CAPITA

IT Enterprise Services

Solving the cloud chaos conundrum

Viewpoint
What is cloud chaos?

By ‘cloud chaos’ we mean three things. Firstly, the ‘multiple choice’ effect. The cloud opens up the opportunity to purchase from multiple suppliers on multiple platforms. From an IT management or service management viewpoint this increases the complexity of an IT estate because there will be disparate applications in use.

Added to this is the change in who is procuring IT. Traditionally it would have been the IT department but now with cloud availability and click to order anyone at almost any level in an organisation can procure cloud-based IT. Multiply this across a whole organisation and the complexity increases so that the promise of cloud simplicity is short lived and management is more time consuming.

Secondly, the ‘benefit rush’ effect. The promise of substantial savings has created a rush to adopt cloud services. But, in acting with such haste and omitting to go through strategic and thorough business planning, organisations are limiting their potential return on investment from cloud adoption.

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A third contributory factor to cloud chaos is the different approaches taken in cloud service procurement – the ‘entry point’ effect. Ovum, in its Cloud Business Trends Survey[2] revealed that almost two-thirds of its respondents (large enterprise clients with 1,000 or more employees in the US, UK, Germany, and France) expected to make Infrastructure-as-a-Service (IaaS) investments within two years.

Many organisations start their cloud experience with the commodity services – the infrastructure layer or Infrastructure-as-a-Service (IaaS). Possibly this is because it is seen as the simplest place to begin as billing is typically utility driven, based on the resources consumed. Once provisioned, customers and service providers are then able upload operating systems to the cloud that will run workloads to deliver platforms and applications.

This is contrasted with end user adoption starting from the Software-as-a-Service (SaaS) level where the full software environment as a service is accessed via a browser, mobile or a terminal. The software applications can be generic or industry specific. This level generally has well defined service options which limit customisation, making it a trade-off between ease of use, cost efficiency, service flexibility and customisation.

There’s no doubt that cloud services are convincing – whether public, private or hybrid. They bring real benefits to businesses and solve many of the key IT challenges faced today. Business cases for cloud adoption stack up neatly and viably which is driving investment in cloud infrastructure and increasing the speed of adoption. After all, 62 per cent of businesses already use cloud computing, compared to 50 per cent last year[1].

But, in this rush to the cloud some of the fundamental practices that traditionally governed how organisations operated have altered, especially around how IT is purchased – centrally, departmentally and individually. The result can be ‘cloud chaos’ with the potential to impact performance, revenues and opportunities.

Cloud chaos:

The benefits of cloud have long been highlighted and in many cases have delivered tangible benefits and made working lives easier. But, for some it has not perhaps delivered what was first envisaged. This could be because of varying expertise or implementation experience. It could be down to how services have been procured. The result, for some is ‘cloud chaos’ where applications and services are incompatible and impacting performance.
These two contrasting positions leave gaps in the cloud adoption strategy as some parts of an organisation could have adopted IaaS while others opted for SaaS. Without a platform from which to operate cloud services the two are likely to be incompatible and certainly multiplies the costs involved. Undoubtedly this will have an impact on the ROI from cloud investment as well as the ability to deliver its full potential.

Selecting a Platform-as-a-Service (PaaS) first and then the IaaS provider that best supports this platform would appear to be the best approach. By developing your application using a PaaS, you can lower the total cost of ownership. With the right PaaS, you also gain the flexibility to change cloud infrastructure providers over-time and avoid infrastructure vendor lock-in by making your application portable to any IaaS provider.

Two levels of service exist that can ensure that cloud adoption is embedded into the IT strategy of the organisation and its operations. Services that will deliver a solid foundation from which to build cloud experiences well into the future:

- **PaaS – Platform as a Service**
  The operating system, database, web server or programming environment provided as a service. PaaS gives you a more advanced foundation to start from, removing many of the lower level setup and management tasks, but typically introducing some constraints in flexibility in return. Again PaaS is most commonly billed on a utility basis.

- **BPaaS – Business Process as a Service**
  The provision of key repeatable business services that can be consumed in a modular, utility fashion such as HR, Payroll, eCommerce or Financials represents a logical evolution of the technology stack being offered as a service.

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**How did we get here?**

Let’s start with the challenges first.

In some ways this chaos scenario is due to the ease with which cloud can be adopted – one of its potential strengths. What we mean here is that through public cloud offerings people across a business have been able to procure and consume applications that meet their departmental or individual needs. Formal CAPEX approval process gone and the central IT procurement process averted. They need it, they buy it. Salesforce.com is a loved favourite amongst sales and marketing teams but your finance team may have purchased another service while those that make or deliver your products or services may have yet another application. That leads to duplication, inefficiency, inconsistency of data and makes it very difficult to get a clear, overall picture of your business, its costs and overheads. Because of this ease of procuring services the impact on business can be significant. You could be wasting money, compromising security of data and compliance as well as negatively impacting performance and your bottom line.

Even large public sector cloud platforms with the simplicity of their ‘click to order’ model encourages people who would not normally make such procurement choices, to buy applications without full knowledge of how they will fit and work across their business. Why should they need to care? Non-traditional IT buyers are making decisions; but what of data security, data sovereignty and integration? The appeal of the user experience over shadows the back office challenges. The result – chaos.

Of course, procuring in this way does not automatically result in cloud chaos. In some instances it can work well for an organisation giving them the right tools for the right job rather than a system that inevitably is a compromise for everyone. The important thing here is to make sure that however you choose to adopt cloud services – you have a strategy that works for your business.
Factors influencing cloud investment decisions [2]

- A. 17% Operational cost savings
- B. 16% Flexibility
- C. 12% Scalability
- D. 10% Uptime
- E. 6% Other
- F. 5% Skills
- G. 5% Low cost of adoption
- H. 3% Limited internal resource priorities
- I. 3% Return on investment compared to on-premise
- J. 3% New service and no experience

Source: Cloud Industry Forum
Making sense from chaos

As cloud offerings have improved and competition is strong, more and more service providers are emerging. That’s good but adds, in some way, to the confusion if you’re caught in the cloud chaos cycle.

Organisations want to leverage cloud to save IT costs, deliver business benefits or both. If cloud services are used strategically there are implications for how they are managed, governed and integrated with other parts of IT. This is why an overall cloud strategy is critical. It will give you a view of the services and applications that you need and want as a business and put in place a cloud provisioning and governance strategy so you can measure the impact on current/future infrastructure, applications and network resources. It will also set rules and procedures on how cloud services will be accessed, provisioned, managed and secured.

Top things to include in your cloud strategy:

A strategy is not an end result – it is a process that helps you assess and consider your options and decide the best route to the objective – all in the context of your organisation’s constraints, demands and opportunities. Here are our top 10 things to consider in your cloud adoption strategy:

- **What are the options for adopting cloud?**
  Assess the level of service that you want – IaaS, SaaS or PaaS. How serious are you about embedding cloud computing into the heart of your organisation? You may want to consider BpaaS as well which will play a key role in integrating cloud computing into business processes.

- **Specification & planning**
  Decide what services to move to the cloud – all or just some? Which ones are the easiest to move? Which will have the greatest impact on the business? Which ones will carry most/less risk?

- **Architecture: what will our IT estate look like?**
  How will it work with other applications and those not on the cloud?

- **Financial considerations**
  What are the costs, savings and revenue opportunities and risks involved? What will be the overall return on this investment?

- **Operations**
  How will our operational processes change as a result of migrating some of your IT to the cloud? What impact will this have on associated processes and the people who use them?

- **Implementation**
  What should your cloud migration roadmap look like?

- **Management**
  What processes and policies will you have in place to manage and govern your adoption and use of cloud services? Can this be monitored and, scaled as the business grows? Do you have a joined-up approach to manage multiple procurers, suppliers and users?

- **Risk assessment**
  What are the risks involved in adopting cloud computing? What are the risks of not doing so? How can these be mitigated? Where are the compliance points?

- **Vendor selection**
  Understand what is being offered and what you are paying for. Find out what is not included and understand how this will work with your business and its peaks and troughs. Work with as few suppliers as possible to increase your control and simplify you management.

If you can, find one supplier that does it all, so much the better.

- **Migration.**
  Schedule any migration to the cloud so that it has minimum impact on your business and customers. Most good suppliers will help you do this as they have expertise and experience in this area.
Changing how we procure IT:

Often described as a game-changer, cloud is certainly changing the way we procure IT. The 'ease of access' and 'click to order' aspects combined with the sheer volume of applications and services available means we’re evolving from procurers of IT to consumers. Cloud gives us agility, speed and utility pricing which are great attributes.

But, it could be argued that the CIO/CTO procurement process that gives us governance, format reviews and strategic planning is critical to success. Change can be good but inevitably brings with it further challenges for businesses of all sizes such as issues of over-provisioning, scalability and cost as well as availability of expertise.

While cloud may have made IT procurement easier it throws up additional uncertainties in terms of exactly what is procured, when and for how much. For example, does your organisation know how much capacity it will need to maintain its day to day operations? What happens if there is a sudden peak in demand for capacity, how would your system cope and could you address the issue fast enough to benefit? How do you decide which services are mission-critical and which are best or not suitable for transition to the cloud?

Do you take the cautious approach and buy more capacity than you need so that you avoid the risk of failing to meet your customers’ demands OR, do you take the sensible approach and find a cloud provider that offers you the ability to scale your capacity, rapidly, on a pay-as-you-use model that means always be sure of meeting customer demands.

Cloud brokerage

With all these components, risks and decisions to make it is not surprising that organisations are sometimes reluctant to take the leap. But that in itself can present risks in terms of growth, cost saving, scalability and competitiveness because embracing what cloud computing offers can deliver significant benefits if procured and indeed embedded in the right way.

What is a cloud broker?

Gartner defines cloud services brokerages (CSBs) as intermediaries between customers and the cloud technologies they use. The cloud services brokerage helps customers aggregate, integrate and customise various cloud services, and helps consumers of cloud services manage all the interactions with providers – from licensing and governance to data movement and customisation. Gartner explains that without a cloud services brokerage, businesses would need to manage each cloud solution individually during every phase from adoption to customisation and growth.

According to Gartner[3] By 2015, at least 20% of all cloud services will be consumed via internal or external cloud service brokerages, rather than directly, up from less than 5% today. The use of a cloud brokerage service ensures that you get the best portfolio of public, private and hybrid cloud services; it’s the integration challenge solved.

Managed and shared services

For many, the managed or shared service method of procuring IT has been the best solution as it removes the burden of managing your own IT. This hasn’t changed and these methods continue to play a massive role in delivering IT and business transformation on a large scale. It’s just that now cloud forms a part of this.
What’s the answer?
Public or private cloud?

Much will depend on your need for security of data. While public and private cloud services may be roughly comparable on price, public clouds may not always offer you the security you need. If you’re an organisation that needs to comply with stringent data security, sovereignty and governance requirements then you need to know exactly where your data is held and who has access to it. Alternatively, you may be an organisation that is just not willing to take the risk of placing your data in a public cloud environment.

To build your own private cloud would, inevitably, be expensive. But with private cloud offerings from reputable providers you can take advantage of the security they bring at far less outlay than building and managing your own private cloud.

Best of both worlds

The best solution is a cloud service that offers the best of both worlds. Firstly, the ability to mix private and public cloud services, based on a ‘pay as you use’ basis, with one supplier that can give you the capacity that you need, when you need it – even in an emergency. Secondly, someone who can help you choose the right mix of cloud services that will interact with other systems to provide the best solution.

There are many providers of cloud services and they all vary in exactly what they offer. To help you find the right provider for your business you need to decide on a few key elements such as:

- Where will your data be stored, held and accessed? Is data sovereignty an issue for you?
- Are you looking for a blend of public and private cloud services across your business?
- Are you interested in public cloud services but concerned about security?
- Are there major peaks and troughs of activity/workloads throughout your year? Is it seasonal, annual or unpredictable?
- Are your IT estate, cloud and in-house services becoming complex and time consuming to manage?

- Break it down; key departmental/business challenges; existing versus potential services; what’s critical, what’s not, what’s regulated/sensitive or not?

The role of the CTO in chaos resolution

The CIO’s role is moving away from traditional IT back office responsibility and towards a position straddling the business and technology world. The focus is on using technology to enhance strategy and growth. It is therefore imperative for them to deliver lower IT capital costs and increase operating efficiencies. Working with suppliers closely and creatively to achieve the right outcomes is crucial.

The Chief Information Officer has to now become the Chief Innovation Officer.

They are driving and harnessing technology improvements that open new opportunities across the innovation network. They are acting as facilitators and unifiers, bringing disruptive technology to the business to improve and transform products and processes. They are promoting agile development models to ensure rapid adoption of business process changes. The challenge is to work with their suppliers to achieve the maximum alignment between their systems and business needs in a cost-effective way.

Recent research[^4] from CTOs and CIOs conclude that the top challenges/drivers will come back to the common 5…. 

1. **Security & privacy**– once your data is in the cloud, can you prove that you know exactly where it is at any one time? How do you know that data is completely safeguarded, especially cross-border where different regulatory environments exist? What is the potential for hidden costs? Will you incur large costs associated with integrating cloud that aren’t initially accounted for?

2. **Costs** – if you want to exit the cloud or downsize, how much of the costs are stranded?

3. **Simplicity** - complexity follows risk. Therefore, moving into the cloud offers an operating simplicity and the opportunity for simple, flexible and robust vendor contracts

4. **Compatibility**- will this cloud solution be compatible with your existing IT environment?

5. **Cultural** – with stories of government surveillance and a climate of suspicion is it really the wisest decision to move information into the cloud? How can you convince a nervous and resistant board that cloud adoption is the best move for the company?
Top things to look for in a cloud provider

- A provider with a plan. Cloud is not just I-a-a-S and migration to the cloud is the beginning and not the end of the journey.
- Pay as you use model
- Ability to scale capacity to meet demand - additional capacity in minutes not months
- Cloud brokerage service – to help you combine the best of public and private cloud
- Assurances on data security and sovereignty. If it’s absolutely essential for data to be stored in the UK then make sure you have this guaranteed
- Transparency on data location – confidence that you know exactly where your data is held and who has access to it.
- Application/compatibility for enterprise applications – what applications are available to you, are they pre-tested so you know that they will work?
- Simplicity of access – such as through a self service portal that gives you control
- Robustness of the connectivity – it will have a huge impact on your cloud service performance
- Partnership reputations – how will you work with your cloud provider? Will they be available for ongoing support?
- Level of assurances on SLAs and guarantees - understand any limitations
- Decide what sort of service you want, whether this will change as your in-house skill increases or whether you have no intention of having an house IT skills again
- Make sure the provider has a true cloud service and not a rebranded conventional hosting model.
Solving the cloud chaos conundrum - viewpoint

Capita Private Cloud in a nutshell

Taking the top challenges from our client research as well as industry research Capita Private Cloud was designed to address these to deliver a cloud service that’s ideally suited to businesses today. It combines the flexibility of public cloud with the security of private cloud services all in one secure environment. Add to this the fact that your data is held in our state-of-the-art, UK-based data centres so data security and sovereignty assured.

We know that many businesses are uncertain about how best to transition services into the cloud. Capita Private Cloud takes that uncertainty away. It reduces cost and complexity whilst bringing freedom, agility and control to your business.

Through our cloud brokerage service we can aggregate, integrate and customise many different cloud services. For you, this means, you contract once, yet blend the finest elements of public and private cloud services in one. What’s more we enable customers to consolidate all service management and billing across their diverse cloud services. This means our customers can get the best that cloud computing can offer.

It’s a simple, affordable, secure service that delivers cloud capacity in minutes. This instant availability means that you can cope and respond rapidly to planned or unexpected events and only pay for what you use. It helps you manage and accommodate dramatic spikes in activity (such as seasonal sales or annual council tax billing) without the financial pain.

With access to over 2,000 business applications – all pre-built, pre tested and ready to go, businesses can dramatically cut costs and lead times associated with delivering new services.

Cloud success is determined by WAN robustness

The increasing demands and new requirements placed on Wide Area Networks (WANs) due to increased cloud-led use for applications, hosting, storage and converged communications mean that you need a resilient and robust connection to your cloud services to ensure their success. Capita IT Enterprise Services’ 10Gbps core flagship WAN service together with Capita Private Cloud can provide an end-to-end service with all the reassurances that you need.
Conclusion

Wherever you are in the cloud adoption process cloud should, by now, be an integral part of every IT strategy. If it’s not, it’s quite likely that you are caught in the cloud chaos cycle.

Perhaps you are about to adopt some services or perhaps you’re faced with the challenge of managing disparate, disconnected cloud services.

You can avoid cloud chaos by following a few key steps:

- **Engage your IT department** and work with them on parts of your strategy. Their insight is valuable.
- **Alter the shape of your CTO/CIO function** so that it becomes an enabler of adopting cloud as part of the innovation and agility drive.
- **Work with one supplier** who has the experience and expertise to help at all points throughout your journey. That way you’ll maximise the return on your investment.

Cloud’s impact can be felt in the changes it has brought to how we procure and consume IT and how it demands a strategic implementation if its benefits are to be realised.

Cloud computing will reduce cost and complexity and bring freedom, agility and control to an organisation IF procured, implemented and managed strategically. Capita Private Cloud meets these new challenges with its ‘pay-as-you-use’ model, true scale capacity, UK-based data centres and secure environment for combining the best of public and private cloud services. Its cloud brokerage service is at the leading edge of IT procurement helping organisations get the best solution and helping them on their journey to cloud adoption.

Further reading:

For further information about Capita Private Cloud and the 5 Scenarios for Capita Private Cloud visit [www.capita-ites.co.uk/cloud](http://www.capita-ites.co.uk/cloud)

References:

1. International Data Corporation (IDC)
2. 2013 Trends to Watch – Cloud Services, Ovum October 2012