



LEVERAGING HYBRID CLOUD AND MANAGING DISAGGREGATION



The term ‘hybrid cloud’ means a lot of different things to a lot of different people – after all, no two clouds are the same. However, government bodies need to fully understand what a hybrid cloud model means in their context, to leverage best value for money and start seeing the benefits that their commercial counterparts are already taking advantage of.

Moving to a modern IT platform with less upfront investment, huge economies of scale and the flexibility to pay for only what you use, has made the cloud an easy win in terms of speed, agility, transparency, and to some extent, cost savings for the Public Sector. But it is not only these benefits that are changing the way government views IT. The change in the way we consume technology in our daily lives has transformed our views about how we expect to access public services. Government bodies are consequently under increasing pressure to deliver services that offer a seamless digital experience. They are therefore keen to take advantage of the more modern technologies available to them in order to deliver better public services under increasing financial pressure.

HYBRID CLOUD FOR GOVERNMENT

Where government is concerned, hybrid cloud set-ups tend to arise where departments require a mixed environment to replace legacy managed service applications. For example, some government bodies already have their own data centres and private cloud environments. However, in looking to cut costs, increase agility and improve service, they now wish to extend their set-up through a mix of public and community cloud fabrics, whilst ‘sweating’ physical infrastructure assets.

SO WHAT IS HYBRID CLOUD?

NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY (NIST)

“The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardised or proprietary technology that enables data and application portability (e.g. cloud bursting for load balancing between clouds).”

GARTNER

“A cloud computing service that is composed of some combination of private, public and community cloud services, from different service providers.

A hybrid cloud service crosses isolation and provider boundaries so that it can’t be simply put in one category of private, public, or community cloud service. It allows one to extend either the capacity or the capability of a cloud service, by aggregation, integration or customisation with another cloud service.”

EXAMPLE OF HOW TO BUILD YOUR HYBRID CLOUD

1

ASSESS

Cloud Readiness Assessment Workshop to identify workloads for cloud

2

ADOPT

Migrate on-premises applications that can move to SaaS
Migrate on-premises that can move to IaaS
Migrate to data centre – co-locate remaining legacy environments
Identify applications to be redeveloped into digital apps for the cloud

3

ADAPT

Re-design legacy applications to digital
Spin up new cloud workloads to test/develop new digital apps
Start to plan legacy infrastructure retirement

4

TRANSFORM

Replace legacy located services with new digital services in the cloud
Retire infrastructure
Keep IT design/management in-house

5

RUN

Continue to assess user requirements and market for new cloud services with better pricing and support

WHY CHOOSE HYBRID CLOUD?

Government policies such as ‘Digital by Default’ and ‘Cloud First’, alongside the previous government’s target that 25% of IT spending should flow to SMEs directly or through the supply chain, is driving some government departments to break up their current large-scale supply models and consider a hybrid approach.

Government bodies are also under increasing pressure to provide maximum value to the tax payer. Frameworks such as G-Cloud have been introduced to encourage competition in the sector and free government from longstanding inflexible, lengthy contracts with IT providers.

To help with the transition to ‘Cloud First’ in UK government, organisations are able to procure cloud services via the Digital Marketplace. Many already are, with the 2015 pipeline estimated spend predicted to be £5,809 million in comparison to £352.2 million last year. This race to cloud within the public sector shows no signs of slowing, with the governments of the USA and Australia just two of many others who have successfully taken a similar cloud-focused approach.

HOW AND WHY WILL GOVERNMENT DEPARTMENTS BENEFIT FROM THE CLOUD?

Put simply, hybrid cloud is both pragmatic and fit for purpose. Whilst the public cloud can deliver proven benefits for certain workloads, there may well be trade-offs, particularly when it comes to mission critical data security.

Outsourcing recognised this gap and the requirement for cloud services delivered from UK Sovereign Data Centres with stringent policies and procedures in place to cater for security classified workloads connected to the Internet (formerly IL2) and PSN (formerly IL3). Legacy fears around security – traditionally one of the biggest blockers to cloud migration – are also being allayed by the hybrid model.

With Outsourcing’s hybrid cloud approach, organisations can place their secure customer data on PGA OFFICIAL Internet and PSN (formerly IL2 and IL3) cloud services delivered from UK Sovereign Data Centres. This combines the high performance and scalability of the cloud within one seamless, agile and secure environment to allow them to fulfil their commitments and transform their citizen engagements. There are

cost benefits too, of course. Effectively leveraging the benefits of hybrid cloud helps to reduce overall cost of ownership and improve cost efficiency by more closely matching cost patterns to demand – effectively moving organisations from a CAPEX cost model to an OPEX one.

A LOOK AT DISAGGREGATION – IS HYBRID CLOUD A HELP OR A HINDRANCE?

Historically, some government organisations have been slow to keep pace with technological developments, having relied on large Systems Integrators (SIs) tied to long contracts to meet their IT needs. These outsourced models now look rather cumbersome in comparison to modern, flexible, modular services that leverage the benefits of cloud.

However, whilst cloud adoption is increasing, long-standing and restrictive contracts have kept many old style set-ups in place. But not for much longer. The UK government has recently stipulated that it will no longer support large, single source contracts, which has pressed home the need for greater and faster disaggregation.

HOW CAN GOVERNMENT TURN THESE INITIATIVES TO THEIR ADVANTAGE AND EFFECTIVELY MANAGE HYBRID CLOUD ENVIRONMENTS?

Fundamentally, a hybrid environment has the potential to give public sector bodies total control of their IT estate as they design and deploy their desired services.

A hybrid cloud model will allow government departments to leverage existing applications and infrastructure that are still of use i.e. not everything will need to be replaced at the same time. This will help to remove some of the difficulties of service disaggregation by making it more of a gradual transition rather than a ‘big bang’ approach. This approach will also allow government departments to deploy the ‘best tools for the job’, whatever they may be, allowing for faster response times in line with public demand and enabling government departments to offer rich user experiences to their citizens – much like their private sector counterparts already do.

By implementing a hybrid model, disaggregation does not have to be such a large-scale change, as departments can migrate relevant workloads as and when suits the users. Ultimately, a hybrid environment

gives end-users greater control over IT set-ups, helping government departments to stay compliant with ever changing legislation and effectively leverage their internal IT capabilities. In terms of disaggregation, it offers a way to manage the process more gradually, making it easier to host the right workloads in the right environments whilst remaining compliant and meeting all relevant security requirements.

MOVING TO HYBRID CLOUD – AVOIDING THE PITFALLS...

Of course, as with any development in technology, the road to the hybrid model may still have its challenges. If mismanaged or incorrectly deployed, issues can inevitably arise – here are some to avoid:

COMPLIANCE: Ensuring that all cloud environments are compliant with government legislation and security policies can be problematic. As data will most likely be transferred between cloud fabrics, organisations must ensure that each and every one is fully compliant with all necessary regulation.

OVER-DEPENDENCY: This can be a real issue if hybrid cloud migration is not handled effectively. In the case of an outage for example, government bodies would have to rely on their internal IT resource for any support in handling the outages in the hybrid environment. However, government departments could effectively overcome this by building high availability at an application level and operating multiple cloud services – which also helps support the need for greater disaggregation of IT services.

NETWORKING: Having a network setup which ensures fluid and effortless transfer of data is key in a hybrid model and must be managed correctly. Of course, the more cloud fabrics that are involved in a setup, the more complex the networking – which is why it is paramount that this is handled in the most effective manner possible, after thorough consultation with a hybrid cloud expert.

INTEROPERABILITY: Many users of the hybrid cloud model are yet to configure their on-premises private cloud for interoperability with a hosted private cloud, and even more are unlikely to have done so for the public cloud. That's not to mention the proportion that will also not have closed the gap between their hosted private and public cloud ecosystems. This is a gap that needs to be closed in order to cohesively form a unified

cloud fabric, for efficiently and securely integrating multiple service providers and operators, and for aggregating base services.

RELEVANT SKILL-SETS: A hybrid model is a different animal in comparison to a traditional static infrastructure set-up and ensuring you have the correct skills at your disposal is paramount. Organisations should ensure they have an experienced team of technical design architects, alongside agile developers, and a commercial team that understands how to manage multi-sourced contracts. A team that knows where data falls between private, semi-private and public clouds, and recognises how to get the most from each environment, is vital to ensuring the hybrid model aligns with government objectives.

THE BENEFITS OF HYBRID CLOUD

RAPID SCALABILITY – A hybrid model allows government bodies to align virtually untapped cloud resources to wherever they are needed quickly and efficiently. In short, a hybrid cloud approach can offer access to unlimited resources on-demand, enabling government to launch, change and remove citizen services quickly.

SECURITY – Hybrid cloud helps to increase security by enabling government bodies to keep sensitive data on a mixture of cloud delivered from the UK, which meets government security classifications, and a private cloud, whilst continuing to benefit from the speed and availability of the public cloud when and where necessary.

FLEXIBILITY – Successful management of a hybrid model can offer a variety of choices as to how IT services are delivered. This allows government to take advantage of the best delivery method for each of its applications and offer seamless rich digital experiences to its customers and staff.

COST – As well as potential cost savings for which the cloud is often lauded – lower energy costs, less resources required for server management and purchase of hardware etc. – cloud savings can also be achieved in hybrid set-ups through the use of temporary or 'burstable' resources, allowing government bodies to scale demand as needed, rather than pay for services that they do not always require.

OUTSOURCERY AND THE PUBLIC SECTOR

The greatest single advantage that government bodies can take from hybrid cloud is its holistic approach to the consumption of IT. At its heart, hybrid cloud is all about matching the right solution to the right job – enabling businesses and governmental bodies alike to leverage the enhanced flexibility and scalability of private cloud, alongside the security and control of public cloud.

This way of working is new to many in the public sector and therefore government departments must arm themselves with the right tools in order to maximise the benefits of hybrid environments. As with any technological transition, there will be challenges along the way as departments learn to manage multiple providers whilst maintaining a consistent level of service. So, whilst changing from such an ingrained set-up may not be completely seamless, with the right partners and platforms in place it needn't be approached with too much trepidation either.

With the support of Microsoft, Outsourcery realised the opportunity for cloud computing in the Public Sector with large-scale investment into both the accreditation of Outsourcery's existing platform to meet OFFICIAL internet (formerly IL2) standards, whilst also developing a new cloud platform to meet OFFICIAL PSN (formerly IL3), in order to deliver accredited cloud services to the UK government.

Both of these platforms are built using best-of-breed Microsoft technology, with the primary focus being to help government to embrace the opportunity for cloud services and deliver greater cost efficiency than ever before through metered 'pay as you go' style billing, enabling government to pay only for services they need when they need them.

What's more, Outsourcery is a UK SME and its services have gone through a rigorous testing process and gained CESG Pan Government Accreditation (PGA) at OFFICIAL Internet and PSN (formerly IL2 and IL3). Outsourcery is able to resell Microsoft Office 365, with UK technical support, through its partnership with Microsoft. Outsourcery is also a fully Ofcom regulated Telco provider, enabling them to provide integrated voice for Skype for Business, or Microsoft Lync.

Outsourcery was named as a finalist for the 2015 Microsoft Public Sector: Government Partner of the Year Award. The company was one of just three Microsoft partners honoured among a global field of top Microsoft partners for demonstrating excellence in innovation

and implementation of customer solutions based on Microsoft technology.

HYBRID CLOUD – REAL-WORLD BENEFITS...

The hybrid cloud approach does not exist solely in the realms of 'IT theory' – it has many transformational real world applications.

One particular benefit comes from leveraging hybrid cloud in order to meet temporary capacity needs that cannot be met by a private cloud alone. This capability enables hybrid clouds to employ cloud bursting, for scaling across clouds when the demand for computing capacity increases. Cloud bursting enables data centres to effectively create an in-house IT infrastructure that supports average workloads and then accesses cloud resources from both public and private clouds during spikes in usage or demand.

The hybrid model is also particularly useful to government departments in covering legacy gaps during cloud migration. No public sector body is ever going to replace all of its legacy systems in one go. Therefore, the use of a hybrid model to cover the gaps between old and new systems is a perfect example of the model in action. Finally, many in the commercial sector are already using hybrid models in order to stay at the cutting edge of innovation – with hybrid cloud deployment offering an opportunity to dig in to new ways of offering digital services, where volumes and uncertainty of data may otherwise clog systems with finite capacity – the public sector would do well to follow suit.

In helping to enable the disaggregation of IT services throughout government, hybrid cloud is set to make the technology landscape more of a level playing field – placing more power with the buyer after years of being at the mercy of a narrow choice of SIs and hefty, somewhat restrictive long-term contracts.

GOVERNMENT IS NOW FREE TO TAKE ADVANTAGE OF THE BENEFITS THAT THEIR PRIVATE SECTOR COUNTERPARTS HAVE BEEN LEVERAGING FOR YEARS AND COMPLETE THE JOURNEY TO A NEW – BETTER – WAY TO WORK.

NEXT STEPS

Outsourcery is able to provide a proof of concept to support your business case, identify any constraints and demonstrate the benefits of cloud. For more information please contact:

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DIGITAL MARKETPLACE

Find out more about Outsourcery's cloud services for public sector:

IaaS OFFICIAL Internet
IaaS OFFICIAL PSN
SaaS Microsoft Unified Communications
SaaS Microsoft Exchange 2013 Email
SaaS Microsoft Dynamics CRM



Microsoft Partner

Gold Communications
Gold Hosting
Gold Customer Relationship Management
Silver Cloud Productivity
Silver Datacenter
Silver Messaging
Silver Data Platform
Silver Collaboration and Content



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