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# Developing the right approach to keep Cloud costs under control

WELCOME

White paper overview

In this article Cyberfort Cloud experts discuss why many organisations are struggling to keep their Cloud costs under control. It explores why IT leaders need to shift their mindset in terms of developing business cases for the Cloud from 'owning IT' to 'consuming IT'. Additionally, the article outlines practical steps for overcoming the reality of spiralling cloud costs which are not part of the original investment cases for the Cloud in many organisations.

Introduction to keeping Cloud costs under control
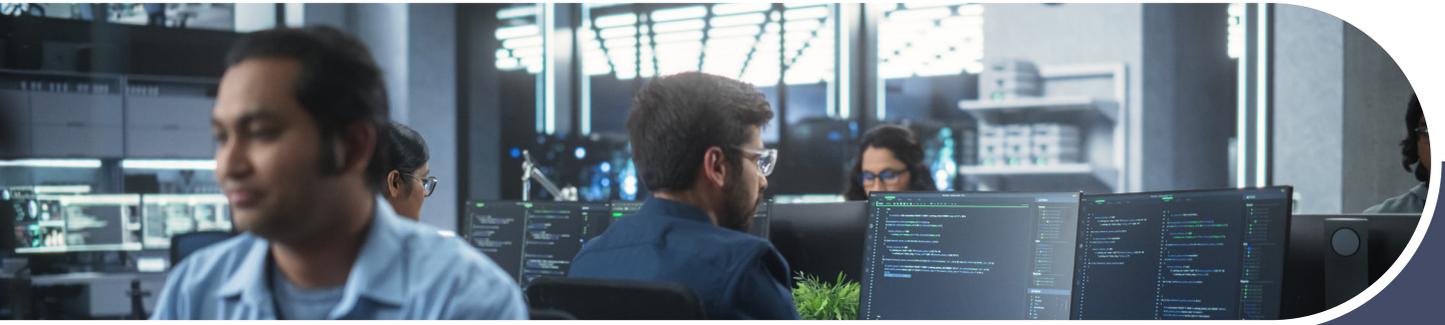
The value of cloud if you have the right strategy, people, processes and technology investments in place can be significant. However, many organisations in recent years have discovered that if the right financial models and management protocols are not in place, their cloud strategy is starting to cost them more than they budgeted for. Quite often IT teams who do not have structured professional financial support available to them for cloud investments are discovering the business cases, calculations of cloud value and general financial approach/models to cloud are not fit for purpose.

Cloud cost management is a topic all IT leaders need to start addressing today. With Gartner predicting the global public cloud market set forecast to grow c.20% each year from 2024 onwards (1), Hashicorps 2023 Cloud strategy survey estimating 48% of organisations will significantly increase cloud spend over the next 12 months (2) it is clear cloud computing investments are still booming.

However, caution needs to be exercised. It is estimated by a Flexera 2023 report that 32% of cloud spend is wasted (3). In addition to this Economize's 'State of Cloud Cost and FinOps 2023 Market' report (4) stated 'Managing cloud spend has become the primary challenge for cloud decision-makers', with 82% of respondents to the survey highlighting this topic as their biggest cloud strategy concern.

These results mirror what we are seeing at Cyberfort. Many organisations have invested and will continue to invest in the cloud and are only realising some of the benefits. However, many organisations are also suffering from cloud wastage and not making the most of their investments in this technology area.

What are your focus priorities and the key outcomes you want to achieve with your cloud investments?

Before we move into the most common cloud challenges in relation to cost management it is important to re-visit the key reasons why many organisations have adopted moving to the cloud as part of their IT strategy. 'Cloud' is not new technology phenomenon anymore. Most organisations have reached a level of maturity with cloud computing where they clearly understand the potential benefits of reducing costs, flexibility and scalability of their infrastructure and improved accessibility/availability to data, resources and applications.

At Cyberfort we have witnessed over many years IT teams looking to move resources, applications and data to the cloud from their on-premises datacentres. But some organisations have been caught up in the hype of thinking they can simply move resources, data and applications to the cloud and believe it will solve their strategic and budgetary problems.

Most of the cost control issues relating to the cloud we are witnessing are because IT teams have not:

Correctly designed their cloud business cases based on what the organisation wants to achieve through cloud computing.

Re-visited their business cases on a regular basis to evaluate cloud spend vs business outcomes.

Fallen into the trap of thinking a move to the Cloud can solve many outstanding IT budgetary issues as it requires very little CAPEX investment.

Negotiated contracts with their cloud service providers as they take on more compute and storage.

Taken into account the different financial approaches and models specific to different Cloud offerings.

It is recommended before any cloud cost review takes place, IT leaders start by exploring the following strategic questions across their cloud strategy:

01 Is the Cloud strategy built on business outcomes the organisation wants to achieve?

02 Are the Cloud principles for the organisation well defined? E.g. Is your organisation Cloud-first, buy-before-build, multicloud, cloud-native, lift-and-shift-as-last-resort?

03 Have you undertaken a full inventory of workloads currently in the cloud and what your organisation would like to move to the cloud?

04 What would be more cost effective to move to the cloud vs keep on prem by analysing on a workload-by-workload basis?

05 Have you fully considered governance/compliance, vendors, security, data storage requirements, technology integration and location of a cloud providers datacentre?

06 Are the right levels of security in place for each workload in the cloud or are there additional costs which will need be considered?

07 Do you have the right talent available to take advantage of cloud computing and truly unlock the benefits?

08 Do you have clearly defined metrics for measuring cloud performance vs cost and can you articulate the benefits back to the organisation?

09 Is your cloud strategy ready for AI, IoT, the rise in Edge Computing and potential extra data volumes and workloads?

10 If you want to exit from one cloud provider to another what are the potential costs involved?

By revisiting and reviewing the key strategic reasons and objectives for moving data, resources and applications to the cloud, only then can a true evaluation of cloud spend vs expected ROI take place. From this strategic analysis IT leaders can start to evaluate where they should be investing into cloud, where wastage is occurring and what they can stop or start to reduce.

Common Cloud cost challenges and how to overcome them

Following a strategic review of Cloud computing in the organisation IT leaders can then start to review their biggest cost challenges in relation to this technology area. Over the past 12 months Cyberfort has witnessed the following 5 big challenges in customers relating to cloud cost management:

01 Forecasting cloud spend based on purely historical factors

02 Migration of workloads to the cloud without fully evaluating the scale or type

03 The rise of AI and IoT data leading to unanticipated Cloud usage

04 Lack of resources to build the right Cloud business case

05 FinOps approach not in place for better forecasting, management and responsiveness to changing cloud requirements

01 Forecasting cloud spend based on purely historical factors

Moving from the capital-expenditure (CAPEX) world of traditional IT to the operating-expenditure (OPEX) world of cloud is a mindset and financial approach change for many IT budget holders. Historical purchases based on CAPEX are not a reliable predictor of the future when it comes to designing a financial model for a cloud strategy.

The biggest issue many organisations are facing in this area of financial management is around estimating cloud budgets based on existing usage with some budget allocated to support new demands on the cloud with a CAPEX mindset. Often by using CAPEX financial models and trying to apply them to OPEX principles for the cloud can lead to major budgetary discrepancies.

At Cyberfort we have seen many organisations with 20%+ discrepancies between their cloud budget forecasts and actual budgetary spend. This leads IT teams to poor resource allocation decision making or just trying to make their cloud model fit the budget when it is already too late. As well as the obvious budgetary support problems, it takes IT leaders away from strategic programmes of work as they have to constantly focus on rebudgeting and remodelling their cloud operating models.

A better approach to forecasting and planning a budget for cloud spend is to review the budget allocation vs business priorities. For example, IT leaders should review when the demands for different applications and data storage which are happening throughout the year and allocate their budgets accordingly. For a Financial Services organisation this may mean allocating more budget near year end when extra reporting needs to be completed or a Retailer allocating more cloud budget around Christmas time when many customers will be accessing their websites and visiting their stores with staff needing access to data/ information in real time.

Forecasting based on OPEX principles is just one part of the equation. IT leaders need to shift their mindsets to this financial modelling approach. Additionally, IT leaders need to work with their Cloud Service Providers and in house Finance teams to truly understand the different business drivers, the impact on cloud spend and how budget should be allocated throughout a 12-month cycle.

02 Migration of workloads to the cloud without fully evaluating the scale or type

As cloud models have matured many IT teams have fallen into the trap of thinking most of their workloads, data and applications should automatically be shifted to the cloud. This is partly due to promises from Cloud Service Providers around better ROI from their cloud investments, cost savings vs running on premises infrastructure and the ability to give staff access to data storage and compute on demand whenever they need it.

The reality is most organisations need a mix of both on premises infrastructure and cloud provisioning. So, what do we mean by this? It should be recognised that no two workloads are the same. Some workloads will need to be hosted via on premises infrastructure due to the sensitive nature of the data, legacy issues with older applications and the risk management requirements.

At Cyberfort we have seen many customers starting to review their cloud strategy and associated spend on a workload-by-workload basis. Then making a call on whether they should keep with their 'cloud first' strategy or deciding if it would be more cost effective to host, manage and maintain with on premises infrastructure.

Many organisations over the past 12 months have recognised 'Cloud' is not the answer to everything especially when it comes to cost management. In some cases, due to the potential scalability and type of workload it is has been proven that hosting with on premises infrastructure is actually more cost effective rather than moving to the cloud.

To overcome this cloud cost management challenge IT teams should review their existing cloud workloads and financially model their scale/type to evaluate if they would be better off hosting on prem vs the cloud. If a workload would be more economically viable being hosting on prem, IT teams should then plan to repatriate different workloads for improved financial control.

03 The rise of AI and IoT data leading to unanticipated Cloud usage

It will probably come as no surprise, but AI and IoT data being managed in the Cloud is a double-edged sword. On one side of the debate are those advocating for AI and IoT being embedded across all Digital Transformation programmes. Many organisations have become caught in the trap of thinking AI and the findings from IoT data promising unlimited opportunity to improve and become more efficient and effective. However, on the other side of the debate are IT teams and Finance Directors starting to be shocked by the associated costs of running AI tools and processing IoT data across their infrastructure.

Many reading this article will understand running AI and IoT tools rely heavily on cloud storage and computing. Without the right levels of storage and compute being available AI and IoT simply cannot operate to the expected levels of end users. Both AI and IoT tools need to process large volumes of data, have access to automation and scalable delivery channels to be effective.

This is leading to unexpected and undetected cloud expenditures. Many organisations are in reactive mode to the extra costs associated with processing the volumes of data and pressure being put on their applications in the cloud. Cloud costs are rapidly being seen as making the support for some AI and IoT tools as untenable as they are outpacing the value being delivered.

Moving from a reactive state to a proactive management approach with cloud costs in relation to AI and IoT is not an easy task. IT and Finance leaders need to review what tools are being used, the resources being consumed via their cloud platforms and assess the value back into the organisation.

They need to be asking the difficult questions to end users of these tools in terms of:

- How are the AI and IoT tools you are using benefiting the business?
- Are the programmes of work reliant on these tools aligned to business objectives?
- How are you controlling the usage of your AI and IoT tools?
- Are you aware of the cost/pressure on the organisations cloud computing resources?

By reviewing the actual AI and IoT usage vs the impact on cloud budgets, financial expenditure can then be reassessed, direct and indirect costs can be captured, and governance models for cloud can be created. As organisations adopt and rely on AI and IoT tools with potentially decentralised budgets to support, it is imperative that the right financial checks, processes and governance models are in place relating to cloud spend. If organisations remain in a reactive state to cloud computing and their AI and IoT programmes they could quickly find themselves being technologically bankrupt and not able to fulfil their organisations wider IT objectives.

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04 Lack of resources to build the right Cloud business case

Making a business case for moving workloads, data and applications to the cloud may seem easy on the surface. However, there are a range of factors which need to be considered when developing the right business case for moving to the cloud. Too often IT teams are constrained by the resources available to them due to conflicting priorities. This can lead many IT teams to adopt the mentality of a 'lift and shift' approach when building a cloud business case.

A pure 'lift and shift' approach to building the cloud business case means IT teams can quickly answer their organisations questions around IT cost savings. They will be able to demonstrate savings from reduced hosting, storage and maintenance costs. But these benefits after the initial move are often not fully realised. This is because an organisation will still retain most of their technical debt and operating inefficiencies from migrated applications and data.

When building the cloud business case for each workload IT teams need to look at the bigger picture. They need to include the 'day one' benefits and highlight how moving different workloads to the cloud will give them access to different capabilities, improve speed to market and enable innovation initiatives. Additionally, the business case should focus on where development costs, app remediation and automation will play a part. By looking at the wider cloud architecture picture, potential costs and aligning them to an organisations objectives on a rolling 12 month cycle IT teams can have improved confidence in their cloud business cases.

05 FinOps approach not in place for better forecasting, management and responsiveness to changing cloud requirements

FinOps for improved cloud cost management has really come to the attention of IT leaders in the past 12 months. Many articles have been written on what FinOps can potentially help an organisation to do. But the reality is outside of large enterprises dedicated FinOps teams for cloud cost management do not exist.

This means organisations who are not large enterprises need to rethink their financial operations management in relation to cloud. Especially if they do not have the right skills in their organisation today.

By not having the right FinOps skills available many IT teams are struggling to correctly forecast, manage and respond to changing cloud spending patterns. They are suffering from cloud overspend due to the rise of AI, IoT and Edge Computing and because of historical 'lift and shift' approaches to the cloud they are stuck in a cycle of continuing to pay for compute and storage which they may no longer need.

A true FinOps approach should be across 3 key areas for cloud as identified in the table below:

Developing the right FinOps approach	
Stage	**FinOps Responsibilities**
Cloud Planning	Understanding and developing the financial model for the business case
	Cloud sourcing from different suppliers including understanding demand for cloud via different workloads
	Identifying applications, data and workloads which are suitable for moving to the cloud
Cloud Adoption	Creating the right financial operating model for the cloud strategy
	Giving the company visibility of cloud spend and capturing benefits/areas for review
	Cloud consumption governance based on models in the original case
Cloud Operations	Reviewing the post migration operating model
	Analytical forecasting of demand
	Providing recommendations for optimisation investment initiatives
	Change management modelling
	Reporting on cloud performance in terms of value from different cloud investments on a rolling monthly basis

At Cyberfort we recommend IT teams have a dedicated manager for reviewing cloud business cases in general but also to partner with a Cloud Servies Provider who understands the realities of cloud vs on premises infrastructure costs. A specialist Cloud Services Provider like Cyberfort can help IT teams to fill the FinOps gap and;

• Create and review business cases based on real world experience.

• Enable your IT team to objectively create financial models based on evolving requirements.

• Update cloud models as new services and pricing structures are introduced.

• Help your IT team to focus on key investment areas based on your organisations business and technology objectives.

• Give you access to technical, financial, procurement and cloud management best practices.

• Review the effectiveness of cloud consumption and business decisions on a continuous basis.

FinOps is not just a department, it should be viewed as an intrinsic part of the cloud management ecosystem. By having access to the right FinOps skills organisations can make better cloud business decisions, manage cloud consumption more effectively and ensure they are deriving value from their cloud investments.

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Helping your business create, manage and deliver Secure Cloud services

Cyberfort Cloud

- Secure multi-tenant cloud
- Infinitely scalable
- Software-defined networking model
- Integrated backup included
- No ingress/egress charges
- Feature-rich optional native capabilities available

Private Cloud

- High performance dedicated platforms
- Compliant to regulatory & security requirements
- Proven technology stacks
- Secure UK Data sovereignty
- Tailored solutions
- Fully managed
- Certified engineers

Public Cloud

- Azure Managed Cloud
- AWS Managed Cloud
- Performance and cost optimised design & management
- Total cost of ownership calculations
- Build validation services
- Multiple billing options
- Flexible support levels from certified engineers

Hybrid Cloud

- Enterprise cloud
- Managed data protection
- Business continuity
- Managed connectivity
- Solution design
- Integrated platform with native Public cloud tooling and services

Cost certainty	Secure and compliant	Tailored cloud	High performance	Managed support	Skills on-demand

Cyberfort Secure Cloud Customers

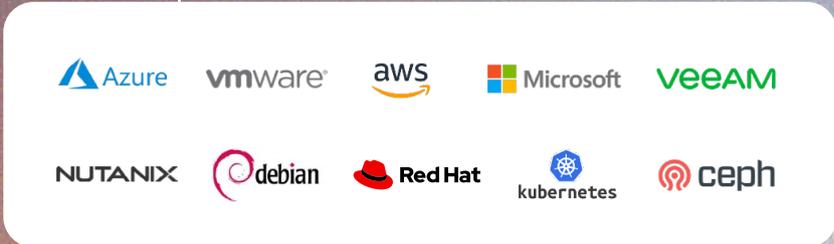ev   qolcom   DIGISEQ   ADL SMARTCARE   NEXUM™   B

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Helping your business create, manage and deliver Secure Cloud services

Market-leading Technology Partnerships

Infrastructure, networking and connectivity

JUNIPER NETWORKS · Lenovo · DELL · FUJITSU

Platforms, data management and storage

Azure · vmware · aws · Microsoft · veeam

NUTANIX · debian · Red Hat · kubernetes · ceph

Security and management

freeBSD · elastic · HAPROXY · A10

CONCLUSION

Final thoughts

In this article we have covered the key cost challenges organisations are facing in relation to the Cloud. Cloud computing is now at a financial tipping point. Those organisations who take the time to put the right financial models, metrics and measures for success in place will be set up for a future where they can truly take advantage of their cloud strategy and empower their organisations to be digital ready.

1 https://www.gartner.com/en/newsroom/press-releases/2024-05-20-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-surpass-675-billion-in-2024

2 https://www.hashicorp.com/blog/hashicorp-state-of-cloud-strategy-survey-2023-the-tech-sector-perspective

3 https://techmonitor.ai/technology/cloud/cloud-spending-wasted-oracle-computing-aws-azure

4 https://www.economize.cloud/cloud-cost-finops-market-report#start

Discover more about Cyberfort Services

At Cyberfort we provide a range of customers with all-encompassing Cyber Security Services. We are passionate about the cyber security services we deliver for our customers which keeps their people, data, systems and technology infrastructure secure, resilient and compliant.

Our business offers National Cyber Security Centre assured Consultancy services, Identification and Protection against cyber-attacks, proactive Detection and Response to security incidents through our security operations centre and a Secure and Recover set of Cloud solutions which keeps data safely stored, managed and available 24/7/365.

Over the past 20 years we have combined our market leading accreditations, peerless cyber security expertise, strong technology partnerships, investment in our future cyber professionals and secure locations to deliver a cyber security experience for customers which enables them to achieve their business and technology goals in an ever-changing digital world.

For more information on our Secure Cloud and Cyber Security services please contact us at the details below:

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We look forward to working with you