

# CHANGING THE CONVERSATION: **THE CASE FOR “AS-A-SERVICE”**

AN INDUSTRY PERSPECTIVE



 **Hitachi Data Systems  
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# EXECUTIVE SUMMARY

Information Technology (IT) delivered via the cloud in an as-a-service model (aaS) is the future. As-a-service really isn't so much about the technology as it is a strategy for improving operations and reducing cost; it's a business strategy for acquiring IT and IT services. The technology that sustains cloud delivery models is of course interesting – but with a very short half-life, it is not as relevant as the shift in business approach from acquiring equipment to acquiring outcomes.

In fact, the very principle of aaS is that the technology used must be transparent to the user. When one buys a book from Amazon via traditional means or a Kindle, we really don't care what is on the other side of the screen. All we care about is timely delivery of the content, as well as protecting identity and credit card information. The same should hold true for IT we acquire as a service in the workplace. The service is what's important, and the service should be governed by service level agreements (SLAs) – not the flavor of the technologies used.

As we continue to acquire IT as a service, several challenges arise. This industry perspective addresses these challenges and offers suggestions on how to deal with them.

# INTRODUCTION

The expanding roles of aaS and cloud computing in government agencies involve more than just the agency's information technology department. Since it is a business strategy, more people realize that employing a cloud or services in a cloud can increase efficiency and collaboration, leading to improved performance and service delivery and reduced cost. The decision to shift to an aaS model (to include cloud) necessarily involves the business core of the agency.

However, conversations about aaS and cloud tend to revolve around what cannot be done instead of what can. Procurement, budgeting and cultural barriers frequently prevent proper adoption and procurement of cloud technologies.

Complex organizational obstacles often stand in the way, but the conversation needs to focus on how the agency will benefit from aaS and cloud and adapting the culture and business to aaS, and away from what cannot be done.

GovLoop's latest industry perspective, created in partnership with ViON and Hitachi Data Systems Federal, will explore the challenges around adopting aaS and cloud and how government can overcome them. We'll also study how agile cloud platforms meet users' diverse and fluctuating needs.

Ultimately, our objective is to demonstrate that with the right steps up front, aaS and cloud combine to afford agencies a sound business strategy and a force multiplier for business and operational benefit.

## THE CURRENT STATE OF THE AAS MODEL & CLOUD COMPUTING

With an increased focus on cloud, and understanding the challenges, the General Services Administration (GSA) recently released a request for information to solicit industry and public views on cloud computing services. Furthermore, President Obama's proposed 2016 budget, which calls for \$86 billion for IT spending, charges that 8.5 percent of that target will be spent on provisioned services such as cloud. That means some \$7.3 billion will be available for cloud spending.

Despite this embrace of cloud, misconceptions and challenges remain, as noted in a recent Government Accountability Office report. The report found some of the top challenges to implementing cloud in federal government were meeting federal security requirements, overcoming cultural barriers, and having appropriate expertise for acquisitions processes.

Cloud and its underpinning aaS business strategy offer many benefits to government, such as fast and simple access to a shared pool of resources and services that improve operations

and drive down costs. There is also the ability to scale cloud resources up and down quickly and to pay for only what you consume.

"There are operational benefits to moving to the cloud," said Jeremy Hiers, Project Director of Enterprise Services for the Army's Program Executive Office for Enterprise Information Services, during a recent discussion with GovLoop. "The Army is one of the world's biggest networks. We need to keep information consistent across that network. That has always been a challenge. Cloud technology can help with that by extending services down to what we call the 'last tactical mile,' where we have to operate in some disconnected environments."

We will now focus on some of the top government challenges and concerns regarding adopting aaS and cloud and how the discussion can be changed to achieve success.

# CHALLENGE #1

## COSTS

"Typically, agencies look at cloud solutions because they're marketed as faster, cheaper and better," said Tarrazzia Martin, Senior Adviser for Enterprise Planning and Change Management at the Department of Housing and Urban Development.

"Agencies may have an over-exuberant belief that cloud is going to drive down costs of IT in government. But as some information is developing, cloud hasn't necessarily lived up to that expectation," added Alan Balutis, Director of Cisco Internet Business Solutions Group.

Some of these cost concerns involve the difficulty in predicting lifecycle costs. "You can plan for cloud but you can't plan for utilization downstream," Martin said. "You don't know what will change. It becomes an issue for us because everything is so routinized in our financial processes."

"It's difficult to evaluate total costs over a contract, especially for pricing based on usage," said Dan Hunter, Director of Capture Management at ViON.

To better understand this challenge, Hunter compared it to a power bill. An average bill will eventually smooth out into a monthly rate that you begin to understand after some time of being a customer. But as a cloud newcomer, the cost forecast is not so clear. "If you're always looking at consumption in arrears — what your cost per unit is — you can do some projections. But what happens if you get hit with a denial-of-service attack, and your consumption shoots through the roof? Who's covering that bill?" Hunter said.

Cloud and aaS users should enter into service-based IT planning that the service will be governed by service level agreements (SLAs) and a price schedule, and not a mixture of different technical approaches. In a competitive market, it is the cloud provider's job to ensure user costs are covered by the agreed upon service prices which are codified in SLAs. The aaS and cloud providers' technology costs are also conditioned by the agreed service levels and prices. Service-based IT should be transparent in terms of the technology used — as long as the agreed performance levels are being met.

## HOW TO CHANGE THE DISCUSSION

By moving toward an on-demand cloud model to improve operations and business goals, the cost of cloud can be viewed as an operating expense rather than a traditional capital acquisition.

The term "on-demand" means the ability to call up or order services in a cloud or other service-based arrangement as and if the user requires them, complemented by the ability to turn them off when they are no longer required. This can cut costs and minimize financial risks because the user pays only for the services and capacity used. On-demand services offer better cost management and predictability for several reasons. Since cloud services are paid for with operating funds, an agency would no longer have to carry depreciation on its books or struggle to get capital authority. Additionally, the agency is no longer responsible for year-to-year maintenance or tech refresh. And, in the case of service from an off-premise cloud, the agency won't have to maintain large data centers.

Predictability is gained because an agency only needs to know what its workload and business needs are and the CSP will take care of the rest. The use of on-demand reduces over-provisioning of IT to near zero, another inherent major cost savings. ViON's Agile Cloud Solutions, for example, allow an agency to realize these benefits by offering an array of flexible on-demand features to create the best value for the agency, either on-premise or in a service provider's facility.

# CHALLENGE #2

## PROCUREMENT & ACQUISITION

For many agencies, the idea of aaS and cloud is still relatively new. So, when it comes to procurement, there is a struggle to map current appropriations models and common interpretations of the Federal Acquisitions Regulation (FAR) with the business model of aaS and cloud. Similarly, the current acquisitions mindset lacks the knowledge of the aaS business and cloud-specific procurements.

“Procurement officials understand how to acquire 10 servers,” Martin said, “but approaching combined and shared cloud services becomes problematic.” She added that procurement officials are comfortable with the normal methods of procuring IT, such as firm fixed price and time and materials. But the on-demand, consumption-based cloud acquired with operational funds doesn't seem to fit the normal way of doing business.

This complexity also leads to delays and extra costs, with “procurement often trailing need by months,” Hunter added. This challenge can cause agencies to shy away from the aaS or cloud service they initially sought.

There is an associated challenge of dealing with legacy systems as an agency moves to service-based IT. “Some agencies do a great job of really having pure aaS and cloud services, but most are struggling with integrating them with legacy systems,” said Mark Day, Deputy Assistant Commissioner of Integrated Technology Services at GSA's Federal Acquisition Service. “[Agencies may ask,] ‘How do I keep a cloud service on- or off-premise so that I get the pricing, the elasticity and all the features I want, but still make it work with the rest of my current environment?’”

When this happens and the agency faces the reality of integrating legacy systems with the service-based IT acquired in the standard fashion, the solution tends to look more like an integrated, costly managed service instead of an economic on-demand service.

“When thinking of legacy systems, we begin to write special conditions on how we are going to use cloud,” Day added. “We begin to add the integration services in, but pretty soon the integration service isn't just a piece that you can sever from the cloud service. It's invaded the cloud service and the cloud service has become a managed service. If you write [the contract] too broadly, you capture a lot of services you don't intend to.”

## HOW TO CHANGE THE DISCUSSION

Cloud, aaS, and their on-demand nature form a business strategy for acquiring IT and IT services. By adopting this perspective, you can examine different approaches to aaS and cloud, just as you'd examine organizational approaches.

“There are ways under current budget models, financial execution, acquisition rules, the FAR and, within [chief information officer] leadership, to make this happen. It's in our own interest to not be distracted by these contrived or false obstacles that people throw out as an argument against moving to the cloud,” Balutis said.

Dave Wennergren, Senior Vice President of Technology at the Professional Services Council, echoed this concern, saying many agencies aren't investing in the knowledge acquisition necessary to successfully use current regulations. “Over 80 percent of a business system is usually focused on sustaining the old, rather than supporting the new,” he said.

The high cost of sustainment inhibits innovation and such resistance can create a paralysis-like situation. Agencies must take the time to investigate how existing rules and regulations can be used to procure aaS and cloud services and how they can be interpreted and adapted to support the growing service-based IT scenarios.

GSA has stepped in to help. “We are going to put in place what's called a Special Item Number (SIN) for all cloud purchasing, so that all the different cloud services that are on Schedule 70 can actually be found in one place,” said Day.

As written on the GSA's official site: “This proposed SIN will provide centralized, streamlined access to cloud computing services through IT Schedule 70 to meet your eligible government, state and local needs. GSA customers will be able to clearly distinguish cloud services from non-cloud IT products and services in order to get you to the right solution quickly. Industry partners will have the enhanced ability to market distinctive cloud computing solutions and offerings on IT Schedule 70.”

# CHALLENGE #3

## SERVICE LEVEL AGREEMENTS

The challenge with SLAs begins with understanding what outcomes the agency expects from the CSP. From these outcomes, performance benchmarks can be set to ensure a successful effort. However, understanding and rationalizing appropriate capabilities and services and establishing instruments to evaluate SLAs can be difficult.

Furthermore, issues arise when SLAs are written with old procurement models as the reference or when procurement officers lack historical perspective to create effective SLAs for aaS models. Procurement officials need to rethink SLAs in terms of IT as-a-service vs. traditional procurement.

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**Alan Balutis**

*Director of Cisco Internet Business Solutions Group*

## HOW TO CHANGE THE DISCUSSION

Communication is critical to cloud procurement, especially regarding SLAs. An agency must ask the right questions to learn how to construct a Request for Proposal (RFP) in a way that is specific to what on-demand services are required. Then, the agencies must construct SLAs which will ensure they get what is required. The agencies and the service provider must agree on common vocabulary for aaS and cloud terms. It is also important to have clearly defined roles and responsibilities for everyone involved, clearly defined service levels, and clearly defined metrics which can be mapped to specific business objectives.

Agencies should invest the time to get the SLAs right, including multiple critical reviews to ensure all expectations and requirements are captured. One tenet to remember is the less formal and clear the agreement is, the more certain there will be problems.

# CHALLENGE #4

## DATA SECURITY & HAVING A PLAN B

Having aaS and cloud services hosted on-premise mitigates most of the threats to data security because the agency's data is in its facility. When an agency is considering using a service provider's facility for hosting a service, the agency should carefully consider several points – and attendant risks – before doing so.

First, the type of data is crucial. The more sensitive the data is the more security and oversight required. Second, knowing where data is and how to get it back are crucial. Third, how to extract data from a CSP's data center – should you have to – is crucial. And, fourth, agencies have to have a 'plan B' established in order to have their data returned back to them if necessary.

The 'plan B' has to address what happens if circumstances change once data has been moved. There is always a risk that the decision to go into off-premise aaS or cloud is reversed. This could happen for the following reasons:

- The cloud provider goes out of business
- Poor service provider performance
- Too many security issues or potential security issues
- Rising costs
- A change in agency management direction that requires the data to be on premise

## HOW TO CHANGE THE DISCUSSION

The 'plan B' is essential to ensure an agency can change strategies or extricate itself from a service-based IT contract. In the rush to aaS, cloud, and service-based IT in general, most have not considered the exit strategy. As a result, when circumstances change, there is often no way out. The exit strategy has to be composed in conjunction with the RFP and the SLAs. It is an essential element of the acquisition strategy and deserves attention equal to the RFP and SLAs.

Here are some rules that should be considered in a building a 'plan B'.

1. Agencies can put data in the hands of a service provider, but the agency – not the service provider – are ultimately responsible for the data. Agencies should plan accordingly.
2. Make the service provider guarantee that the data is protected. This is probably best done using encryption where the agency controls the encryption keys.
3. Keep a backup copy of all data under agency control. An agency's best bet is to avoid putting all its eggs in one basket. Rather, store data simultaneously at two different sites, with the second one being either the agency's or a different service provider's.
4. Agencies need to think through what will happen if and when the contract with the provider ends, if they want to re-compete the contract, if they want to terminate early, or any other reasons that cause a change. Here are some tips:
  - The agency should set a service level to return all data within a certain time, and to get it back in a form that they, or their next service provider, can use.
  - When an agency leaves a service provider, they must make certain that sensitive data is erased from that provider's service platform or cloud.
  - Agencies need to know what data should not be destroyed for compliance or other reasons.

# CHALLENGE #5

## CULTURE

Change is difficult for any organization. There can be cultural resistance to a new printer in the office, let alone getting accustomed to operating in an aaS or cloud environment.

“The biggest issue in adopting service-based IT is really internal bureaucracy,” said Michael Fischetti, Executive Director of the National Contract Management Association. “The impediment is within ourselves.”

He explained that many contractors frame cloud computing as a new challenge, when in reality it is just the newest occurrence in a longer trend of new business strategies for acquiring IT and IT services. Failing to frame cloud or aaS as a new manifestation of an older strategy deters many from applying known solutions to the issue such as using the tools already in the FAR as acquisition techniques. As a result, agencies are creating more of the “false obstacles” that Balutis previously referenced, within the procurement and acquisition regulations.

“People often talk about the difficulties of technology in the backend, but the transition and adoption on the front end is the real struggle,” Martin added. “This is an enterprise capability that needs to be shared, but this is not business as usual for many government employees.”

Martin said that shared infrastructure is a whole new ball game for government. “We hear our IT professionals talk very candidly about the importance of moving to cloud,” she said, “but what we’re struggling with is our customers and our culture. Our culture is not ready for it quite yet.”

## HOW TO CHANGE THE DISCUSSION

Traditionally, organizations have had separate teams for server, storage and networking capabilities, and have followed conventional acquisition models. For example, if it’s a box, it has to be bought with capital dollars. It is difficult to adopt and adapt to new ways of acquiring IT as a service. The conventional model impedes the evolution of service-based IT which represents comprehensive change and a new and exciting strategy for acquiring IT.

“Cloud is not just an IT issue,” Martin said. “It is a procurement, contracts, budget, facilities and IT effort.” As aaS and cloud become more pervasive throughout government and employees gain a better understanding of that, there will likely be less anxiety and reluctance toward its use.

It’s also important to engage stakeholders to promote buy-in. “Cloud knowledge is not just important to chief information officers, but also to chief acquisitions officers, chief financial officers, budget officers and others,” Balutis said.

“Cloud is not just an IT issue, It is a procurement, contracts, budget, facilities & IT effort.”

**Tarrazzia Martin,**

Senior Adviser for Enterprise Planning & Change Management,  
Department of Housing & Urban Development

# CONCLUSION

## MAKING THE BUSINESS CASE FOR CLOUD & AAS

The focus on operational and business imperatives is critical. The first question to be asked when an agency considers moving to service-based IT is, "How will this improve or streamline our operations?" The second question involves consideration of return on investment. An agency needs to make a sound operational and business case for aaS and cloud, conducting rigorous, systematic analysis of the effectiveness and return on investment of various aaS and cloud solutions.

Given the cost, security, and cultural challenges discussed earlier, persuading an agency to entrust data in a cloud must include serious conversations with agency stakeholders to get their buy in. This goes beyond the CIO, and includes the operational owner of the applications, chief technology officer, chief acquisition executive, chief financial officer, budget officer, and others who have vested interests. These are key stakeholders because in the end, aaS, cloud and on-demand constitute a business strategy for acquiring IT and IT services. And these stakeholders can make it happen, or not.

ViON has made the movement to aaS and cloud a fundamental principle in its business strategy. ViON's leaders understand the technology – and the business – of aaS and cloud. Their on-demand offering provides the elasticity needed to make the business side agile and their agile cloud platform is aimed at mitigating the complexities of cloud and the changing needs of government. ViON can adapt solutions to a particular agency's needs, working with them to create a customer-intimate cloud model, focusing on the business problem and operational improvements first, and then architecting the right aaS and cloud solutions to meet the needs.

Whether on- or off- premise, public, private, or hybrid cloud or other aaS model, ViON can provide solutions to fit agency needs. They will help change the discussion around aaS and cloud within agencies so everyone understands it's not just an IT issue or some overly complicated technology scheme. ViON can help agencies explain that it affects multiple facets of the organization and, with proper preparation and analysis, can generate significant operational and business benefits. With the proper steps taken in the early phases of the process, agencies will find themselves well positioned to reap the benefits of not just a technology, but a sound business and operational approach to acquiring IT and IT services. And, ViON is the partner to help agencies achieve these successes.

## ABOUT ViON

ViON Corporation designs, delivers and maintains high-end information technology solutions for the military, governments and commercial businesses. With 35 years' experience as a leading IT enterprise solutions provider, the company solves challenging data management problems with a powerful combination of experience, teamwork and technical leadership. ViON is known for delivering cost-effective compute, network and storage capabilities -- on premise or anywhere on earth through the cloud. With deep expertise and mission focus, ViON helps customers achieve objectives from supporting warfighters and delivering citizen services to driving innovation and growth. The veteran-owned company based in Herndon, Virginia, has field offices throughout the U.S. | [www.vion.com](http://www.vion.com) | (877) 857-ViON



## ABOUT HITACHI DATA SYSTEMS FEDERAL

Hitachi Data Systems Federal provides technology solutions that enable government agencies to extend the useable life of their IT infrastructure. By engineering technologies from the ground up, HDS Federal offers agencies greater reliability and scalability, while reducing total cost of ownership in budget conscious environments



## ABOUT GOVLOOP

GovLoop's mission is to "connect government to improve government." We aim to inspire public sector professionals by serving as the knowledge network for government. GovLoop connects more than 150,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C. with a team of dedicated professionals who share a commitment to connect and improve government.

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