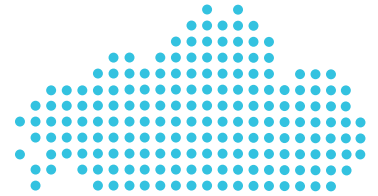# The inevitability of hybrid multi-clouds.

Hybrid multi-clouds are the way to go.

Be a leader.

The way to meet customers' needs is to be more digital. You need to be always-on, fast and trustworthy to transact with. A well-established, secure digital foundation is crucial to your success.

Be in control.

Your digital application might use existing hardware, call on third-party services, or be fully cloud-native and made up of components hosted across multiple clouds. There's no one way to do digital right. Understanding your options and the pros and cons of each will help you architect your digital service to gain a competitive edge.

Be open.

Digital moves fast. You need to be able to move fast as well so that when new technologies and cloud services arise, you can quickly experiment and incorporate them into your offering – before your competitors do. To stay open to emerging possibilities, don't lock yourself to one cloud, one provider or one ecosystem.
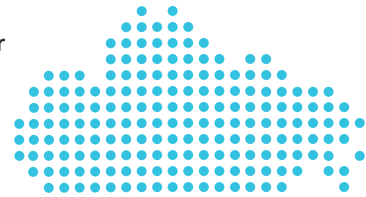
Be the best you can be.

Digital is hard. There's a number of things to consider and pitfalls to avoid. Macquarie Cloud Services can provide you with a secure digital foundation to create the future, tailored to your specific needs. We can help you navigate cloud in all forms - public, private, hybrid multi-cloud - and find the right fit for you.

Not all workloads are the same.

And not all clouds are the same.

Different applications and workloads have different needs. Particularly with mission-critical or sensitive workloads, the ability to easily adapt while maintaining security, increasing performance and maximising efficiency is key.

Determining where to run your workloads - whether on-premises, in the public cloud, private cloud or all-of-the-above - is a top challenge for today's IT. With so many considerations and unique requirements there's never a one-size-fits-all answer.

But there's a right answer for every workload. And we can help you find it.

For many governments and corporates, the answer is a combination of services from multiple clouds. Research suggests organisations use five clouds on average, with the majority using at least one public cloud and one private cloud. We call this the hybrid multi-cloud

Hybrid multi-cloud is favoured because different cloud providers have different characteristics and different pricing.

Some clouds are geared to highly-secure data processing in Australian data centres; some are optimised to run large off-the-shelf software suites; others are tuned for high-availability, low latency, resiliency, data processing speed, low cost and other characteristics.

Putting all your eggs in one basket - or all your applications in a single cloud - can be costly. It can limit growth and cause you to miss out on new technology opportunities that arise in other cloud ecosystems. One major cloud provider alone launched 75 new services in 2019. This is in addition to the hundreds of enhancements to existing cloud services every month. Multiply this by the number of Australian and global cloud providers, and this is an enormous pipeline of innovation that it makes sense to stay as open as possible to draw on.

That said, being in more than one cloud also exponentially increases management challenges. Continuous optimisation is a full-time job – potentially a distraction from improving your core digital application or workload. When considering the best environment for your application or workload, consider also who is best placed to run and support it

macquarie
CLOUD SERVICES

The hybrid multi-cloud checklist.

✓ Make your first move.

Goal: Get stuff into the cloud.

Challenge: Inconsistency. The <u>four strategies</u> for migrating applications and workloads into the cloud are to rewrite, refactor, replace or lift-and-shift. Each has its pros and cons, and varies in cost and internal commitment.

Which option you choose is still a case-by-case decision. Newer migration tools and services exist to transition virtualised - and certain legacy - workloads into the cloud without excessive rework.

✓ All the best moves.

Goal: Have the power and flexibility to move workloads between clouds if and when a more favourable option comes online.

Challenge: Difficult in practice. Some organisations break applications into cloud-hosted microservices that may be easier to move around, but even this involves compromises. As one guide notes, "A portable 'lowest common denominator' application <u>may not exploit</u> a cloud provider's full potential. Businesses will therefore have to determine the trade-off between portability and full functionality – with potential lock-in – for particular workloads."

Full portability isn't quite there. App movement is still limited by technology, so the default for most organisations is to run workloads in the cloud that fits best.

✓ Peak stability.

Goal: Manage the ups and downs of user demand

Challenge: Application performance management was a thing in your old IT environment. It still is in the cloud, because it will help you define your performance tiering and load balancing requirements.

Know how your application and workload behaves. If usage peaks at certain times of day, align, have burst capacity on hand; if there are troughs, scale back consumption, or run it at a lower cost on spot instances.

✓ Secure your load.

Goal: Establish trust credentials for your digital service. Don't end up in the news.

Challenge: Data differs in its sensitivity, and needs careful thinking on security and controls. As cyber threats grow in frequency, sophistication, and impact, de-risking is crucial.

For critical 'crown jewels' data and workloads, reduce your threat landscape and regulatory risk by using sovereign providers and/or outsourcing specific functions such as Security Operations or security information and event management (SIEM). In addition, cloud services often come with a high level of native in-built security that would be otherwise expensive to replicate on-premises.

Stored aboard.

Goal: Keep pace with demand, while ensuring security and speed of access.

Challenge: Storage requirements are growing astronomically in government and corporate. Data may need to be held locally to address regulatory requirements. Cloud has an added complexity with egress costs. It may not cost much to put more stuff in, but it could cost a lot to take it back out.

To the 9s.

Goal: Stay alive and transact when your users expect.

Challenge: For government and corporate digital services, establishing user trust is paramount to success. If it takes too long to load or log in, users will look for other options. Hint - those options may be higher cost like calling you. Or they may not be yours.

Negotiate service level agreements (SLAs) and guarantees (SLGs) to ensure that performance/availability is what is expected and requested. Cloud can and has saved big Australian government departments and corporates a lot of embarrassment here, by scaling digital services to handle the biggest loads.

Scrimping costs.

Goal: Run in hybrid multi-cloud without blowing the bank

Challenge: Financial Operations and cloud cost management tools exist for a reason. Gartner calls cost management and optimisation "table stakes" in cloud management; in other words, minimum requirements to function and compete.

Despite stories of cloud consumption that costs cents in the dollar, you'll also have read the stories of cloud users that burned through their budget too quickly with over-specified cloud instances, or phantom services left running on expired projects. You could manage this with tools and by hiring in expertise - OR, by using newer models. In particular, fixed pricing is an emerging and useful alternative, offering the benefits of cloud with a predictable spend for budgeting and forecasting.

Macquarie Cloud Services and Dell Technologies.

Hybrid multi-clouds are the way to go. With different applications and workloads come different needs. Often running workloads across the public cloud, private cloud or on-premise is the best way to maximise IT investment and safeguard your unique environment. Macquarie Cloud Services is Australia's most recommended cloud provider. We specialise in custom built hybrid multi-cloud solutions underpinned by our industry-leading storage partner Dell Technologies.

Dell Technologies is fully integrated into the Macquarie Cloud Environment for enterprise grade storage solutions, which are designed, built and maintained by Dell Technologies trained engineers. Together we're better

To find out more about what we can do for you, please call us on 1800 789 999 or visit macquariecloudservices.com.