

CLOUD IN 2014

CLOUD'S BIGGEST YEAR YET





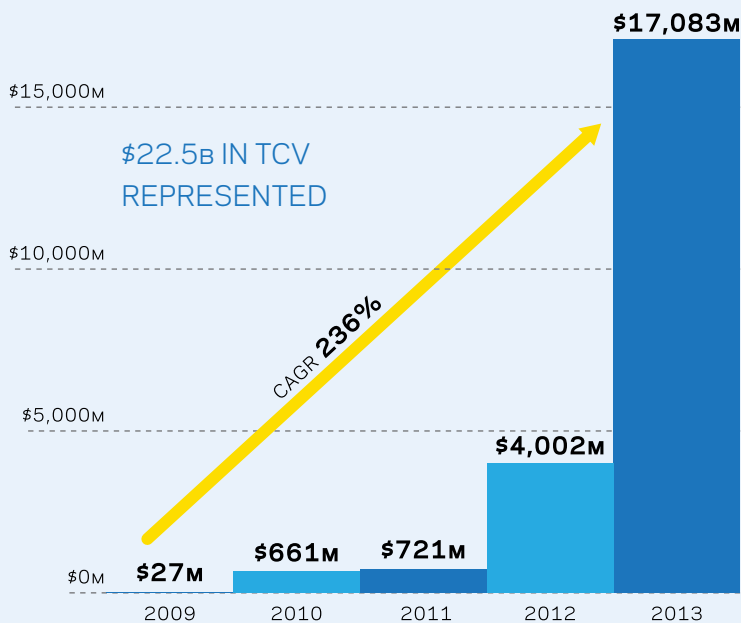
INTRODUCTION

Cloud in 2014: Cloud's Biggest Year Yet

Cloud's growth in the federal government over the last several years has been nothing short of explosive.

In late 2010, the federal government announced its “Cloud First” policy, a policy designed to drive as many federal agencies as possible toward implementing cloud solutions. It mandated that agencies default to cloud-based solutions during the IT procurement process in the hopes it would speed up the modernization of the federal computing infrastructure.

CLOUD COMPUTING TOTAL AWARDED CONTRACT VALUE



Since then, growth in the cloud computing industry has been enormous. With agencies clamoring to fulfill the vision of a cloud-driven government, industry rose to meet the demand. In 2013, the federal cloud computing industry grew to \$17 billion—a 236 percent compound growth

rate since 2009.¹ Even so, three years after implementation of the Cloud First policy, less than half of managers (43 percent) are familiar with their agency’s cloud strategy.² As the necessity of cloud grows in every federal agency, it is more important than ever that federal managers familiarize themselves with the current state of cloud computing.

Looking ahead, 2014 is set to be one of the most significant years for making forward progress on realizing the promise of the Cloud First policy. With the Defense Department making serious strides toward bringing cloud to the defense community and GSA looking to open cloud brokerages (third-party providers that help agencies negotiate the best deals on cloud services) to the federal community, this year, more than any other, looks to be the year of the cloud.

Read on to learn more about what’s ahead for cloud in 2014.

1 GovWin, p. 12

2 Business Cloud News



NEXTGOV

The Year of the Cloud Broker

The cloud broker model is set to change the way everyone purchases cloud services in 2014.

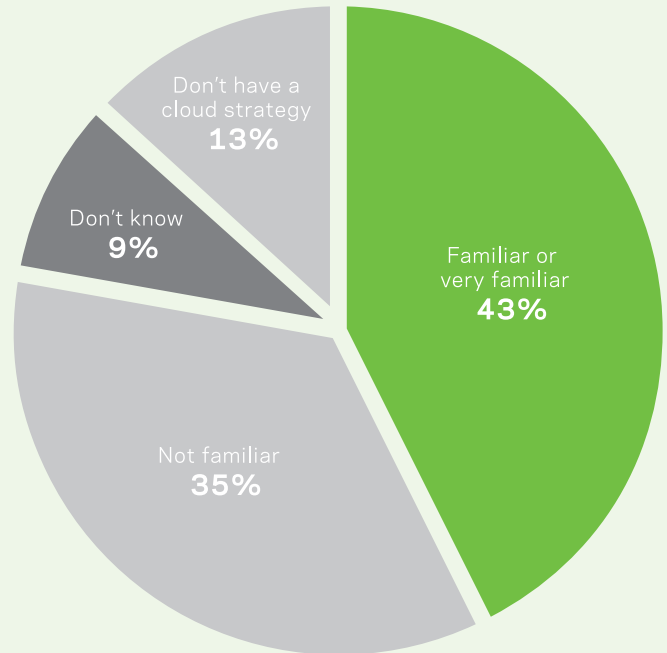
There is one word to describe the growth of cloud services in the federal market: “EXPLOSIVE.” So says Deltek, a company that tracks government contracts, in its October 2013 federal issues report, pointing to the estimated \$17 billion in total awarded contract value for cloud computing in 2013—a 236 percent compound annual growth rate since 2009.¹

Competition in the cloud marketplace is steep, with providers big and small knocking at the door of federal agencies to provide the latest solutions. As cloud services proliferate, federal information technology executives find themselves in an increasingly complex world, desperately in need of more flexible procurement models.

That’s where cloud brokers come in.

Cloud brokers may be the saving grace of IT managers who find themselves overwhelmed by the number of options available and the complexity of integrating or consolidating their services. What is a cloud broker? The National Institute of Standards and Technology defines it as “an entity that manages the use, performance and delivery of cloud services and negotiates relationships between cloud providers and cloud consumers.”² Put another way, cloud brokers inject speed, simplicity and cost savings into the procurement process.

MANAGERS NOT ENTIRELY FAMILIAR WITH CLOUD STRATEGIES



Cloud brokerages represent a new model, one that has been used to great effect in the private sector but remains largely untested in government. But that is changing—quickly. Several agencies have experimented with the idea, and in July 2012, the General Services Administration published a request for information on offering the service to the government at large. Immediately, the agency received 81 responses from industry and quickly began a pilot program.³ As GSA prepares to reveal the results of the pilot in 2014, it looks increasingly clear that cloud brokers are coming to government.

1 Federal Update: Cloud, Data Center, Big Data, and Mobility, 2013 - 2018 (Oct 2013), p. 15

2 NIST Special Publication 500-292, p. 8

3 GovWin, p. 12

What Does the Cloud Broker Model Look Like?

Mark Day, acting deputy assistant commissioner of GSA's Office of Integrated Technology Services, is leading the agency's cloud broker pilot. As he explains, the program doesn't comprise one model—but three.

"It's an umbrella concept," says Day. "A cloud broker can play different roles for you. It can, in the traditional sense of the insurance industry, be the person who helps match your needs to the cloud provider with the best price." That's just one model—which NIST calls a "service arbitrator."

Another emerging model is that of the integrator, explains Day. "Say you have a relationship with three cloud providers. You don't want to write the technical connections between your agency and each of those three providers—instead, you can write one connection." The cloud broker then leverages its relationships with the cloud service providers to integrate all your services— saving time and money. This is what NIST calls a "service aggregator."

"Then you have a customizer, which is essentially somebody who takes the cloud provider services that come as standard vanilla and helps make them customized to fit an agency's particular need," says Day. This third model is what NIST defines as a "service intermediary."

The Benefits of a Cloud Broker

The underlying drivers for turning to cloud brokerages are numerous. As hybrid technology becomes the norm, shrinking budgets, growing complexity, the need for standardization, security considerations like FedRAMP and evolving vendor offerings all make for a treacherous IT environment. Shepherds in the form of cloud brokerages would be welcome guides in navigating the market, judging by the more than 20 agencies that have expressed interest in joining GSA's pilot program.

The enthusiasm for these brokerages stems from the view that they are facilitators of a more efficient and cost-effective future for cloud service procurement. Potential benefits include:¹

-  Less duplication of cloud procurement efforts
-  An environment of shared services wherein customized products can more easily be found
-  Enhanced and standardized security
-  Reduced complexity and increased transparency
-  Easier quality control
-  A centralized resource for chief information officers and chief technology officers
-  Increased competition among vendors
-  Maximum federal purchasing power for cloud solutions across agencies

Kevin Johnson, an independent technology consultant in Washington, describes the benefits of cloud brokerages succinctly: “A cloud broker provides improved efficiency, delivery and flexibility while mitigating worry about vendor lock-in.”

“A cloud brokerage is really an efficient means of delivering a hybrid IT infrastructure,” says Johnson. “If you’re going to manage hybrid IT in 2014, then a cloud brokerage is required. It will help managers get a grip on the hybrid IT model, providing consistent governance across your IT infrastructure while embracing shared services.”

GSA officials hope to see many of these simplifying benefits in its pilot cloud broker, which three agencies continue to test. For Day, the benefits of brokerages all come down to speed and cost savings.

“In many cases, by having a cloud broker your technical integration goes much faster,” he explains. “You’re able to turn on new or expanded services with far fewer transition requirements. Brokers can also help identify pricing trends in the market and help you see over time if you should be moving from one provider to another based on your needs profile.”

At the core of a cloud brokerage’s ability to facilitate cost savings and speed is innovative software that, like shopping for car insurance, allows cloud consumers to create a needs profile and immediately see the different options available to them.

“There are lots of different types of software that enable this,” says Day. “But generally, the types we’re looking to utilize will allow a customer to come in and say

‘I need 10 virtual machines with these performance factors’ and then the software will present the different options available, including the different costing models based on their usage pattern. Then you hit the provision button and the work is done automatically—you get your 10 machines stood up and ready to go.”

Cloud brokers may be the saving grace of IT managers...

Who is a Cloud Broker?

After you understand the roles of a cloud broker and its benefits, one big question remains. Who? Who gets to offer the service? There are several answers, according to Alexander Rossino, a principal research analyst at Deltek.

“We have two different models,” Rossino says. “We have government doing the brokerage itself and then we have agencies exploring the idea of using vendors. They’ll obviously provide different kinds of business opportunities, depending on what models are being used.”

Most of the cloud brokers in the federal government have been conceived in-house, including three notable efforts to create public sector brokerages.

In late 2012, the Energy Department partnered with the National Nuclear Security Administration to create YOURcloud, a program that aims to pull together 22 labs and, according to its cloud computing strategy, “deliver a secure cloud broker solution that will allow multiple organizations to securely consume cloud services across multiple private and public cloud providers.”¹ This hybrid infrastructure-as-a-service offering made DOE one of the government’s first cloud brokers.

At the Navy, the Space and Naval Warfare Systems Command serves as a cloud broker, smoothing the transition of the department’s cloud applications to Amazon Web Services. And at the Defense Department, the Defense Information Systems Agency has announced it will serve as the department’s cloud services broker, looking to create a commercial broker and commercial enterprise service in fiscal 2014.²

While GSA also sees itself as a potential cloud broker, its pilot program is looking to open the market to outside vendors.

“GSA is trying to understand its responsibility as a government organization,” says Kyra

Fussell, a federal industry analyst at Deltek. “They’re working to understand how additional brokers would create competition and promote standardization while keeping costs down.”

The Year of the Cloud Broker

Think of federal cloud computing as a work in progress. An ongoing revolution that has made remarkable progress but still has a long way to go. In 2009, attitudes toward the cloud could be described as skeptical at best and fearful at worst. Looking to fiscal 2014, we’re entering an era of growing comfort and acceptance—but an era also characterized by an incomplete understanding of what’s ahead and how the IT community will get there.

“I think it’s really important for all managers to remember this is an evolving market,” says Day. “We are not at the end of the evolution. We’re at the beginning.”

As for the future of the cloud broker, Day said GSA will announce the results of its pilot program in the third quarter of fiscal 2014. What officials conclude at the end of the pilot will, in large measure, hinge on the return on investment cloud brokerages provide.

“One of the things we are doing to be very careful is watching how it evolves in the private sector,” Day says. “Customers in the private sector who use cloud services are not buying the broker to add cost to their world. They are buying the broker because they see value being provided to them. We are watching where that value is being added and how the model is evolving.”

1 Department of Energy National Laboratories and Plants, Leadership in Cloud Computing Report, p. 30

2 GovWin, p. 12

In a statement, GSA officials said they are in iteration one of the proof-of-concept testing phase. Through market research, they have narrowed their in-depth testing to two cloud broker platforms. The next phase of testing will involve more than 60 people at three agencies: GSA, the Health and Human Services Department and the Homeland Security Department.

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According to Day, should the pilot be successful, the next task would be to develop a cloud procurement plan. “Our next step would be to really focus on a sound acquisition strategy and a sound customer base so we can bring this to market with committed customers who help drive price down,” said Day. “Part of that acquisition question will be about strategic sourcing solutions—and that’s a question we’ll have to answer once we get more specifics.”

Look for those specifics in the third quarter of fiscal 2014—which is looking like it will be the year of the cloud broker.

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DEFENSE ONE

Interview: Deputy CIO Rob Carey's Plan to Create DoD's Secure Cloud

DoD reaffirms its commitment to creating a joint information environment in 2014.

The Defense Department's plan to solicit a commercial cloud for its massive data needs has not gone well.

In June 2013, the Defense Information Systems Agency, or DISA, began soliciting bids for a five-year, \$450 million commercial cloud contract to provide data storage, hosting services and virtual platforms for the Defense Department.

By July, 92 hopeful vendors sent 159 representatives to a pre-solicitation conference—only to be disappointed just a few months later.

In November, DISA scrapped the proposed contract. DISA's contracting officer Scott Stewart wrote on FedBizOpps.gov that "initial indications are the demand will not require a contract with the ceiling estimated in [the] draft solicitation" and that DISA is "revising [its] acquisition strategy."

While DISA over shot its goal, the Defense Department's effort to create a a single, secure information-sharing environment for all the services — known as the joint information environment, or JIE — remains as firm as ever.

Rob Carey, the Pentagon's principal deputy chief information officer, says JIE represents a "huge transformation" for the Defense Department's IT posture in 2014. In an interview, Carey talked about the future of JIE, DISA's role in making it a reality, how it will change the way the department collaborates and why 2014 looks to be a crucial year for cloud computing in the defense community.

D DEFENSE ONE What is JIE and why is it significant to DoD's mission in 2014?

ROB CAREY JIE is a huge transformation of the network infrastructure for the Department of Defense, which is literally the largest global network in the world. The goal is standardization, consolidation and increased security of that environment. In doing so, our goal is to make information available to the warfighter at any time in any place and with any device.

D What progress has DoD made this past year in creating the JIE?

RC We've made a tremendous amount of progress in defining it. It's no small order to take the heterogeneous network environment that exists today in the military branches and drive everyone toward a common standard. We've stood up teams at DISA, DoD CIO and each of the military departments to connect the bridge between the legacy environment we've had and this future environment we want to get to. We've also defined increments, so we know our rate of progress around the globe and the types of things we want to attack.

D What are the major challenges of the current set up?

RC The challenge today is trying to maintain a disparate cloud infrastructure. Every vendor on the planet has a cloud, right? It's tempting to go out and buy vendor "X's" stuff but because we are so big we cannot have a thousand clouds. We need consistent computing environments that allow us to do

command and control, to update and defend our networks while staying ahead of the threat.

So in 2014, we'll be taking DISA's DECCs [Defense enterprise computing centers] and identifying core data centers that have small, fenced enclosures that define the computing environment for the DECC. What we want to do now is lift out those enclosures and create this common computing environment and then start legacy application migration into those common cloud-based computing environments.

From there you can decide if you need something custom and go buy it from the commercial world, determine if you want it in the DECC or in the provider's space, and then logically hook it behind the government's cyber defenses.

D Does DISA have all the skills and talent it needs in-house to make this happen, or are third parties assisting?

RC Many years ago we consolidated data centers and created the DISA DECCs.

So DISA actually has a vast amount of experienced folks up there that understand computing environments. I know they have consultants that help them as well but most of the information and the way ahead is being done organically with DISA folks.

D Looking to 2014, what are you most excited about?

RC There are a couple of things. First, cloud actually forces one thing on us that solves a lot of our current problems. That's identity management. We must make the investment in linking my identity credentials after logon to vital information at all levels of classification to a two-factor identification token.

Second, a consistent computing environment will allow us to defend data far more rapidly and far more efficiently. This allows Gen. [Keith] Alexander at Cyber Command to command and control the data far more effectively than he can when it sits in disparate computing environments.

The third thing is that cloud gives us the ability to perform search on a broad scale.

D How will JIE improve user experience?

RC The user is going to see that they can actually navigate the network far faster than they could before. When I was deployed in Iraq a few years back I could not get at information. Even though I could get at a website's door, I couldn't get in. Part of that was identity credentials but part of that was because there were so many "hops" that my communications network traversed that ultimately drove application speeds to a standstill and things would crash. This new network design will create an environment for applications to be built consistently.

[Developers] will be able to build applications and systems to the network standard and we'll know that it will run consistently before we ever place it on the network. User experience should be dramatically improved in all facets. A consistent computing environment that will allow us to defend data far more rapidly and far more efficiently.

D In light of insider threats like those we saw from Sgt. Bradley (Chelsea) Manning and Edward Snowden, what are the security challenges?

RC We've learned a lot. We've had some experiences in the last couple of years that drove identity to the forefront—not just doing secure cryptographic logon to the network but tying identity credentials to the accessibility of information and therefore managing insider threats. We actually think that the marriage of cloud and identity gives us the best of both worlds as we move into the future.

D Given the lingering effects of sequestration and the budget challenges ahead, how important is 2014 in defining and getting JIE up and running?

RC It's critical. But every year is critical. We are in the midst of this big change. We do budget quite a bit ahead of the conversation we're having now. We're currently working on the budget for FY15. FY14 monies are cast in stone, unless something really amazing happens with the CR, and I don't know what's going to happen with the CR and Budget Control Act. We're paving the road ahead to get to JIE. 2014 is a seminal

year of completing designs, architectures, tactics, techniques and procedures to get the initial rollout of hardware upgrades ready where they are necessary.

This interview was edited for length & clarity.

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