal policies on taxing cloud-based services—in combination with scant case law—have given rise to dozens of skirmishes between businesses and governments across the country, Kranz says, adding: “I’m predicting that we’re on the front end of a lot of litigation.”

Just how thorny the issue can get is evident in a controversy in Vermont that began in 2010, when the state Department of Taxes issued a technical bulletin stating that prewritten software available through the cloud was to be subject to the state’s



Senator
Deb Peters (R)
South Dakota

6 percent sales tax.

The technical bulletin didn't cause much of a stir until it was followed up two years later by notices to scores of businesses demanding payment of sales tax on cloud-based transactions, retroactive to 2009.

That's when legislators jumped in. "We had to address two issues," says Vermont Representative Heidi Scheuermann (R). "First was the question of whether the companies should be billed retroactively. The other was whether the Department of Taxes had exceeded its authority by categorizing prewritten software as a product subject to tax, rather than as a service, which here in Vermont isn't taxed."

In 2012, the Legislature overruled the tax department on the issue of retroactive payments. It also established a one-year moratorium on taxing cloud-based services and formed a committee to study the issue.

But the study committee's recommendation—to exempt cloud computing from taxation—was opposed by some legislators and, in the end, failed to win approval. So as of July 2013, when the moratorium ended, Vermont began collecting sales tax on transactions involving prewritten software.

Scheuermann, who sided with the study committee, says she thinks taxing cloud-based services "sends the wrong message to providers and clients," and undermines Vermont's efforts to nurture and expand its technology sector.

"I recognize that our economy is changing and our tax system needs to change, too," she says. "But we need to step back and take a look at the bigger picture. We should deal with the issue of taxes more comprehensively, not picking and choosing as we go. To me, this issue isn't all about the revenue—it's about policy that promotes innovation and economic development, which are so vital to our future."

Washington Goes Broad

Among the states that have addressed the issue of taxing digital goods and services, Washington is the first to have done so carefully and comprehensively.

The effort began in 2007 when the state revenue department created a task force, chaired by Representative Ross Hunter (D), to study a steadily growing problem: the erosion of the sales-tax base by the phenomenon of products going digital. Washington, one of seven states without a corporate or personal income tax, was projected to lose \$100 million a year in sales tax revenue by 2015, according to Hunter.

After 18 months of hearings, research and debate, the task force issued an 80-page report setting forth detailed options and recommendations to lawmakers, who in 2009 approved a bill based on the task force's report.

Washington opted for a "broad imposition strategy," says Hunter, in which the sales tax is no longer based on tangible personal property. "If you depend on taxing TPP, as TPP becomes



Representative
Heidi
Scheuermann (R)
Vermont

The Power of Cloud Computing

Just how powerful is the cloud? Several years ago, The New York Times decided to convert 11 million scanned and archived documents into portable document format (PDF) files to make them available through the nytimes.com's search engine. Rather than tackle the project in-house (an IT nightmare), the newspaper deployed 100 servers in the Amazon Web Services Elastic Compute Cloud (Amazon EC2) to convert data nonstop. Within 24 hours, all 11 million images were converted and stored on Amazon's Simple Storage Service (Amazon S3) at a cost far less than if they had been converted in-house.

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WASHINGTON REPRESENTATIVE ROSS HUNTER (D)

a smaller and smaller part of the economy, you have to adapt. So we chose to create three new categories that look just like tangible personal property, but are called digital products, digital code and digital automated services. And then we created a set of exemptions for things we did not want to tax," he says.

The bill passed with bipartisan support and enjoyed the backing of the business community, which Hunter says "likes this new tax regime because we've broadened the base, so we've been able to keep rates low and treat everyone the same."

The new tax applies to downloaded and streamed digital goods; prewritten software provided via a network; and digital automated services, which include such things as search engines and photo-sharing services. It doesn't include, for example, ATM transactions, payment processing, data processing services, help desks and website development and hosting.

Hunter says the broad imposition strategy adopted by Washington has the advantage of flexibility, accommodating changes in future technology and business practices without needing repeated legislative amendments.

"That's important because they're out there inventing stuff faster than we as legislators can write tax law," he says. "And, yes, we'll have to make exemptions—we've already made some in the past couple of years. But it's a heck of a lot easier to get an exemption passed than it is to extend the sales tax to digital transactions on a piecemeal basis."

The bottom line, says Hunter, is that "if the economy changes in a structural way, tax codes need to change. I'm not saying it's an easy thing to do—it certainly isn't. But most states instituted sales taxes generations ago, when there wasn't anything you could buy that wasn't physically handed to you."

So states have a clear choice, he says: "Rise to the challenge of modernizing your sales-tax code, or stand by and watch your tax base erode year after year as more and more commerce moves online."