

## Tax Complexity Expands as Internet of Things Explodes

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As the Internet of Things (IoT) grows inexorably to encompass a universe of products that previously lacked the technology to communicate with each other, some of the companies that market those goods are worrying that they might be subject to taxes that were previously due only when billed by telecoms and Internet service providers.

The term IoT means different things to different people. When Kevin Ashton, the British technology pioneer who headed up MIT's Auto-ID Labs, coined the term in 1999, he was referring to a global network of radio-frequency-identification-connected objects. The term now extends to products, clothing, vehicles, and even entire buildings that have embedded electronics, sensors, software, and network connectivity used to collect and exchange data for monitoring and control purposes.

Although the term IoT is of relatively recent vintage, its proof of concept was effectively first presented in 1982, when students at Carnegie Mellon University in Pittsburgh grew tired of going to the soft drink machine on the third floor of an eight-story building only to discover that it was empty. According to campus legend, they wired the machine to send signals over the Internet to let them know whether the trip would be worth the effort. While it's unlikely that Pennsylvania had communications taxes back then that would have applied to the transfer of information between the students' computers and the vending machine, the reality today could be different, especially if the value of similar information sharing features is bundled into the price of a product or is billed separately by a third party.

Fast-forward 34 years, when soft drink vending machines with Internet connectivity are located in university buildings throughout the country, courtesy of a middleman in the form of a company that leases the vending machines from a nationwide bottler. The bottling company presents its customer with a single monthly bill, breaking out the sales price of the soft drinks delivered and the rental cost for the machines. That rental amount covers not only the use of the vending machines but also real-time monitoring services that alert the bottler when to deliver more soft drinks, establish the location of a student inquiring remotely whether a particular drink is in stock, and share marketing information about customer buying habits.

Is the bottling company providing only a tangible good that is subject to applicable state and

local sales taxes in the same way that it had been for decades before the Internet intruded into so many aspects of modern life? Or has the transaction morphed into a hybrid involving the sale of a good and the provision of a service over the Internet, with all the complexity for income, sales, and telecommunications tax purposes that this arrangement might entail?

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According to Jim Nason of Deloitte, the question of taxation could turn on how the information is being conveyed. If the communications between the students, the intermediary, and the bottler are channeled through the library's free Wi-Fi setup, there is probably no charge for the service, and there would be no taxes to pay, Nason said. "But what if the Wi-Fi isn't dependable or the university says the soda vending machine company isn't a student and can't use it?" Nason asked. To get around those problems, the equivalent of a cellphone could be installed in the vending machine, either by the bottling company, the intermediary lessee, or perhaps a third party that is paid to handle the data analysis and transmission. "The wireless company looks to its customer and asks what its service is being used for," Nason said. "Is there a data transmission, or is a phone call being made? It's a subtle difference, but a crucial one," because accessing data is generally a nontaxable Internet service, while a phone call could be subject to myriad taxes, he said.

### Taxable Threads and Tracking Trucks

John Steveni of PwC in the United Kingdom gave an even more cutting-edge example of the IoT by describing a fitness buff who goes for a long run while wearing smart clothing that can detect whether the runner is getting dehydrated. "The track suit shares the information with his fridge back home, which detects that it's short on whatever fluid it is he drinks and orders a resupply to arrive by the time he gets back to the house," Steveni said.

Back when the only information that clothes used to communicate was the wearer's taste in fashion, there were no tax ramifications beyond any sales tax or VAT due at the time of the original purchase. While the question of taxability of today's high-tech threads is probably similar to that for many other IoT devices, such as the smart soft drink machine, the issue can be trickier when the device moves frequently from one tax jurisdiction to another.

Nason said the operator of a fleet of trucks might want to know a wide variety of data, including where his vehicles are at any point in time, how fast they are going, how their engines are operating, whether the back door is open, and whether any chilled products are at the proper temperature. "It's one thing when a soda machine is sitting in a library in a fixed location," Nason said. "It's another when your machines are moving all over the place. What is that service? Where is the service being provided? And lastly, who is consuming the data being created that is being sent back to a central site?"

The issue in the United States can essentially be analyzed under two conflicting state court decisions that involved similar statutory language applicable to tracking systems provided to trucking companies by Qualcomm Inc. Nason said that in a case in the state of Washington, the court of appeals held that Qualcomm was providing network telephone service because its customers were primarily paying for access to the network and not the data related to their trucks. (*Qualcomm Inc. v. State of Washington*, Docket No. 836736.) (Prior analysis: *State Tax Notes*, May 24, 2010, p. 621.) As a result, the court found that Qualcomm should have been taxed as a network telephone service provider rather than being subject to the state's business and occupation tax on gross receipts at the lower service rate. Despite that ruling, the Tennessee Court of Appeals decided on a similar set of facts that the taxpayer's customers were primarily paying for the service of vehicle tracking and not for access to the telecommunications network. *Qualcomm Inc. v. Chumley*, No. M2006-01398-COA-R3-CV. (Prior coverage: *State Tax Notes*, Oct. 8, 2007, p. 91.)

Although the conclusions in the two cases were diametrically opposed, in an interesting twist, the Tennessee Legislature subsequently changed its law to say that vehicle tracking systems are services that are subject to the state's telecommunication tax. Adding to the uncertainty over the issue, the Washington Department of Revenue later changed its position during Qualcomm's appeal to the state supreme court, putting an end to litigation over that case.

### Avoiding the Telecoms Bucket

Each state has its own level of complexity, and a far larger number of municipalities in the United States have transaction-based structures rooted in the taxation of personal property, Nason said. "Telecommunications are hovering off the side," he said. "Make a misstep and you fall into the telecoms bucket of rules, which are not only harsher with higher rates and a wider range of taxes, but [are] also more complicated in their imposition. Everybody wants to avoid being in the telecoms bucket because it's that much more complicated."

Nason said that while his client base used to consist primarily of the big-name telecoms, it now includes businesses as diverse as windmill operators, car companies, and refrigerator manufacturers. "They're all asking 'What does this mean?'" he said. "My client base is expanding because it's petrifying to be in the telecoms space."

"In the telecommunications world, there is a significant burden associated with telecom tax compliance requirements that most companies want to avoid if they are not really in the telecommunications business," said Brian Goldstein of PwC in New York. "There may also be confusion depending on how a company's products or services are characterized by various state and local tax authorities in the U.S. Providing connectivity services versus using the connectivity to provide another product or service may drive the distinction between whether you are a communications provider or an information or data services provider, or all three, which is important because the tax consequences may be very different in each scenario."

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Goldstein said the difficulty is compounded because not all communications services provided through the IoT will qualify for exemption under the Internet Tax Freedom Act, which bars any level of government in the United States from taxing Internet access and from imposing discriminatory Internet-only taxes. "The tax impetus might vary as well, depending on whether a company is deemed the end user or reseller of such services," Goldstein said. "A company may have to pay certain transaction taxes itself, versus other taxes that may be passed through and charged directly to customers."

### European Treatment

Stevani said the situation is far less muddled in the European Union, where specific telecommunications taxes are the exception rather than the rule. "The U.K. doesn't have a telecom tax," he said. "Whatever is bought or [whatever] services [are paid for] is subject to VAT. And in the EU, there are quite strict rules about bringing in other taxes. At that level, the tax regime is pretty benign."

When the Hungarian government tried to expand the country's telecommunications tax to Internet services in 2014, the European Commission reacted sharply, with a commission spokesman saying that his agency was determined to prevent the tax from setting a precedent in Hungary because it could become a problem for Europe's wider

economic growth. The Hungarian government eventually shelved the plan. (Prior coverage: *Tax Notes Int'l*, Nov. 10, 2014, p. 484.)

Rui Cabrita of Solegal in Paris said there is a gray area as to whether current telecom taxes under the French tax code or French postal and electronic communications code could apply to companies operating in the IoT sector because of uncertainty about the use of a network for communication services as opposed to connectivity services. Cabrita said the French regulatory authority for electronic communications and postal sectors indicated last year that it will conduct a review of the IoT, with a report expected around June.

Cabrita said he doubts that specific taxes will be imposed on the IoT in France. "The latest developments on taxation of [the] digital economy show that authorities do not favor implementing specific taxes on activities that tend to have a greater share within the economy," he said. "Previous public reports of taxation of [the] digital economy have underlined the need to avoid [ring-fencing] the digital economy from the rest of the economy for tax purposes." Cabrita said specific measures are more likely to come in the compliance, rather than the tax, arena. "The [revisions] would not be based on new taxes, but rather in new measures, allowing [the application of] current taxes in a consistent manner to all taxpayers," he said.

Some of the previous complexity for IoT-enabled goods was eliminated in the EU on January 1, 2015, when sellers of telecommunications, broadcasting, and electronically supplied services were first required to pay VAT to the member state where the purchaser is resident, instead of to the country where the supplier is based. (Prior coverage: *Tax Notes Int'l*, Jan. 5, 2015, p. 33.) That revision brought the VAT tax treatment for connectivity services more into line with that for the cross-border sales of goods because it established that both are subject to tax in the country where the customer is located.

Isolated complications can theoretically arise based on the services provided with IoT products. If smart clothes provide a hospital with ongoing medical information, such as the condition of a person with a heart ailment, a proration of the monthly charge might in theory be necessary for VAT purposes in a country where healthcare services are exempt from tax, Cabrita said. "But in practice, I doubt that providing ongoing information on health would allow the service provider to benefit from a VAT exemption [because] the service provider is not part of the medical sector," he said. He added that service providers would want to avoid any possibility of being considered providers of healthcare services because of the potential regulatory burden.

## Bundling and Taxing Jurisdiction

Goldstein said that if a company selling an IoT service or product in the United States fails to separately identify charges on its invoices for the significant communications services provided with the product, a jurisdiction might argue that there is an embedded sale of taxable telecommunications services that the company could be required to either include in the taxable price or absorb itself.

Alternatively, if the wireless communications are a consumed component and not the primary object of the company's overall service offering, it is likely that the company would pay the tax upfront to the underlying carrier and then tax its customers on the final product.

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Goldstein said the situation becomes even more complex in the United States when a company has to supply its services in a number of different states. "How is a company going to figure out where the services are provided when so many locations are all under one contract?" he asked.

Sorting out the U.S. state or local jurisdictions where the communications services are subject to tax depends largely on whether the connections are done via landlines or by means of a mobile device. For interstate communications provided over a landline, the U.S. Supreme Court formulated what has become known as the Goldberg Rule (*Goldberg v. Sweet*, Slip Opinions No. 87-826 and No. 87-1101, January 10, 1989), which provides that the determination of how to source communications to a jurisdiction is based on two out of three of the following criteria:

- the origination point jurisdiction;
- the termination point jurisdiction; and
- the customer's billing or service address.

If the communications are instead routed over the equivalent of a mobile phone, the Mobile Telecommunications Sourcing Act provides that only the state in which a customer has its primary place of use (that is, its billing address) can impose communications services or sales taxes for that usage, even if the device is used in other states.

## Income Taxes

If a product with Internet connectivity is sold and the seller bundles the value of the tangible good and the connectivity services into a monthly bill to its customer, there would be two streams of income for tax purposes in Germany, said Claudia Stremel

of Greenberg Traurig LLP in Berlin. “The estimated expected future revenues allocated to the supply of the item would have to be accounted for as income at the time of the delivery, while the remaining revenues would have to be accounted for over time,” she said.

Stevani said there is no complexity under U.K. income tax law, regardless of how the seller bills the customer for products and ongoing connectivity services. While there might be timing differences, the same amount of company income tax would be due over the life of the agreement, Stevani said. “In the U.K., tax follows the accounting treatment, subject to specific tax rules which require something else and which would not apply in this situation,” he said.

Cabrita said bundled transactions can become more complicated in cross-border situations if the country in which the customer is located applies withholding taxes beyond royalties. “However, most tax treaties tend to limit withholding tax to royalties,” he said.

Goldstein said some states have come up with specific mechanisms for how to apportion income in those situations. “If you have a consistent approach as to how income is apportioned, many states can live with that,” he said. “The income tax rule for sourcing of services has historically been the location of the costs of performance. However, many states are moving away from costs of performance to market-based sourcing, particularly for communications services.”

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While the cost of performance test is used to source sales of services to the jurisdiction where the services are performed, market-based sourcing attributes them to the state in which the customer receives the benefit. As a result, providers have to deal with the possibility of inconsistent treatment and the potential for taxation of more than 100 percent of the income.

Nason said state income tax rules that were pretty firmly established over decades for tangible personal property don’t always line up as neatly with the service and connectivity issues that are presented by the IoT. “As a result, the IoT will be the next frontier of tax controversy, with questions of nexus, situs, and what is the true object of the service provided, such as we saw in the *Qualcomm* cases,” Nason said. “Even though I know where my

infrastructure is, I don’t always know where my sales take place for income tax purposes.”

Going back to the soft drink example, Nason said that if a third party in a state other than the one in which the soda machine is located is providing the monitoring services, then the traditional, equipment-based approach to determining where the income is sourced probably isn’t valid. “The fact that somebody used the service at the library may not matter as much,” he said. “From an income tax perspective, the value proposition is probably taking place where the service provider is located, so we could end up sourcing everything to that state.” ■