How Cloud Computing is Changing Governments

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For the last decade, there has been an increasing trend in private sector organizations to transition their IT infrastructures to the Cloud to meet network needs and expand performance. Over the past several years, government agencies have struggled to manage diminishing budgets and resources while simultaneously delivering effective IT services. As a result, agencies have turned to the Cloud as a means of lowering IT costs and realizing other Cloud-related advantages such as improved scalability, collaboration, accessibility, security, and efficiency.

Although initially being cautious with regards to potential security threats, the US government has shifted from using in-house data centers to employing cloud based alternatives. Data ownership and security have been among the top concerns within the public sector as agencies were reluctant in migrating sensitive data from something they managed and controlled on premise to an outsourced Cloud provider. In addition, many agencies lacked the migration experience or had difficulties reconfiguring their legacy systems to be Cloud-ready.

Although these remain top concerns, new Cloud computing deployment methods and first-adopter success stories have alleviated many security-related concerns. A Forbes Insight Cloud report stated "What began as a national policy initiative is now cascading, not merely at the federal level but also into the practices of numerous state and local jurisdictions." The increased adoption of Cloud-enabled technologies can be partially attributed to flexible deployment strategies, including hybrid models where agencies can still internally manage sensitive information while moving other applications to the public Cloud.

Today, Cloud adoption still varies across the government sector. Government Cloud adoption is expected to accelerate in the next few years with an "annual average growth rate in federal spending on Cloud, reaching $6.5 billion by 2019" according to Deltek's Federal Industry Analysis. In both the public and private sectors, each Cloud strategy is different based on varying business requirements and needs. To ensure a smooth Cloud transition in any organization it is necessary to consult a trusted Cloud partner to help outline Cloud strategy and architecture.

Most government IT professionals agree that those who leverage the cloud with on-premise solutions will be poised to save millions of dollars per year. But wanting to get there and actually getting there are two different things. An agency cannot just "go offline" and rebuild its applications and infrastructure in the cloud. It must do so incrementally, usually without any service interruptions.

New equipment, new locations, new telecomm, new applications, new access models—these are all tough challenges, however, one of the thorniest challenges is your data. Throughout all these changes, you must be able to rapidly move data from application to application, from data center to data center, from on premise to the cloud— even from production to archive. The risks of getting this wrong are too great to ignore. Are you willing to trust the movement and integrity of your data to custom throwaway code?

As agencies wrestle with antiquated IT systems and increasing volumes of data, the journey to the cloud can seem too difficult. Yet, the promise of saving millions of dollars per year is compelling enough to stay the course.

A proven data-integration platform that addresses your data needs during and after your migration, consolidation, or rationalization is required for successful migration to Cloud. It is essential that your data gets where it needs to be, when it needs to be there, in the format it needs to be in.

Examples of Crucial Government Services on Cloud

Some of the key areas we are seeing focus from the U.S. Federal government include: ▶

IT consolidation: Government agencies realize the benefits of IT consolidation to increase operational efficiencies. They are reducing the cost of IT ownership by consolidating their server footprints through cloud and virtualization efforts. Similarly, datacenter consolidation is taking place to reduce hardware costs and also to drastically reduce the energy consumption by many folds.

Shared services: More government agencies are leaning towards sharing IT services to reduce costs and to improve business process efficiencies. Some of the key federal programs seeking IaaS and SaaS solutions include continuous monitoring, asset management, threat & fraud detection and prevention programs. Because these cloud adoption models allow the flexibility to deploy more current services with elastic capacity, the government programs are become increasingly agile and responsive to changing business conditions.

Citizen services: Almost all federal, state and local agencies provide a variety of citizen services/self services. For example, allowing citizens to monitor their energy and water consumption can help them be more vigilant of their usage. Accessing the status of their service requests (applications, loans, etc.) and even their medical records along with the informative wiki resources to improve consumer awareness is pivotal for everyone. The Open Government Initiative is a classic example of informing and empowering the citizens through dashboards and scorecards about government and the flagship initiatives.

Cloud Computing For Singapore Government

The Singapore Government acknowledges that each cloud computing model provides its own level of assurance and benefits. As such, the cloud strategy for Singapore Government is to leverage the appropriate cloud for the appropriate need by adopting a multi-prong approach to cloud computing as follows:

* Leverage commercially-available public cloud offerings for appropriate needs' so as to benefit from lower cost of computing resources;

* Implement a private government cloud (G-Cloud) for whole-of-

government use where security and governance requirements cannot be met by public clouds;

* Enable interoperability between G-Cloud and agency Clouds through a set of internal G-Cloud standards.

Singapore Government Cloud (G-Cloud) is the next generation whole-of-government infrastructure. It provides efficient, scalable and resilient cloud computing resources and designed to meet different levels of security and governance requirements:
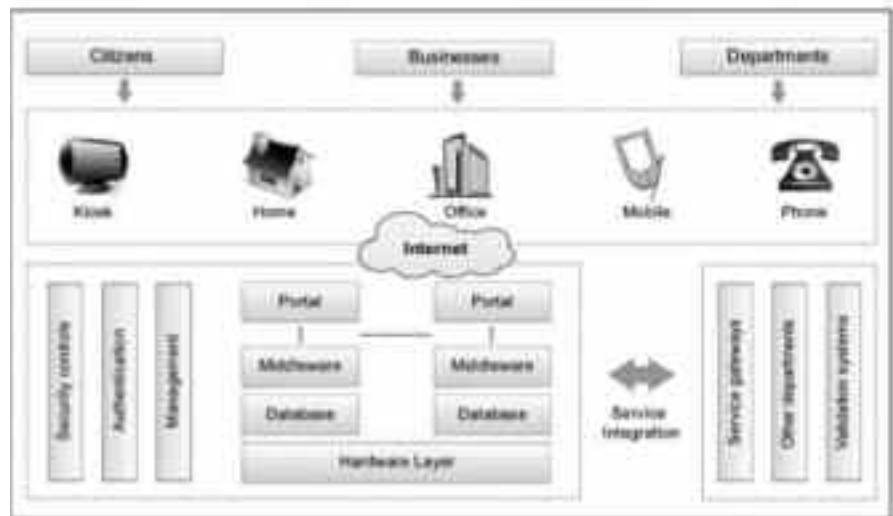
* High Assurance Zone — a physically dedicated computing

resource pool which will only be used by Government to serve its high assurance needs.

* Medium Assurance Zone — a computing resource pool which will be shared with non-government cloud users to lower cost computing resources for Government with security controls in place; and

* Basic Assurance Zone — a computing resource pool based on public cloud offerings.

To further aggregate the whole-of-government demand to maximize cost savings to the Government, Singapore Government provides Software-as-a-Service offerings, such as business analytics, and customer relationship management and web content management.

Singapore's G-Cloud enables standardization, and sharing of computing resources and applications at the whole-of government level, thereby generating cost savings to the Government.

Bangladesh Context

Government of Bangladesh has also realized that Cloud computing could significantly change the way information and services are consumed and provided. It can help government:

* Improve workforce productivity through cloud services

* Lower costs by using energy and resources more efficiently

* Enhance agility, growth, and simplicity

* Help ensure resilient and trusted collaboration

Cloud Model for e-Government

Bangladesh Government organizations want the capability to enjoy the best of on-premises solutions and the best of the cloud and they need to be confident that it is secure. Bangladesh Government organizations need to connect and collaborate across multiple applications and platforms, through any consumption or deployment model, with confidence and without compromise.

Following the success of many governments around the world like Singapore, UK, Australia, Canada the Government of Bangladesh is in the process of taking a Whole of the Government Approach in building ICT infrastructure and in providing e-services to its citizens.

Whole of government working is likely to be a feature of the policy implementation landscape in some form for the future given the increasing complexities of the social and economic landscape, both nationally and internationally. The challenge is to find ways of making it work to best effect ◙