



Cloud Migration Whitepaper





Find out more

This guide gives you a flavour of what we have to offer, but we know you probably have a number of questions. Why not find out more about us?

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Introduction

Twelve years ago, Netflix was a relatively unknown DVD rental website that would have been consigned to history but for a data centre outage.

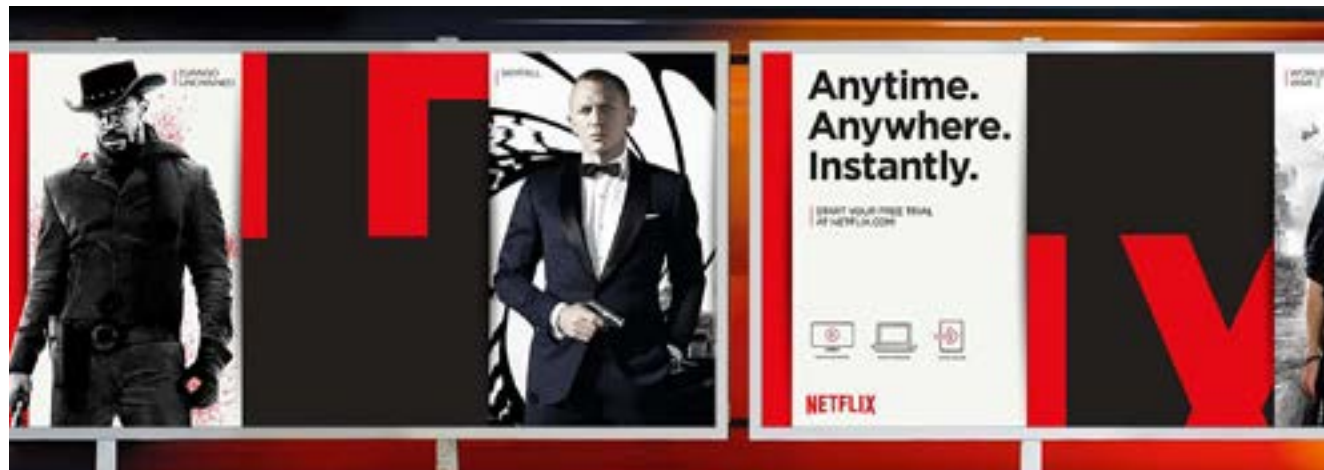
This catastrophic failure shut down the company's core service, postponing shipments of all DVDs to its customers for almost a week. At that point Netflix realised it had a choice; transform its data centre operations or take a leap of faith, change the business model and migrate to the cloud.

A decade or so later Netflix is an \$11 billion global streaming enterprise with 150 million subscribers and has transformed the entertainment industry. The company chose AWS for its scale and services, rearchitecting the Netflix infrastructure and rebuilding its technology within the cloud.

And as Netflix started on its cloud journey, one of its senior software engineers had an idea: "At some point, I think it would be valuable to open source the Zookeeper library I've written," Jordan Zimmerman said, referring to some customised code he'd helped develop. He then asked his bosses if Netflix had a policy on this. The response he got back changed everything: "Go for it. Our policy is no policies." Digital disruption was now not just tolerated, it was actively encouraged and became a key feature of the company's commercial and technology strategy.



NETFLIX REALISED IT HAD A CHOICE; TRANSFORM ITS DATA CENTRE OPERATIONS OR TAKE A LEAP OF FAITH, CHANGE THE BUSINESS MODEL AND MIGRATE TO THE CLOUD.



Digital Transformation

While Netflix is an oft-quoted example of a cloud migration phenomenon, the truth is that digital transformation is now so ubiquitous that 70% of organisations have now migrated to the cloud, according to Gartner.

The goal of digital transformation for organisations the world over is to deliver customer value faster than ever before and at a bigger scale, while wiping the floor with the competition.

As cloud services are purchased, deployed and managed in such a fundamentally different way to traditional IT services, the shift likewise means a sea change in the culture of an organisation along with a technological break from the past.

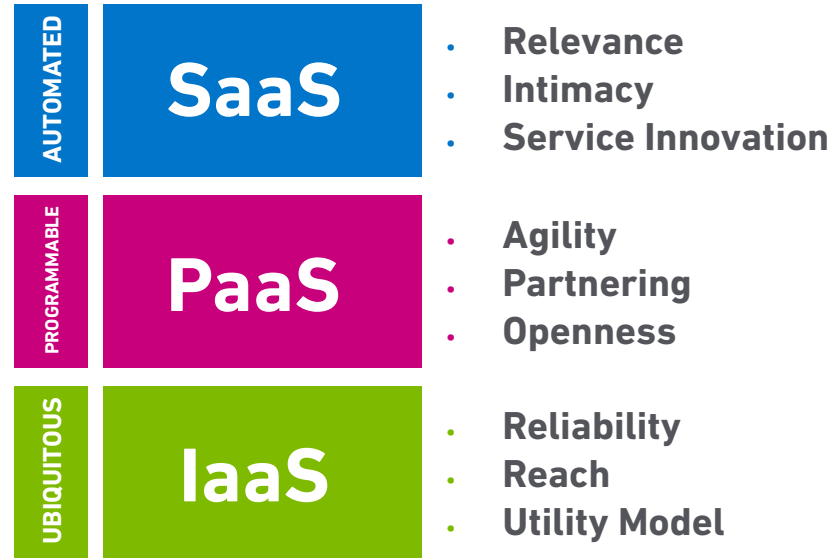


Preparing for Cloud

The transition to a cloud environment is a once-in-a-lifetime opportunity for any organisation. The shift is a fundamental one that involves changing from largely dedicated servers in private data centres to a pool of compute capacity available on demand.

But moving your IT systems to the cloud will not occur overnight, regardless of how quickly you want it to happen.

Additionally, not everything can be moved or even should be moved without considering the unique needs of your organisation. Supporting all this will be an ongoing challenge as you shift to the cloud. Moreover, your organisation has to decide what type of cloud service it needs – IaaS, PaaS or SaaS?



Source: www.themefiles.com

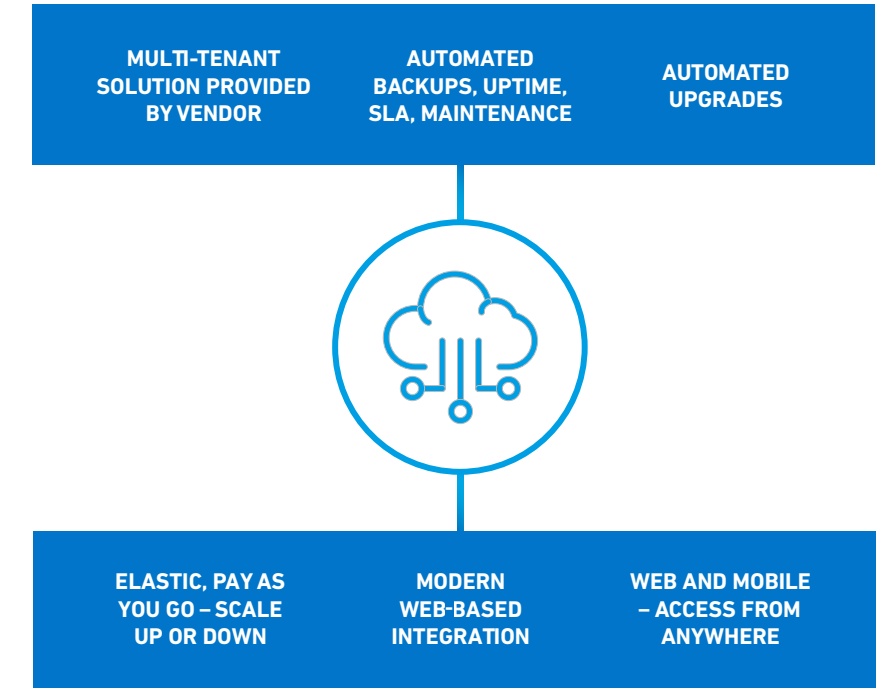
Traditional IT vs Cloud

As you draw up plans for cloud migration, you need to weigh the financial considerations of traditional IT versus a cloud-based infrastructure.

In traditional IT environments, for example, the infrastructure needs significant investment upfront and costs remain relatively static week-on-week. And because of the complexity of calculating the total cost of ownership, the real costs to the business are difficult to understand and allocate.

Meanwhile, public cloud costs are tightly linked with usage which is normally on a per-second or per-minute basis. Consequently, it's easier to create a lean cost culture in the cloud than in a traditional data centre environment. Furthermore, cost analytics, automation and administration tools can be built into the cloud platform to help an organisation keep costs under control.

This then helps you appreciate the true value of cloud computing, what your ROI will be and how to start leveraging the cloud with various initiatives and workloads.



On Demand – Scaling Up, Scaling Back

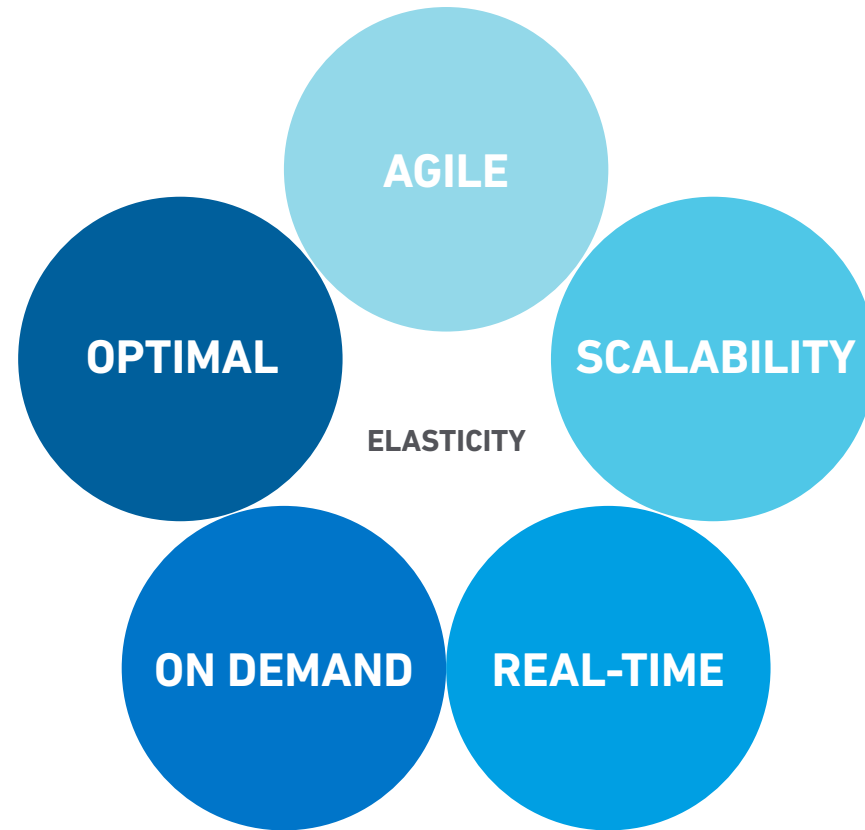
The concept of on demand highlights the challenges and opportunities of scalability, predicting the growth rates of storage capacity, applications and bandwidth.

The cloud enables you to scale up and scale down quickly, allowing for an agility to handle unexpected or rapid growth in demand. This ability for fast delivery is one of the fundamental features of the cloud, creating obvious synergies for customers who might have seasonal demand or scale up, scale down needs.

The infrastructure layer transitions from running dedicated servers at limited scale to a dynamic environment where you can easily adjust to increased demand by spinning up thousands of servers and scaling them down when not in use.

Scale-up operations have been taking place on premise in data centres for many years. But the time it takes to scale-up a system in a traditional on premise environment often happens over weeks or even months, while scaling up in the cloud can take a matter of minutes.

An example of this would be a travel company that wants to limit its operating costs in the down season, but then scale up as demand surges during the peak holiday periods. This allows the company to spin up huge volumes of compute when needed. This scalability also democratises an organisation's ability to take advantage of event management with the ability to use as much or as little as they want.

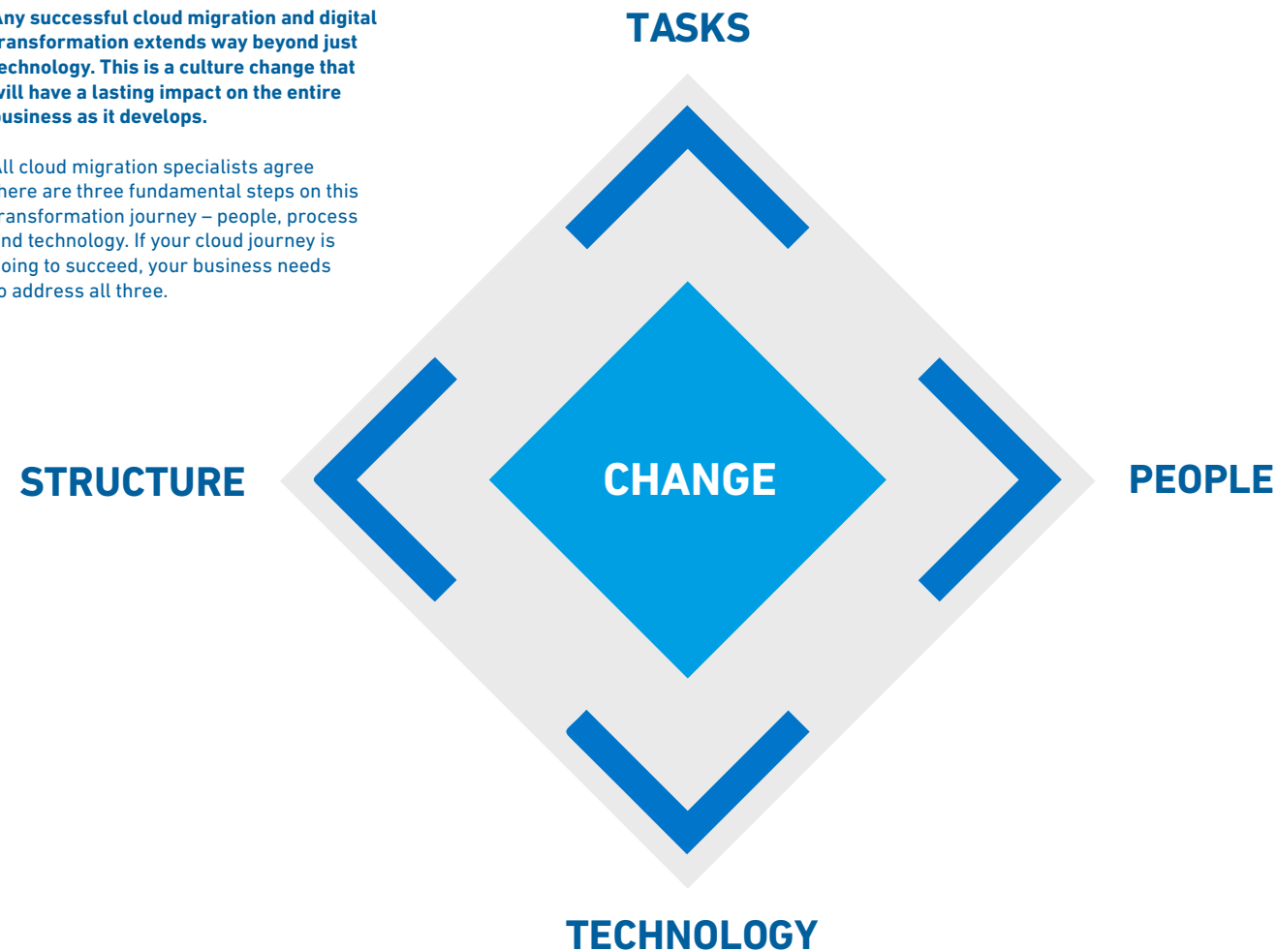


CULTURE:

People, Process, Technology

Any successful cloud migration and digital transformation extends way beyond just technology. This is a culture change that will have a lasting impact on the entire business as it develops.

All cloud migration specialists agree there are three fundamental steps on this transformation journey – people, process and technology. If your cloud journey is going to succeed, your business needs to address all three.



People:

Leadership, Alignment and Skills

All changes of culture have to start with your people. Your cloud migration will only be successful if you hire or train and retain the right people to take the process forward.

A recent study noted that often two reasons why digital transformations fail is due to people: a lack of support at executive level and a lack of skills within the organisation to carry out the digital strategy.

Importantly, for any cloud project to succeed, top level leadership has to be involved from day one. Without the shared vision among the people driving the project, implementing the following steps involving process and technology are never going to work.



Process: Changing How Your People Work

Underlying all digital transformation projects is how to ensure people are working – and thinking – in a smarter, more effective way.

Every corner of your business will be affected by your migration to the cloud, from your IT infrastructure through to less technology-focused areas such as HR, marketing and customer relations.

Transforming processes across the business will help you to have a greater insight into the way the business operates – and it will be crucial to help you understand your customers' needs more effectively.



Technology: Making IT Change

Technology is the great enabler of digital transformation. We've already mentioned Netflix as the ultimate technology disruptor, starting with a low-entry point business model to create an entirely new industry.

Another similar disruptor was Uber which consumerised its business offering with mobile phone apps that provided a platform to connect passengers with drivers. This disrupted the traditional taxi or mini cab business model by offering customers greater convenience with competitive pricing via the app. Technology enabled that disruption, but customers were spared the complexity of the technology and simply offered a better service.

Enterprises the world over are now looking at how technologies can consumerise the business world with cloud-based technology solutions that simplify their business processes. Cloud migration allows you to develop the technology infrastructure to drive your future growth and business success.

To ensure your digital transformation is successful, cloud architectures should be agile, flexible and be able to adapt to changing compliance regulations and business strategies to support the people, processes and strategy.



Source: www.globalpayrollassociation.com

Cloud Security

Many areas of cloud security are similar to those of any on premise IT architecture. The same high-level security concerns such as data breaches, weak access controls and failing to comply with regulations impact traditional data centre and cloud systems.

You need to ensure you maintain proper preventative protections at all times:

- Ensure your data and systems are secure
- Oversee the state of your security
- Be alert any time a vulnerability or breach occurs
- Trace the source and respond immediately to unexpected events.

For the cloud, one of the main areas to focus on is access. Traditional IT networks control access using a perimeter security model, while cloud environments make it easier for traffic to bypass traditional perimeter defences. In the cloud the concern is insecure APIs and weak identity management, ransomware attacks and malicious insiders who go unnoticed as they pose threats to your data and networks.

Securing the cloud involves:

- Encrypting the data
- A robust IAM (identity access management) system
- Strengthening the authorisation process
- Putting in strong passwords with 2-factor authentication
- Building security into every level.

As your cloud infrastructure boasts agility, flexibility and scalability, cloud security controls have to respond to the variables in the cloud environment and controls have to accompany workloads and data in storage and in transit.

Threats are constantly being developed by cyber criminals using sophisticated malware designed to target vulnerabilities in the computing stack.

Unfortunately, there's no clear solution to these threats and responsibility rests on your shoulders to ensure you stay on top of cloud security best practices. It's worth remembering that in the cloud, security is a shared responsibility.



Multi-Cloud

Initially, a lot of organisations adopted a multi-cloud strategy because they were concerned about cloud reliability. But as public cloud technology has matured and organisations have become educated, each hyperscale public cloud provider has proven that reliability and fault-tolerance can be designed into any solution, depending on your application's needs.

These concerns still exist for many organisations, but nowadays the main reason for multi-cloud deployments is driven by your business aims or technology needs.

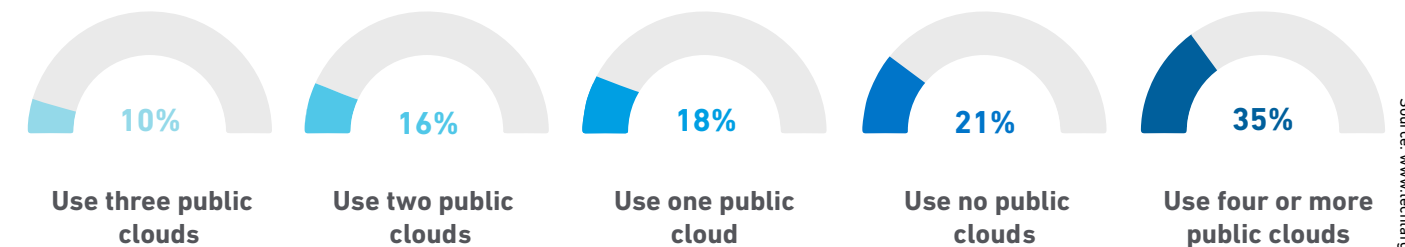
These aims include shopping around for price-competitive cloud services or looking at the advantages of speed, capacity or other features offered by a particular cloud provider based in a geographical location.

Elsewhere, multi-cloud strategies are a solution for issues around data sovereignty where different countries or regions require data storage in a certain location. This can also help organisations locate compute resources close to end users for optimal performance. Different cloud providers offer different cloud services or features.

This can be particularly helpful if you're looking for a solution that works on the cloud as utility model, as noted above, or are looking for specialised capabilities such as machine learning.

MULTI-CLOUD MANIA

Among the 260 enterprises surveyed, the majority - **61%** - reported using two or more public cloud providers.

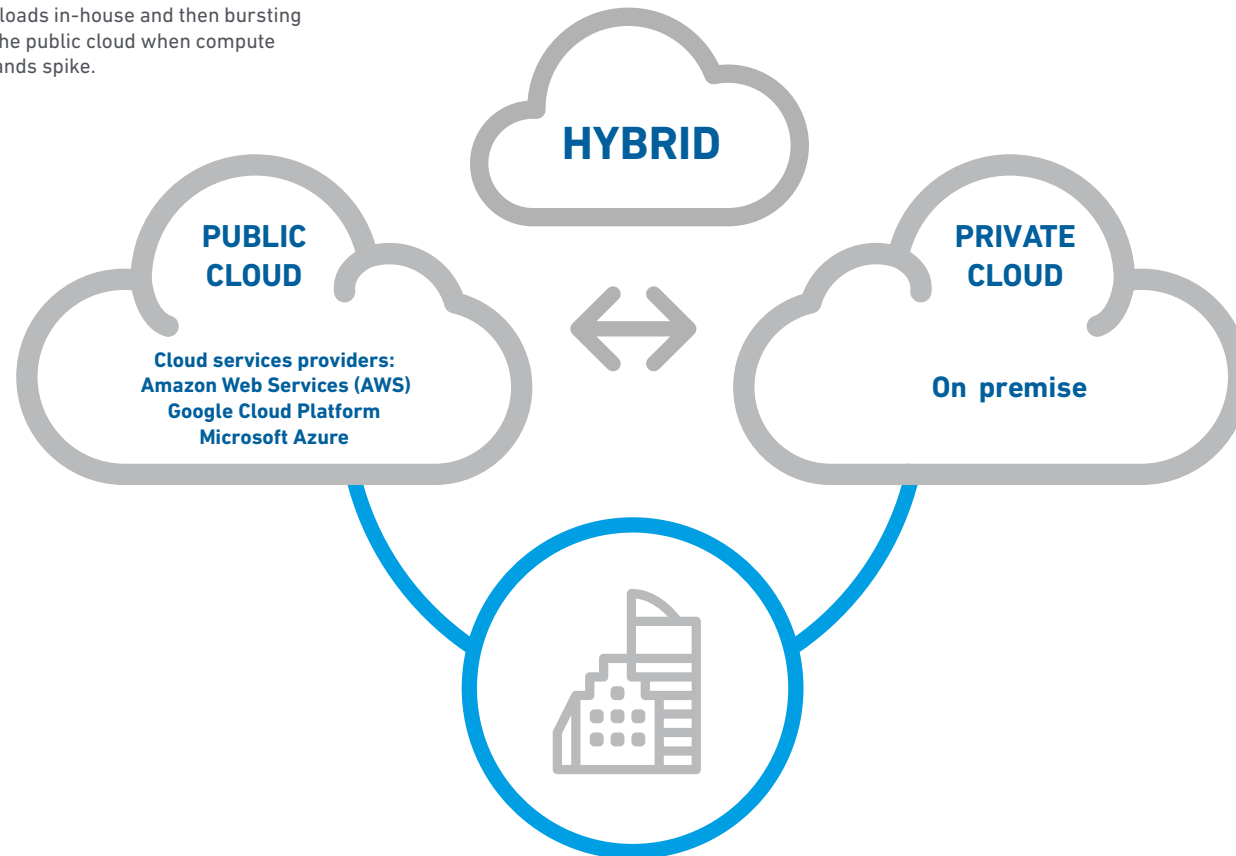


Source: www.techtarget.com

Hybrid Cloud

Finally, it's worth briefly mentioning the hybrid cloud model, which refers to a cloud environment using a mix of an on premise (private) cloud and a public cloud, with tight integration between the two.

Many organisations often adopt this hybrid cloud model to achieve specific tasks, such as having the capability of running workloads in-house and then bursting into the public cloud when compute demands spike.



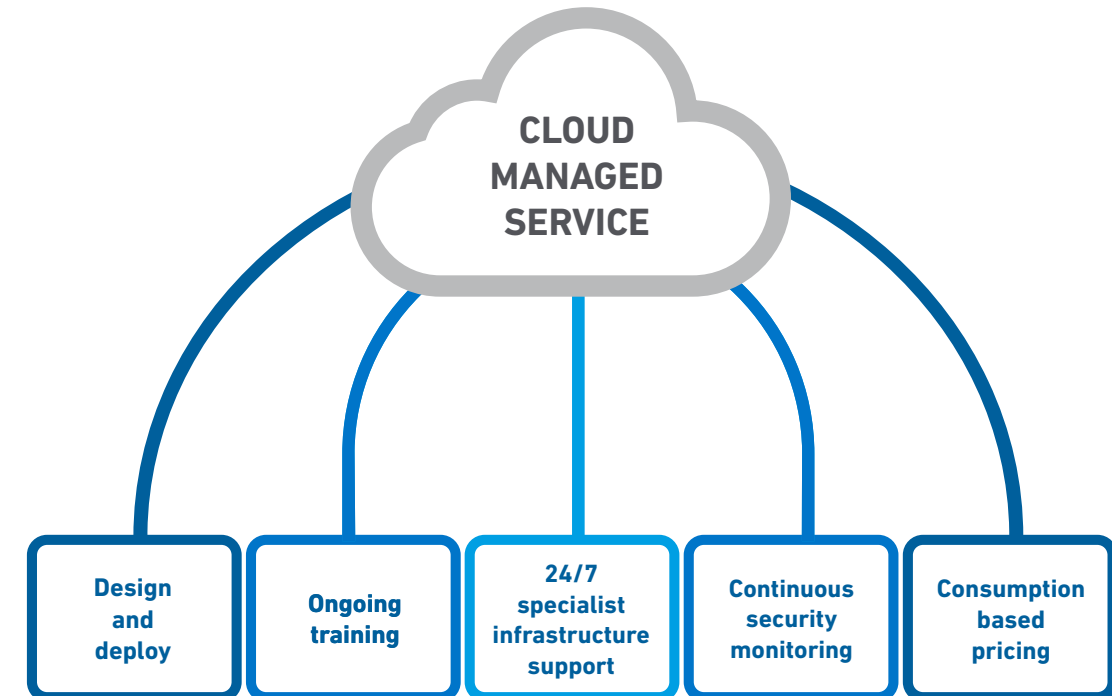
SCC's Managed Cloud Service

One of the advantages for customers when they partner with SCC as their cloud managed service provider is the savings that can be realised through outsourcing all of their cloud maintenance support.

Staffing a full-time in-house team is an unnecessary cost when expert cloud managed services can deliver round-the-clock, dedicated support. Whether you are looking to add public cloud skills to your IT team or transform your existing operating model, SCC has the expertise to deliver operational and strategic guidance to generate outcomes that are right for you.

Our Managed Public Cloud Service is ideal for customers experiencing rapid business growth, as you can take full advantage of the scalability that our cloud services offer.

We also provide threat management as part of the service, so you can remain focused on your business while SCC constantly monitors, assesses and repairs your infrastructure and network. This ensures your cloud environment is functioning to optimum levels.





Conclusion

To conclude, migrating to the cloud is not a task you should approach lightly. But with proper resourcing and detailed planning, using the right people, processes, tools and technology, your migration could revolutionise your organisation.

Regardless of where you are on the cloud migration journey, SCC can help you at every stage. By understanding your entire infrastructure (both on and offsite), SCC will identify workloads prime for migration and monitor them before, during and after migration to ensure your move to the cloud is a success.

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