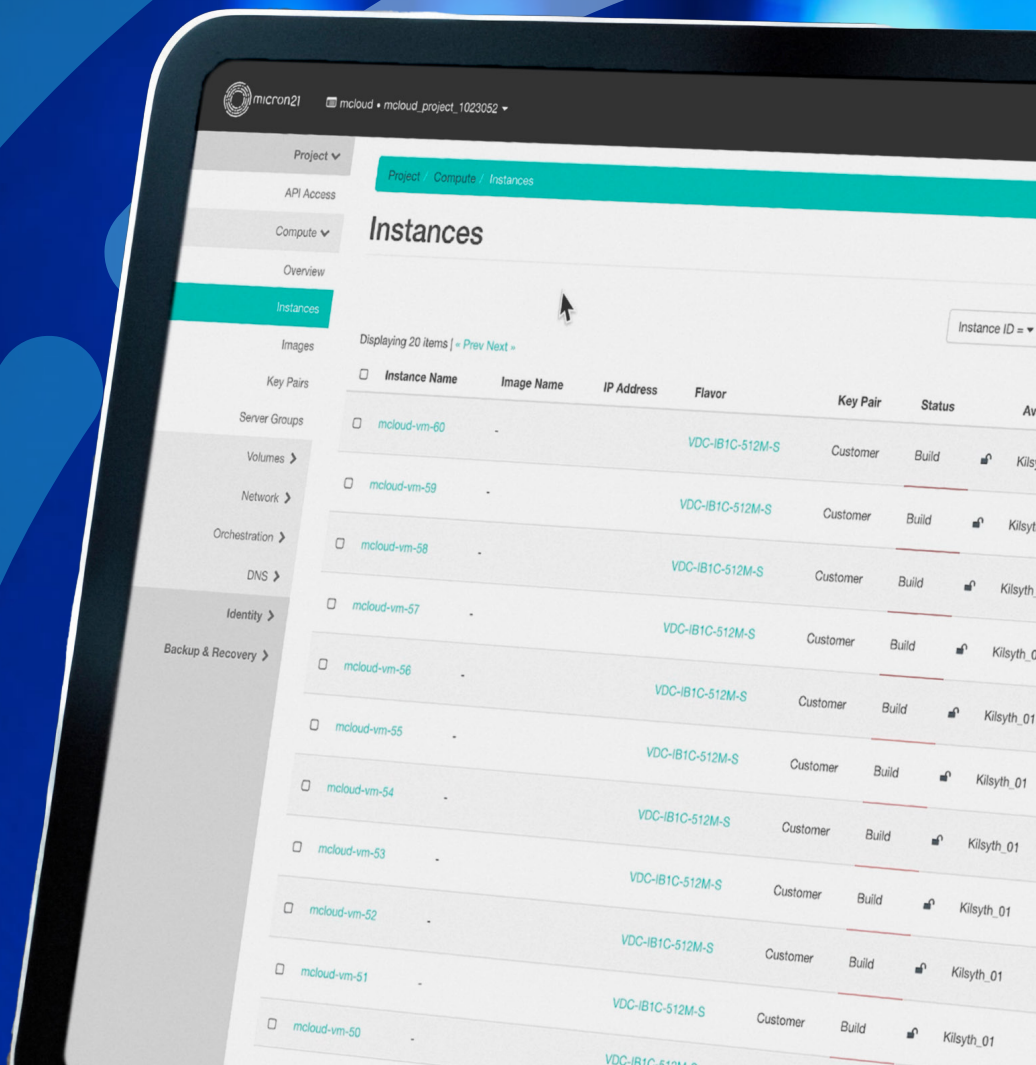
mCloud

Total Cost of Ownership

Cloud Cost Savings



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Introduction

Lowering Total Cost of Ownership

For enterprises embarking on a digital transformation, cloud solutions have become indispensable. Platforms like Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP) have led the charge with vast service arrays and high-performance infrastructure. However, they bring inherent challenges such as complex pricing models, hidden costs, and management overheads. Businesses, especially those with finite IT budgets, often struggle to balance innovation with cost predictability.

> Micron21's mCloud platform was designed with this problem in mind. Born out of necessity after Broadcom's steep price increases of VMware, the Total Cost of Ownership (TCO) equation became an important metric in determining the viability of our business model. In researching various platforms with this measure, it became clear that there was a better way to provide a streamlined and cost-effective alternative tailored to modern IT needs.
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> By providing a transparent pricing structure, integrated automation tools, and simplified cloud operations, mCloud empowers organisations to lower their TCO without compromising performance or scalability. This whitepaper hopefully crystallises the challenges faced by IT professionals with cloud platforms and the ongoing need to evaluate the intrinsic benefit a platform delivers to an organisation objectively through measures such as TCO.

This whitepaper presents a detailed TCO analysis, comparing mCloud with AWS, Azure, and Google Cloud. Backed by data-driven insights, real-world scenarios, and visual aids, the findings reveal why mCloud is the smarter choice for enterprises seeking to optimise cloud investments.

Understanding TCO

Understanding TCO in Cloud Platforms

Total Cost of Ownership (TCO) is a crucial metric that accounts for all expenses associated with acquiring, implementing, and running a cloud solution over time. While direct costs like compute and storage are easier to quantify, indirect expenses, such as management overhead and migration costs, often remain underestimated. This comprehensive TCO analysis will help a business evaluate the full financial impact of using cloud platforms.

Components of TCO

1. Direct Costs

Core service expenses such as virtual machines, data storage, and network traffic. Providers like AWS, Azure and Google Cloud Platform (GCP), colloquially known as the Big 3 Cloud (or just Big Cloud), follow usage-based pricing, which can result in unexpected cost surges during peak usage or data migrations.

Example → Big Cloud charge hefty data egress fees, which account for up to 10-15% of monthly operational costs.

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2. Indirect Costs

These include hidden expenses related to cloud management, required third-party tools, or specialised workforce needs.

Example → GCP's multi-cloud support tools often require additional subscriptions to third-party platforms for effective management.

Example → Big Cloud often use proprietary components that create labour overheads in training, tooling and integration efforts in multi-cloud environments or internal systems.

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3. Migration Overheads

Migrating workloads between platforms incurs dual costs from simultaneously running legacy and target systems during the transition period. Businesses shifting to Big Cloud often face delays due to compatibility and application rewrites, significantly increasing upfront investment. This is potentially an important consideration when also planning to leave Big Cloud. With dependency on specific tools and scripts written natively for these platforms, it can result in a form of vendor lock-in leading to larger costs if seeking to migrate in future.

Vendor lock-in is perhaps an area greatly overlooked in strategic IT planning. The benefits and ease of entry and upscaling is deceptive as increasing reliance on proprietary tools limits the future agility of an IT department especially as the costs of Big Cloud continue to soar. IT departments start to pay a premium for their stack and technology starts to lose its competitive advantage when newer players arrive that offer a more economical cost structure. mCloud can assist by offering migration tools out of some of these platforms depending on specific use cases.

4. Operational Efficiencies

Efficiencies stem from how well a platform optimises resources (e.g., automating scaling, proactive resource management). Integrated automation and predictive analytics built into a cloud platform reduces manual effort and error rates leading to reductions in employee labour costs or more likely productivity gains on the other side.

Comparative Analysis

Comparative Analysis of Big Cloud and mCloud

AWS, Azure, and GCP are dominant forces in the cloud industry, each offering distinctive strengths but also presenting unique cost challenges. mCloud's value proposition lies in delivering a more predictable pricing structure and operational simplicity while maintaining competitive performance metrics.

	Compute Costs	Storage Costs	Operational Overhead	Billing Transparency	Overall TCO Savings
AWS	High	Moderate	High	Limited	Moderate
Azure	High	High	High	Limited	Minimal
GCP	Moderate	Moderate	Moderate	Limited	Minimal
mCloud	Low	Low	Low	Maximum	High

*Based on each platform's advertised price as at 7th April 2025

The following are a few challenges to consider prior to moving to any of these platforms from a TCO perspective. A couple of examples on each platform have been provided for consideration and are by no means exhaustive. Many of these challenges are common to each platform but to different degrees. As an IT professional, it's important to understand how well these solutions fit your native environment rather than trying to force a square peg, so to speak.

Amazon Web Services (AWS)

> **“AWS’s on-demand pricing model, while flexible, often leads to cost overruns due to its complexity and the ease of spinning up resources without proper governance, resulting in unexpected bills.”** [1]

AWS offers a massive ecosystem of services. However, its pay-as-you-go pricing model often results in fluctuating costs, surcharges for data transfers, and challenges in forecasting.

Challenges:

- Expensive, even with reserved instance pre-purchases for stable workloads. Reserved instance purchases can also be daunting as you have to plan your workloads one or three years out to obtain preferential pricing. While three years offers the best value is hard to have a crystal ball that far out especially for new entrants. As a result, many businesses start with on demand pricing and forget to review ongoing costs. Working out a stable base load early is one of the simplest planning steps to large aggregated savings over time.

- High data transfer fees for cross-region data movement. This can be quite difficult to assess as different rates apply depending on the origin region to other regions. Including this knowledge into Architectural designs is key to minimise costs here, along with strategies to minimise data transfer such as de-duplication and compression.

Microsoft Azure

> **"Azure's TCO savings claims often overlook hidden costs such as data egress fees, which can significantly inflate expenses for businesses with high data transfer needs."** [2]

Azure appeals to enterprises focused on seamless integration with Microsoft tools, but its licensing and usage-based pricing often result in higher-than-expected bills.

Challenges:

- ⊗ Long-term license agreements for specific workloads can increase complexity and increase the total cost depending on utilisation and longevity of these workloads.

- ⊗ Migration requires high investments in refactoring and app compatibility adjustments for the Azure environment. This may be also true of other platforms, but is an important consideration with Azure as many databases and applications are not inherently compatible with Azure's cloud environment.

While Microsoft does provide some tools, it still requires careful planning and assessment to identify any areas for refactoring and compatibility. In that vein, it may be more cost effective and quicker to leverage platforms that are more native to your development environment.

Google Cloud Platform (GCP)

> **“Google Cloud’s pricing structure, while competitive, can become unpredictable due to variable costs like network traffic and storage retrieval fees, making it challenging for businesses to maintain budget consistency.”** [3]

Google Cloud focuses on innovation with AI and analytics solutions, but even basic operations require fine-tuning for cost efficiency. Billing transparency remains a frequent concern for enterprises.

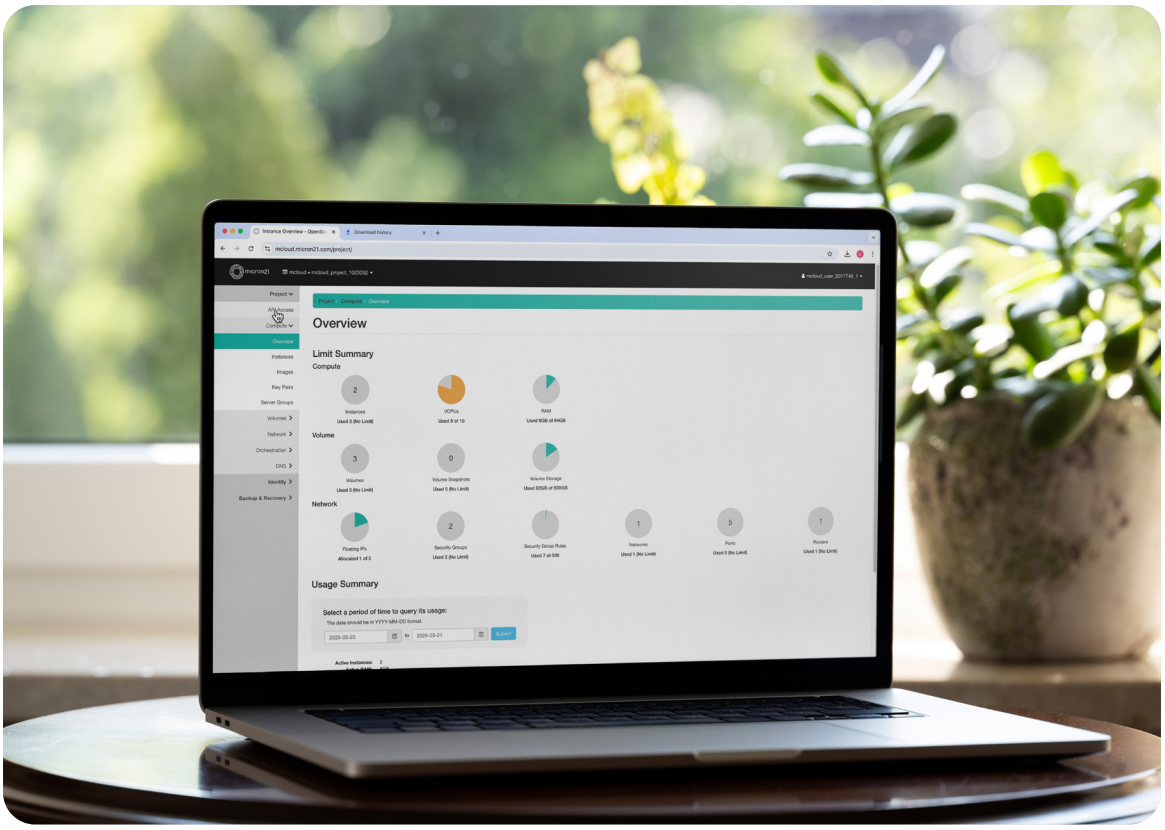
Challenges:

- Dependency on external tools for multi-cloud management increases costs. Both AWS and Azure have been around for a while offering a breadth of service and maturity especially for third party integrations. GCP being relatively newer, lacks depth to its marketplace offering especially for integration.

- GCP services like Compute Engine or Cloud SQL can accrue hourly charges even when workloads are idle. While all major platforms face similar challenges, AWS provides tools like Auto Scaling and Savings Plans that make it easier to manage usage costs dynamically. Azure counters this with built-in policies for shutting down idle resources, which can be configured with much granularity.

mCloud

Designed with simplicity and savings in mind, mCloud eliminates hidden charges with its flat-rate pricing model and integrates cost optimisation tools into its platform.



Advantages:

Offers simplified flat-rate pricing with no penalties for scaling up or down. There are several options to achieve a right fit for your organisation. These include:

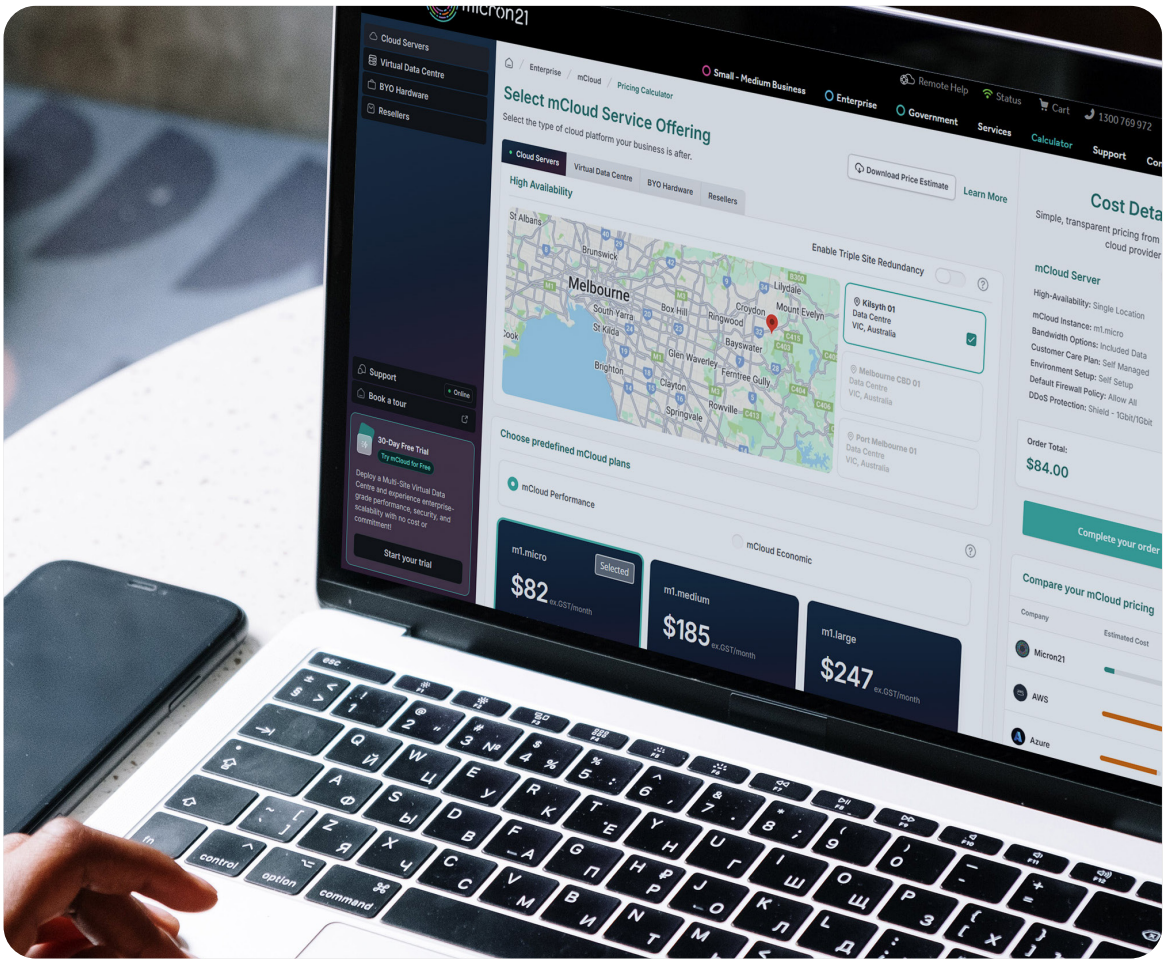
- **Virtual Cloud Servers.** These come with a set amount of resources for a set price catering for a range of workloads similar in nature to Big Cloud instances. These ranges come with performance and budget options for smaller budgets.

- **Virtual Data Centre.** This is a much simpler model allowing for greater flexibility and manageability which helps with the overall TCO of the platform. The Big Cloud model provides countless instances with restricted resource combinations. When you reach a certain size in your compute, it makes more sense to have a pool of resources with the ability to determine virtual machine allocation yourself.

Bring Your Own Hardware. This is not something on offer from Big Cloud or the majority of cloud providers on the market. As you scale resources, it starts to become more effective to lower your TCO by utilising your own hardware. This is especially true if you require dedicated resources and full utilisation from your spend. However, there is another steep investment to cluster this hardware to obtain redundancy and resilience for this compute. Then there is another order of magnitude to gain geographic redundancy of your data. At this level, mCloud clearly outshines the market offering ultimate flexibility and outstanding TCO by allowing your hardware to leverage the benefit of an existing cluster.

Native tools automate both right-sizing and workload distribution, minimising idle resource costs.

Fixed price inclusions within mCloud unlike variable charges by Big Cloud for resource usage such as data egress. mCloud also provides transparency around bandwidth resources utilised by offering either volume or consumption-based approaches.



Modelling Framework

TCO Modelling Framework

When comparing the TCO of mCloud, AWS, Azure, and Google Cloud, we evaluate the following parameters to provide actionable insights for IT leaders. This touches on some of the aspects already identified earlier in understanding the total cost of ownership in technology.

These insights help form the basis for modelling the various costs of each environment to compare. As indirect costs will vary between organisations based on their operational complexity and internal requirements, it has been excluded here but should be weighed up to form a complete picture.

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1. Direct vs. Indirect Cost Advantages

Azure and AWS often impose excessive licensing and support costs, driving up indirect expenditures. Google Cloud fares better, but mCloud surpasses them all with a bundled cost approach that requires no expensive add-ons.

2. Migration Costs and Timeframes

Big Cloud migrations often involve application refactoring, contributing to increased costs and delays. Some additional gotchas include steep data transition fees and vendor lock-in making it difficult for you to port out in future. mCloud's built-in automation reduces migration expenditure and workloads are easily transferable outside the platform.

3. Predictive Operational Metrics

AWS and Azure rely heavily on customer-managed workload optimisation, which introduces inefficiencies. Google Cloud features robust analytics but requires third-party tools for cross-cloud operations. mCloud eliminates this friction by integrating predictive analytics that automate cost adjustments.

4. Annualised Costs

From a financial perspective it's worth evaluating each provider alongside each other. Pricing was intended to be based on what a midsize organisation could reasonably require, however, as Big Cloud is instance based there are virtual machine resource combinations not supported, for example 4 cores with 4GB RAM at AWS Sydney Region.

Hence, for the calculations this was based on 5 virtual machines with 4 Cores, 16GB RAM and 1TB Block Storage (Total of 20 Cores, 80GB RAM and 5TB Storage) with 10TB transit per month.

This is probably representative of Windows servers in general.
Virtual machines were assumed to be always on for duration of the month and costs have been annualised in Australian dollars. In this calculation, on-demand/pay-as-you-go pricing was based on 730 hours per month with a Linux OS.

AWS instances were based on t4g.large (Shared) and General Purpose SSD (gp2) Volumes

Azure instances were based on B4as v2 and 5 x E30 1024GiB Standard SSD drives

GCP Instances were based on n4-standard-4 and 10x 500GB SSD Persistent Disk

mCloud was based on a Virtual Data Centre (Performance Tier) with 20 Cores and 128GB Ram with 5TB SSD drives

TCO Breakdown Chart

	AWS	Azure	GCP	mCloud	Min. Savings with mCloud*
Compute	$11,607	$13,611	$16,215	$8,256	28%
Storage	$11,250	$9,936	$21,562	$9,000	9%
Data Transfer	$21,161	$20,718	$22,050	$7,200	65%
Total Annual Cost	$44,018	$44,265	$59,827	$24,456	44%

While the above chart shows that mCloud saves close to half the cost to its nearest competitor, it's not the full story if you were to compare like for like service. Some of the additional value-added benefits of mCloud over Big Cloud are:

- Big Cloud charge for Disk IO in some instances and throttle disk performance based on IOPs which mCloud does not. These are additional costs that should be factored in as well.
- mCloud compute runs in a Tier IV Data Centre with 100% uptime on infrastructure.
- Micron21 is an Australian licenced carrier operating a global network and Australia's third largest peered network.
- Fixed bandwidth volumes are based on 10Gbit speeds out of the Micron21 Data Centre.
- With mCloud all bandwidth includes base DDoS protection.
- mCloud is built on a clustered hardware running Open Stack and Ceph whereas Big Cloud comparisons were based on singular non-redundant instances.
- With mCloud you get 24/7 onsite support at the Micron21 Data Centre with easy support options available regardless of spend.

Reduction Strategies

Strategies for Reducing Cloud TCO

Effectively managing cloud spending requires strategic planning and intelligent decision-making. At mCloud, we help organisations reduce their Total Cost of Ownership (TCO) by offering practical, actionable strategies that go far beyond traditional approaches. Here's how leveraging mCloud can transform your cloud expenditure:

1. Optimise Resource Allocation

One of the most common pitfalls in cloud spending is underutilised or over-provisioned resources. Many businesses unknowingly pay for capacity that far exceeds their actual needs. mCloud's advanced analytics tools provide real-time insights into your infrastructure usage, enabling you to identify and eliminate inefficiencies. By scaling resources dynamically based on demand, you pay only for what you use, ensuring each dollar spent delivers maximum value.

2. Leverage Transparent Pricing

Unlike traditional cloud providers that often include complex, opaque pricing structures, mCloud offers full transparency. With mCloud, you'll never experience hidden fees or surprise costs. Our pricing model ensures clear visibility into what you're paying for, from upfront subscription costs to usage-based charges. This helps your business maintain better financial predictability and control over its IT budget.

3. Minimise Hidden Costs

Major cloud providers often impose hidden costs like expensive data transfer fees, unexpected storage costs, or excessive charges for scaling up during peak periods. These overlooked expenses can quickly erode your budget. mCloud actively addresses this challenge by eliminating unnecessary charges. For instance, our platform minimises egress fees, provides cost-effective storage options, and includes built-in features to prevent overages.

4. Utilise Tailored Solutions for Specific Business Needs

Every business is unique, and a one-size-fits-all approach rarely delivers optimal results. mCloud works closely with businesses to design cloud solutions that fit their specific needs and goals. Whether you require bespoke infrastructure for data-intensive applications, cost-effective disaster recovery solutions, or scalable virtual environments, mCloud tailors its services to ensure your TCO remains low while performance stays high.

5. Implement Proactive Cost Monitoring and Management

Regularly assessing your cloud usage is crucial to long-term cost efficiency. With mCloud, you gain access to intuitive management tools that enable you to monitor and manage your cloud resources with ease. Alerts for cost anomalies, detailed reports, and recommendations for optimisation empower IT teams to stay in control and avoid overspending.

6. Partner with Local, Expert Support

mCloud's Australia-based support team not only provides technical expertise but also a deep understanding of local regulations and business practices. This localised approach ensures faster resolutions, fewer disruptions, and smarter cost-saving strategies tailored to the Australian market. Avoiding reliance on international support means you save both time and resources.

7. Reduce Complexity with Unified Management

Managing multiple cloud services through various platforms can lead to inefficiencies and added costs. mCloud simplifies this by providing a unified platform that streamlines your operations. With centralised management, you can reduce administrative overhead while achieving better resource utilisation and clarity.

By implementing these strategies, businesses can dramatically reduce cloud expenses without sacrificing quality, control, or performance. At mCloud, we are committed to providing solutions that offer both affordability and reliability, tailored to your specific operational needs. Take control of your cloud TCO with actionable strategies and the support of a partner dedicated to your success.

Summary

Cloud computing costs can quickly spiral out of control, but mCloud offers a smarter, more tailored approach. As demonstrated throughout this whitepaper, mCloud delivers significant cost savings compared to large-scale providers like AWS, Azure, and Google Cloud. With the inclusion of real-world examples, we've shown how businesses across various industries have successfully reduced their Total Cost of Ownership and optimised their operations by choosing mCloud.

> One of the core strengths of mCloud lies in our transparent and detailed TCO modelling. We cut through the complexity to expose the hidden costs that other cloud providers often overlook – from unexpected storage charges to exorbitant data transfer fees. By showing exactly where savings can be achieved, mCloud gives you clarity and control over your cloud expenditure.
>
> But this isn't just about dollars and cents. With mCloud, affordability doesn't mean compromise. Our platform offers organisations the performance, security, and scalability they need to stay competitive in a rapidly evolving business landscape. Backed by a team of Australian experts, mCloud is committed to delivering solutions that empower businesses to thrive.
>
> Now is the time to rethink your cloud strategy. By partnering with mCloud, you're choosing a future-proof, cost-efficient solution designed specifically to align with your needs. Whether you're a decision-maker in IT, finance, or business operations, mCloud equips you with the tools and savings to achieve more.

Reach out to the mCloud team today. Discover how we can help lower your costs, simplify your infrastructure, and elevate your business potential. Together, let's transform the way you manage your cloud.

Switch to mCloud - Australia's Cloud.

[1] CloudZero, Erik Peterson, https://www.cloudzero.com/blog/tco-aws/

[2] Kitameraki, Sitiatarfa8, https://www.kitameraki.com/post/how-the-total-cost-of-ownership-approach-can-help-your-cloud-migration

[3] Economize, Manish Kumar Barnwal, https://www.economize.cloud/blog/cloud-tco/

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