

John Engates, CTO, Rackspace Hosting
Testimony to the U.S. House Committee on Oversight and Government Reform,
Subcommittee on Information Technology
Chairman Will Hurd, R-TX
Scheduled for 9/22/15

Mr. Chairman and members of the committee, thank you for inviting me here today. My name is John Engates. I'm a native San Antonian and a proud graduate of UTSA. I'm the chief technology officer of Rackspace, a cloud computing company based here in San Antonio. We operate data centers on four continents, and serve more than 300,000 business customers, including two-thirds of the Fortune 100.

Rackspace leads the managed cloud segment of our industry. We help business customers tap the power of the cloud without the pain and expense of running it all themselves. We provide specialized expertise that businesses don't have on staff and don't want to hire. We distinguish ourselves through our Fanatical Support, with engineers available to help customers 24/7, via online chat or telephone.

We at Rackspace want to help federal officials improve the performance of their IT operations. I was honored, for example, to be invited to the White House to advise it on ways to fix the broken website that was preventing Americans from signing up for health insurance under the Affordable Care Act. And I'm especially honored to talk with you today about "The State of the Cloud."

You've chosen an excellent venue here at UTSA, which we at Rackspace are proud to have helped to become a national leader in cloud computing and cybersecurity, through our sponsorship of the Open Cloud Institute.

The timing of your hearing is excellent, given the rising cost of federal IT, and the growing number of performance and security issues with its old-school systems. Cloud providers like Rackspace can, I believe, help the federal government achieve greater cost-efficiency, better constituent service, and better security.

Let me start by briefly defining what I mean by cloud computing. I think of it simply as the use of computing and storage as a service, via the Internet. You don't have to buy any hardware or software. You just access computing power via the Internet, and pay for what you use, in much the same way you consume electricity.

In the late 1800s, when businesses and governments first started using electricity, most of them built and operated their own power plants. As the electric grid developed, with great economies of scale, new companies went immediately to the grid. Older companies and agencies with their own legacy power plants gradually followed, and focused on their core business, rather than on generating electricity.

Cloud computing today is like the early electric grid. Almost every new company today starts on the cloud, rather than by purchasing its own servers. Established companies are rapidly moving out of their own data centers and onto the cloud. The industry analysts at IDC report that spending on cloud computing hit \$64 billion last year, and will double by 2018. But the U.S. government is still figuratively running its own power plants, instead of just buying electricity. As a result, it's falling behind in three main ways..

Let's look first at cost-efficiency. The typical computer server in an old-school data center run by a company or agency is in use just 15% of the time, according to the National Institute of Standards and Technology. Servers at Rackspace are in use 40% or more of the time. That's because at an individual company, you have to buy and run enough servers to deal with your peak demand, even if that happens only a couple of months a year — say, before the year-end holidays for a retailer.

It's the same for, say, the IRS, which has to have enough servers to deal with the mid-April rush, even though many are little used the rest of the year. Even then, agencies often underestimate how much peak traffic they might get — for example, at the Affordable Care Act site.

By contrast, those who use the cloud can easily get access to extra computing at peak times, and then cut back the rest of the time, and pay only for the computing they use. Servers that are used by retailers in December can be used by florists at Valentines and Mothers Day.

Let's now consider performance and constituent service. If a company or agency runs its own data centers, it's missing out not only on economies of scale but also on valuable economies of expertise. Computing is increasingly complex and fast-changing. Every few months, we see powerful new apps that can help users better serve their customers and analyze their data for insights and efficiencies. At Rackspace, we're constantly training and hiring experts in these new technologies — from MongoDB to Hybris and Sitecore. That makes sense for us, because we can amortize the costs across 300,000 customers. It's nearly impossible for any company or agency to duplicate those economies of expertise.

Finally, let's consider security, which is often viewed as a vulnerability of cloud computing. In fact, enhanced security is one of the cloud's great advantages. The reason, again, is economies of scale and economies of expertise. Cloud users benefit from shared security appliances, including ones that block large Distributed Denial of Service, or DDOS, attacks. These devices cost millions of dollars. They are unaffordable to most individual customers, but are highly cost effective at the scale of an entire data center.

Major cloud providers like Rackspace serve hundreds of thousands of business customers of all sizes in every part of the world. As we say in Texas, we see a lot of rodeos. We see every type of security attack you can imagine. And we develop a lot

of pattern recognition. What we learn in securing one customer, we immediately put to use in securing all the others.

We talk a lot with other cloud providers, and various three-letter agencies, to share what we're seeing and learning, and to hear what they're observing. We employ a large staff of seasoned digital security experts — led by a former colonel who earned his stripes securing the global digital systems of the U.S Air Force.

It's very difficult for any company or agency to duplicate the economies of expertise in security that resides in a major cloud provider. They just don't see enough rodeos. To be sure, Rackspace and other cloud providers are under persistent attack. But the vast majority of digital security breaches in this country — including the big breach at the U.S. Office of Personnel Management — take place not in the cloud but in old-school corporate and government data centers.

Some people assume that data is naturally more secure in a data center that they control, rather than in one run by a cloud provider. But that's a false assumption in an era when every data center is connected to the public Internet. Ask yourself: Is your money more secure in a bank, or under your "direct control" under your mattress? The U.S. government would be far more digitally secure if it made broader use of cloud computing.

I believe that Rackspace and other cloud providers can help the U.S. government achieve big improvements in its IT performance. But to do that, we need your help.

Today, the U.S. government imposes outdated requirements that effectively require U.S. cloud providers — all of which are global corporations — to create separate operating entities that employ only U.S. citizens. The federal government imposes special HR requirements and other rules that are out of step with current industry practices. These requirements raise unnecessary barriers to entry for providers who would otherwise be glad to serve the federal market. And they needlessly raise costs for providers and the government alike.

We at Rackspace stand ready to work with you to address these issues and help the U.S. government benefit from the computing innovations that are driving the next great industrial revolution. I'm glad to answer any questions you may have, now or later. And I thank you for the honor of testifying to this committee.

John Engates

Chief Technology Officer

John Engates joined Rackspace in August 2000, just a year after the company was founded, as Vice President of Operations, managing the datacenter operations and customer-service teams. Two years later, when Rackspace decided to add new services for larger enterprise customers, John created and helped develop the Intensive Hosting business unit

Most recently, John has played an active role in the evolution and evangelism of Rackspace's cloud-computing strategy and cloud products. John meets frequently with customers to hear about their needs and concerns, and to discuss Rackspace's vision for the future of cloud computing. John currently serves as Chief Technology Officer.

John is also an internationally recognized cloud computing expert and a sought-after speaker at technology conferences, including CA World, the Goldman Sachs Techtonics Conference and Cloud Expo. He speaks on the future of cloud computing, enterprise cloud adoption, data center efficiency, green data center best practices, and more.

Prior to joining Rackspace, John was a founder and General Manager at Internet Direct, one of the original Internet service providers in Texas.

John is a graduate of the University of Texas at San Antonio and holds a B.B.A. in Accounting.