



**You are not alone floating in the cloud.**

## **What is Cloud?**

In pure business terms, cloud is essentially a flexible, scalable, pay-per-use model for the way IT services are delivered and consumed, typically through short-term contracts. With its pay-as-you go model, cloud moves many IT costs from capital expenditure to operating expenditure; its “elastic model” means available IT capability can be flexed to mirror changing business demand; and it enables consumers of IT to have much greater transparency over their costs.

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But there are different levels where that model can be applied – and the desired benefits attained:

- **INFRASTRUCTURE-AS-A-SERVICE (IAAS)** Virtual machine services accessed over the network, providing compute and/or storage capabilities
- **PLATFORM-AS-A-SERVICE (PAAS)** Platform software services (such as web, application, database servers, enterprise service buses and other middleware, with associated security mechanisms) on which web service-based applications can be built
- **SOFTWARE-AS-A-SERVICE (SAAS)** Applications provided as a service from the cloud, with end-user licences procured or “released” in line with changing demand
- **DATA-AS-A-SERVICE (DAAS)** Data or information delivered from the cloud either as raw data sets or consumed through an analytics interface
- **BUSINESS PROCESS-AS-A-SERVICE (BPAAS)** Cloud-delivered business services aligned to business processes and associated measurable business outcomes.

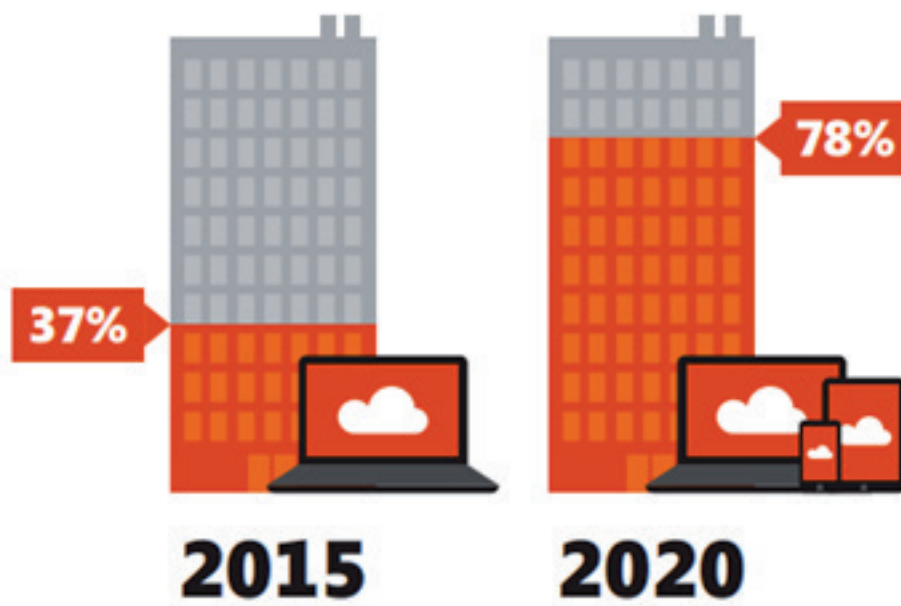
## Why Businesses are Moving to the Cloud

*‘As a result of using a cloud approach, nearly 80% [of surveyed IT pros] said they’re saving money, seeing more productivity and better security!’ Paul Korzeniowski, Tech Target*

Studies show that large enterprises are making heavier use of cloud-based applications than their smaller counterparts, but that small and mid-sized businesses are catching up fast. While only about 37% of small and mid-sized businesses are using cloud-based apps this year, experts anticipate that number to reach 78% by 2020.

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### Cloud-based app adoption, looking ahead:



### The business benefits of cloud

Business benefit	IaaS	PaaS	SaaS	DaaS	BPaaS
<b>Overall cost reduction of IT:</b> The same – or better – IT capability is delivered for less money	✓	✓	✓	✓	✓
<b>Pay at the point of use:</b> Business spending on IT shifts from capital expenditure to operational expenditure	✓	✓	✓	✓	✓
<b>Costs are linked to demand:</b> IT costs rise and fall, directly reflecting changing levels of demand, rather being set to meet peak levels	✓	✓	✓	✓	✓
<b>Fast deployment of new applications:</b> Applications are available to the business quicker, allowing IT to be more responsive to new business requirements	✓	✓	✓		✓
<b>Robustness of IT, through better testing:</b> New or upgraded applications and other system components can be exhaustively tested at real-world scale, without threatening live systems or excessive cost		✓		✓	
<b>Consistency of delivery:</b> Processes common to different business units are addressed through consistent, repeatable solutions	✓	✓	✓		✓

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Business benefit	IaaS	PaaS	SaaS	DaaS	BPaaS
<b>Scalability:</b> IT resources can be instantly added – or retired – as business demand shifts	✓	✓	✓	✓	✓
<b>Deployment of business functionality:</b> New features can be rolled out across the business, frequently and consistently			✓	✓	✓
<b>Improved business decisions:</b> By providing access to more complete data sets and enforcing consistent business intelligence approaches, users are positioned to make better-informed decisions			✓	✓	✓
<b>Process standardisation:</b> Best practice processes and sub-processes are applied and consistently executed across the organisation			✓		✓
<b>Setting the stage for BPO:</b> By separating IT from the business service, the functional/people aspect of that service can more readily be outsourced					✓
<b>Try before you buy:</b> Organisations can trial a service, with minimal cost, before having to commit to full-scale adoption	✓	✓	✓	✓	✓
<b>Development of some applications without IT group involvement:</b> The use of business-oriented development tools enables users to create forms, reports, process orchestrations, etc		✓	✓	✓	✓
<b>Multi-channel/platform support:</b> Cloud systems are designed to deliver application functionality/information to all widely used devices/channels			✓		✓
<b>The wisdom of crowds:</b> With multiple clients on the same cloud service, the larger volume of feedback means greatly enhanced quality and functionality			✓	✓	✓
<b>Problem-free upgrades:</b> Upgrades have minimal impact on the business users and business operations	✓	✓	✓	✓	✓

## Key Findings



The majority of businesses surveyed have adopted some form of cloud solution or hosted service in an effort to simplify their daily tasks, lower costs and give employees always-on access to information and applications.



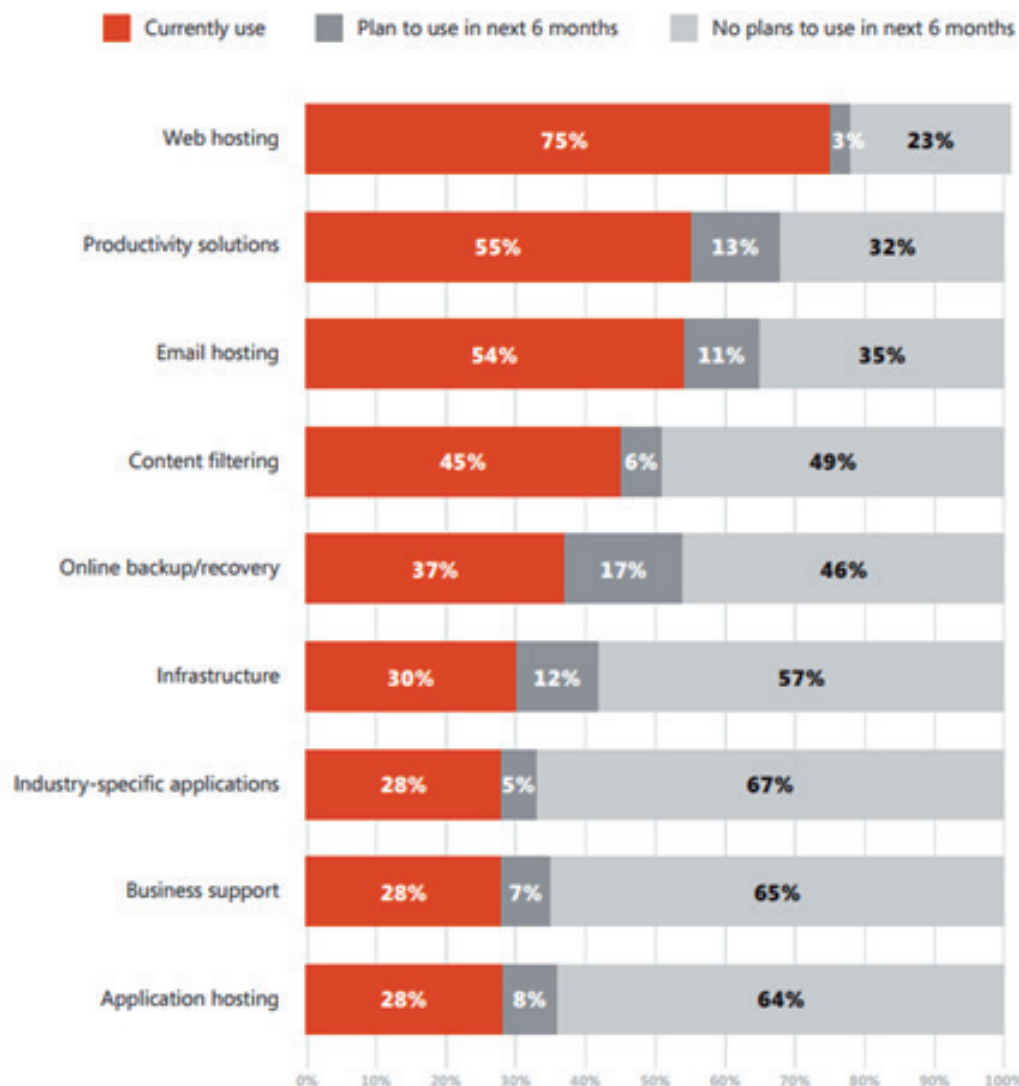
IT professionals are also virtualizing their servers to handle IT related workloads ranging from storage and printing to security.



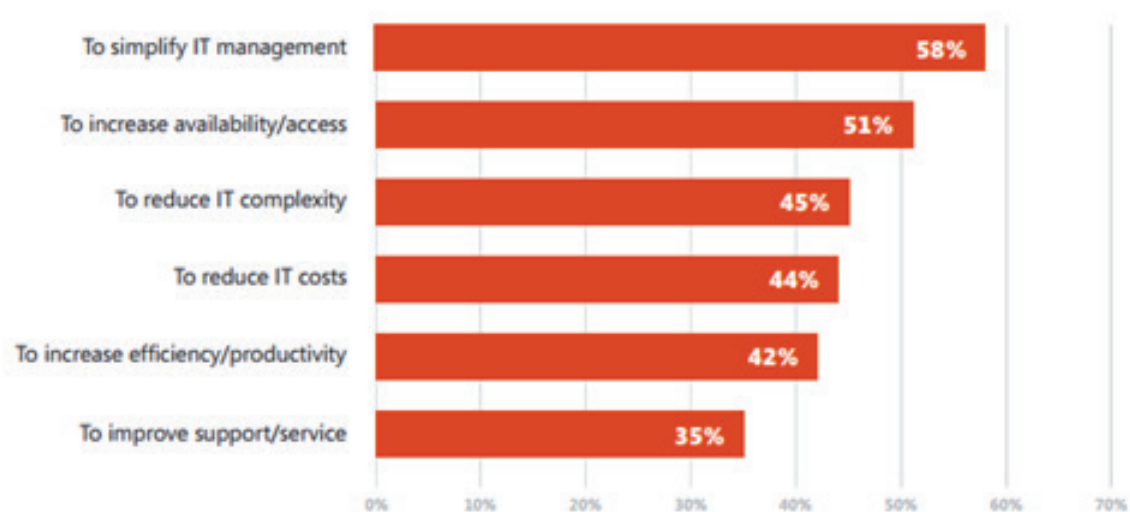
Growing businesses are increasingly using and supporting smartphones, tablets, laptops, and other mobile devices within their organizations. These devices are often BYOD and run on a range of operating systems.

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### Most common cloud service adoption



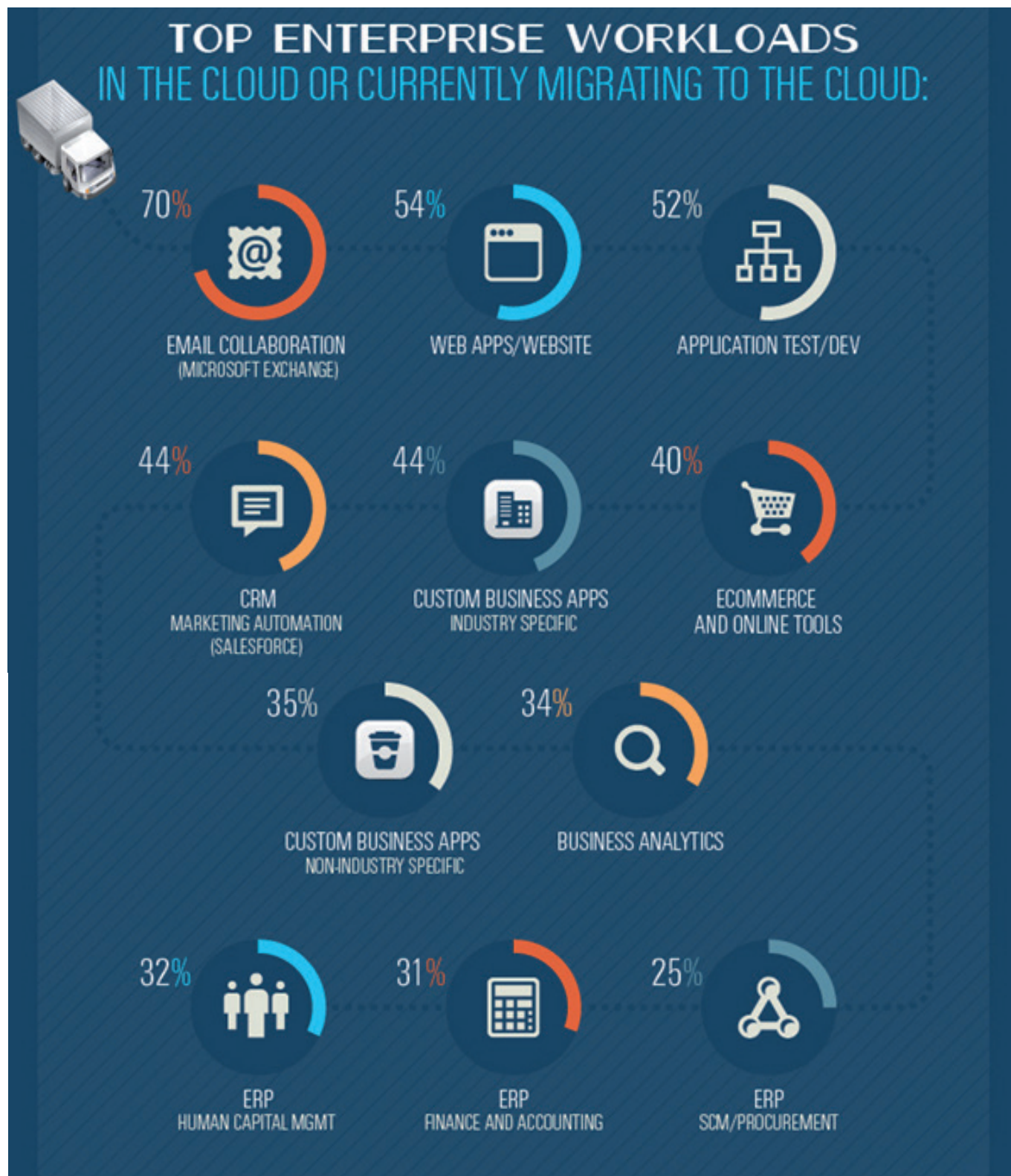
### Key drivers for moving to a cloud approach





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*"When we talk about cloud, it's no longer a future issue; it's a present and essential element, addressing real business needs, adding simplicity and security, and helping to accelerate innovation and growth. These benefits can't be ignored."- John Mason, Thoughts on Cloud.*



## YOU ARE NOT ALONE FLOATING IN THE CLOUD

Cloud applications offer numerous benefits including lower cost, faster implementation, and a better user experience.

1,400 IT security professionals from around the globe report their organizations have been adopting cloud at a rapid pace and trusting more sensitive data to reside there.

Despite brisk cloud adoption,  
there's a **big obstacle** in the way.



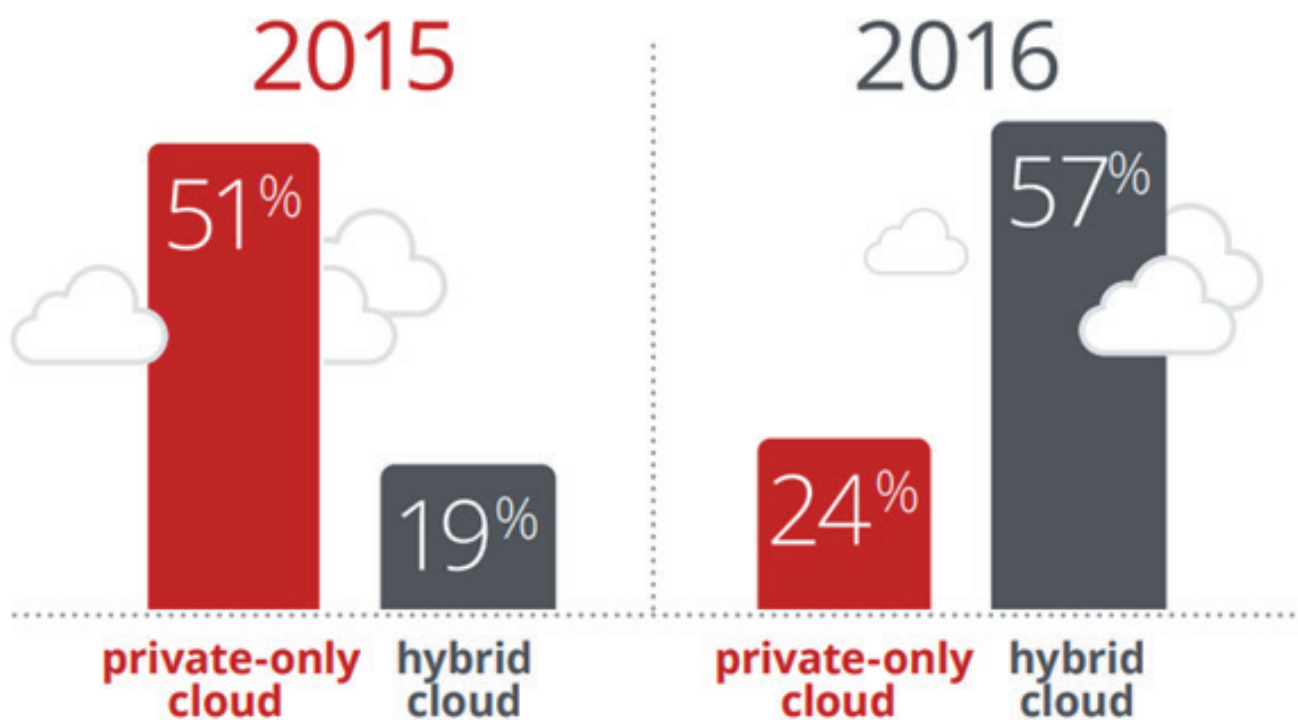
**93%**  
Organizations  
currently using  
**cloud services.**



**15 Months**  
Until cloud spending  
accounts for **80%**  
of IT budgets.

The data center is **evolving.**

Companies are moving from private-only  
to hybrid cloud deployments.





## **Top barriers to cloud adoption ...and how to address them**

### **1. Where and how should we use different cloud service providers?**

There are many different types of cloud models, and whether you opt to implement the full array from private to public cloud, or choose to selectively deploy cloud-based infrastructure, applications or business processes, you will face the conundrum of where to apply cloud to gain the maximum benefit.

**Approach:** Consider all options and ensure the risk is evaluated (some providers have dedicated, professional cloud specialists who use their expertise to determine which cloud services are suitable for achieving the best returns). Transformation roadmaps are available to help with navigation to cloud service providers and are designed to fit operational circumstances and objectives. They also provide additional information on return on investment for the organisation's business approval processes.

### **2. How do we integrate all of our cloud service providers, ensuring continuity of service?**

Moving services to the cloud could mean contracting with many disparate suppliers. Ensuring that the boundaries between service provisions have no gaps is a major concern.

**Approach:** Adapt the service governance mechanism to cater for the cloud. Create a map of contracts that identifies where the gaps and connections are between services. When procuring a cloud service of a given type compare not only the contracts of potential suppliers but the contracts with existing providers to determine and mitigate any holes or risks. Ensure that your enterprise architecture team identifies and resolves gaps in service

### **3. How do we ensure moving to the cloud makes commercial sense?**

Comparing the costs and benefits of a cloud service against a traditional service can be difficult because the two cost models are fundamentally different.

**Approach:** There are two parts of the equation to address here: cost and benefits. When considering the former, an effective approach is to create two cost models for the new service – one for the cloud provision and one for the traditional approach, calculating the costs over a three-year period. Include all costs (for

example exit costs, which are often forgotten) and compare the total cost of ownership (TCO). But it's crucial to remember that TCO is not everything with cloud: moving to cloud brings other benefits, such as agility and scalability, that may outweigh any additional costs and should be factored into the analysis.

#### **4. Will we face a lack of cloud engineering and commercial skills?**

There are limited cloud skills within the IT marketplace. Many existing IT staff find it hard to favour a cloud approach over a more traditional approach.

**Approach:** Focus on your core architecture team first, and develop it through recruitment or training to embrace and adopt cloud. You can then use this team as mentors. It makes sense to align one of the commercial team with potential cloud contracts, and get the architecture team to mentor and work with that individual to develop suitable deals. Revamp your IT leaders' skills to cater for cloud, while developing the expertise of specific commercial decision-makers.

#### **5. How do we avoid being locked in to a particular supplier/vendor?**

Vendor lock-in is a big concern, especially at the Software-as-a-Service (SaaS) level.

**Approach:** Ensure you have an exit strategy defined prior to signing on the dotted line. Also ensure that the contractual arrangements cater for novation, whether early or not. Take special care regarding data extraction, as large amounts of data could take a long time to repatriate, causing potential service interruptions.

#### **6. How do we engage and manage suppliers?**

In a cloud environment, where vendors are "hidden" behind the internet, how do we engage with – and successfully manage – them?

**Approach:** Due to the remoteness of the vendor in a public cloud scenario, the responsibility for managing the cloud estate falls to the service management function, which has to work closely with the enterprise architecture team to ensure there is suitable coverage and support for each business service. Traditional outsourcing or service management companies are starting to provide "broker" services to fulfil this function on behalf of cloud users.

## **7. Will our business information be secure in the cloud?**

If your organisation's data is shared insecurely with an external supplier, rather than within your own internal systems, there is the danger of data loss and the risk of unauthorised access.

**Approach:** Be clear on what data could be migrated to the cloud and stored externally within a community or public cloud, and what data should be retained within a private or trusted cloud environment. The key is knowing what data you are allowing into the cloud and which type of cloud is suitable for that data. Sensitive data, for example, should only be stored and processed at specified data centres in a private or appropriate community cloud that is fully auditable. And data stored in any cloud model must be securely backed up – this can be managed in-house or through a provider.

## **8. Where will our data be stored and what risk does that pose?**

With public cloud computing an organisation may not know where its data is being physically stored – it may not even be in the same country. This can be a problem when the organisation is subject to data protection and governance laws and policies that require it to retain control over this.

**Approach:** Select a cloud partner able to provision data from identifiable and given locations. With a private or community cloud, individual data centres can be assured. Some cloud providers can also ensure that customer data is not exported out of the country of origin, ensuring that the legal jurisdiction governing the data is the same as that applied to data on premise.

## **9. Will cloud be reliable and fast enough for live business systems?**

Once an organisation's data is in a cloud, there is a potential risk of latency and difficulty in extracting that information.

**Approach:** Take steps to ensure you select a cloud service provider that delivers both the response times and the continuous availability that business users need – and the efficiency and flexibility benefits of cloud. Some cloud service providers will contract on performance SLAs, taking on this responsibility for you.

## **The Future of Cloud**

The cloud market is maturing rapidly. And as the market matures, so will IT departments' adoption of cloud. This can be seen by an organisation's propensity to move up the cloud stack from one cloud service to another, from Infrastructure-as-a-Service (IaaS) towards Business Process-as-a-Service (BPaaS) – although it is possible to enter at any level.

While the greatest value in cloud services is found at the BPaaS level, organisations at the lower end of the stack should be wary of jumping straight there, as chaos can ensue. This should only be attempted by organisations that already have mature governance mechanisms (e.g. service principles, a patterns catalogue, business services portfolio management, a services catalogue and business representatives on architecture governance boards). The roles of the enterprise architecture and service management organisation must also evolve to address these demands on the IT organisation.





## About iBridge

iBridge is an information management and data services company headquartered outside Portland, Oregon in Beaverton. We design, deploy and manage scalable solutions to capture, normalize, analyze and report on operational data. Our value is in our ability to solve business problems in collaboration with our customers; to rapidly scale up or down; and to integrate our teams with client organizations.

In working with iBridge and its partners, you will have the support of more than 650 full-time employees, plus a significant infrastructure support organization. Trained in Six-Sigma quality processes and ISO 270001:2005, BS 7799 and SEI-CMM Level 5 certifications, we deliver exceptional results with every engagement. The proof of our success is client retention and a reputation for exceptional customer service among companies of all sizes across the United States, Canada, India and Europe.

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## **References:**

**“THE WHITE BOOK OF... Cloud Adoption”**

**“Trend Report: Why Businesses are Moving to the Cloud”**

**“Cloud usage is now more than 90%, but IT is struggling to keep up. Are you?”**

**“Which Workloads Do Enterprises Move To the Cloud?”**