UNCOVERING HIDDEN CLOUD COSTS

Abstract

Cloud migration is now mainstream for enterprises seeking scalability, agility, and efficiency in their operations. In an increasingly digitalised ecosystem, migrating to the public cloud offers multiple advantages to growing businesses. However, the transition exposes myriad hidden costs associated with the transfer of data, applications, and workloads.

Adapting to the cloud environment has its challenges, and inflated cloud bills top the list. In the absence of proper visibility into cloud deployments and spending, it is difficult to anticipate these costs while planning a cloud migration.

Is it possible to anticipate hidden cloud costs and design a failsafe strategy around cloud cost optimisation? This PoV delves into common instances of cloud overspending and shares effective practices for cloud cost optimisation.

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In 2015, a leading American SaaS company spent $53 million on building a co-located facility for data storage that would enable them to repatriate from the cloud. The company saved $75 million over two years as a result of the overhaul.

A 2021 study of 50 leading software companies found that the cloud costs at large software enterprises amounted to nearly 50% of their cost of revenue (COR). The financial experts who conducted this study argue that businesses can halve their infrastructure costs by hosting their workloads on-premise.

While this makes a strong case for cloud repatriation, it is worth noting that the study focused only on software companies whose primary input costs stemmed from their digital infrastructure. The cloud costs of verticals other than SaaS are significantly lower than their industry-specific expenses, including real estate, transport, labour, and equipment costs.

Non-IT companies cannot afford to overlook the efficiency, scalability, flexibility, and ease of provisioning that the public cloud affords. Moreover, it is crucial to weigh the potential savings

from repatriation against the exigencies of private hosting and the need for 24/7 in-house IT support.*

Public cloud spending, unavoidable for modern businesses, is projected to reach $600 billion soon. Sadly, most organisations waste 32% of their cloud spend due to inefficiencies. 53% of enterprises are unable to derive substantial value from their cloud investments. To optimise cloud spend, it is crucial to identify hidden cloud costs and find ways to mitigate them.

Hidden costs of cloud migration

Overspending and underutilisation typically stem from a lack of visibility into cloud deployments across the organisation. Below is a brief guide to the hidden cloud costs that you can expect when you move your applications and workloads to the public cloud:[2][3]

- **Data egress fees**

   Data 'egress' or transfer costs are among the greatest hidden costs of cloud migration. While you can upload your data free of cost to most cloud

platforms, downloading it or moving it to another platform, availability zone, or region incurs a substantial fee.

Egress charges are applicable even when you move your data between applications – for instance, from storage to an analytics application. You can expect high cloud costs if your business –

- operates globally
- mines data for business intelligence or training AI engines
- follows a multi-cloud strategy

- **Migration costs**

   Besides data egress charges, there are other costs involved in cloud migration. Whether you move from an in-house cluster to the cloud or shift between platforms, you must factor in the costs of data integration and backup, rewriting code, refactoring applications, and more.

   In the absence of meticulous planning or a migration strategy, businesses

grossly underestimate the expenses for implementation, training, support, and recurring admin costs.

Often, 'lifting and shifting' on-premise applications to the cloud calls for a complete redesign of workflows, adding to the costs of support, maintenance, and operations. Additionally, the transition may cause bandwidth or network issues in the initial phases, leading to significant losses of time, resources, and revenue.

• **Over- or under-provisioning**

Provisioning refers to the resources and services that cloud providers allocate to customers. If you are unable to estimate the nature and quantity of resources that your business needs, you may end up oversizing or undersizing your cloud infrastructure.

Buying more bandwidth, capacity, or storage than you can utilise means your resources lie idle while you overpay for an inflated cloud. Conversely, if your infrastructure and resources are not optimised to handle spikes in traffic or activity, it results in slow response times, poor performance, and sub-par user experiences.

While under-provisioning does not directly accrue cloud costs, it may affect customer retention and conversions, impacting your bottom line.

• **Unused or underutilised servers**

While cloud servers are more efficient than physical servers, unused servers can add billable hours to your business without generating value.

Unfortunately, many developers spin servers and leave them unmonitored in the background with no jobs running. Unused or underutilised servers significantly escalate cloud costs.

• **Vendor policies and discounts**

To push their services, vendors offer attractive discounts on the bulk-buying of storage and applications.

Typically, discounted instances come with a lock-in period. This means that, besides paying for more capacity and resources than you need, you cannot avail of cheaper alternatives or better pricing plans emerging over time until the lock-in period is over.

• **Expiry of free resources**

Many cloud providers offer free resources up to a limit or free trials with multiple features. The service becomes billable when you cross the threshold or the trial period ends.

Many businesses exhaust their free resources while adapting to the cloud and fail to plan for the upcoming billing cycle. Although this is not a 'hidden' cloud cost, the expiry of free resources may throw your business's budget out of gear.

Moreover, budget prices come with limited customer support. If you encounter issues while utilising free instances, you may incur additional costs in resolving them.
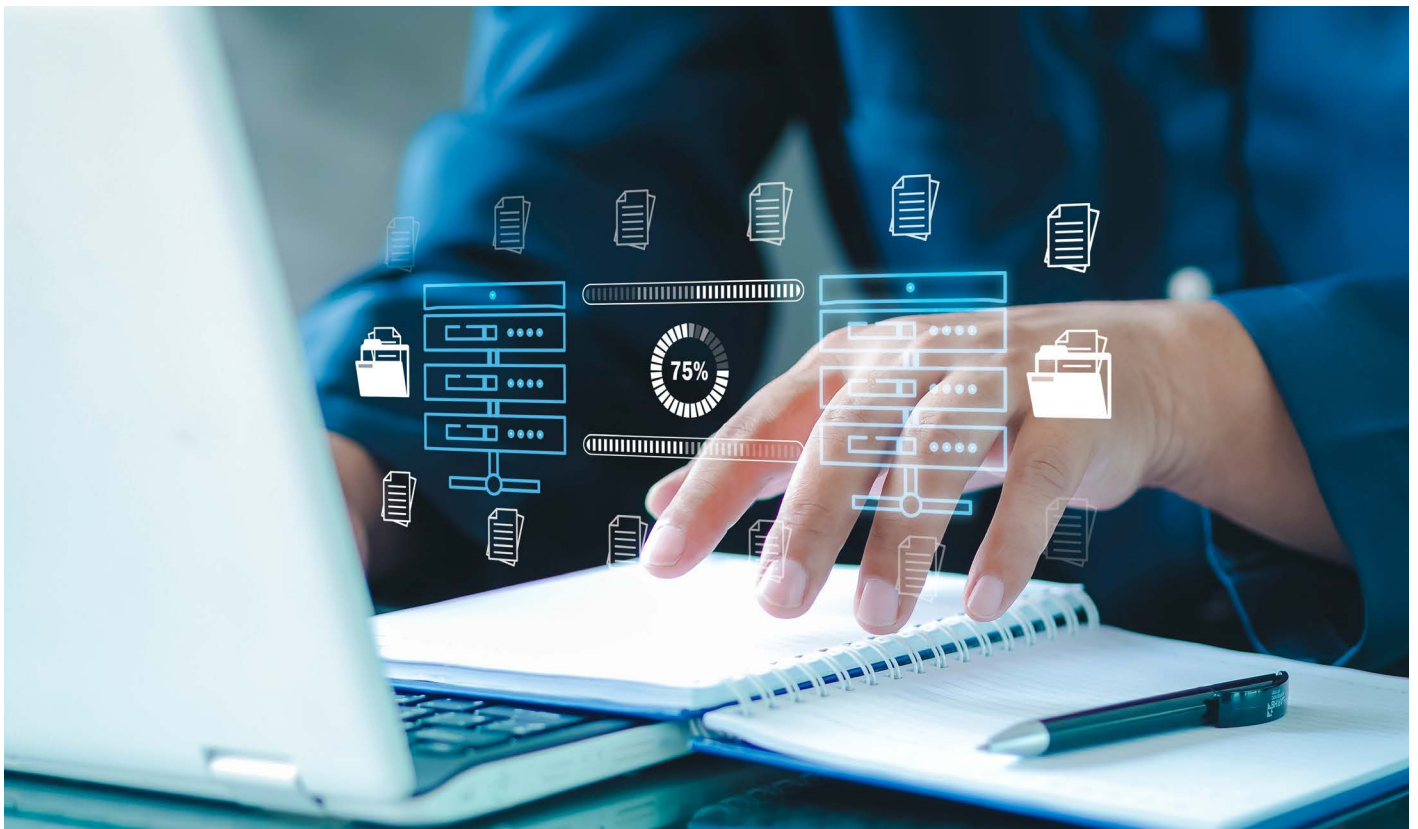
Strategies for optimising cloud spend

Hidden cloud costs can accumulate over time and cause substantial revenue leakage. Below are some strategies to help you curb overspending and optimise your cloud investments:

- **Deduplicate data**

  While cloud data storage is more economical than on-premise storage, your cloud costs can add up significantly if you use premium storage for faster access. By deduplication, you can eliminate large blocks of redundant data, drastically reducing the storage and networking you need to buy.

  It is also crucial to categorise data according to frequency of access and move the less accessed datasets to standard storage options.

- **Manage egress charges**

  Data deduplication and compression are effective ways to reduce egress charges. Additionally, you can segregate workloads in ways that will minimise inter-regional data transfers.

- **Rightsize your resources and infrastructure**

  The disparity between resource usage and infrastructure size contributes to redundant cloud costs. Many leading cloud providers offer tools and advisory services for resource rightsizing and cost management. Utilising these can help you monitor your usage and scale down an oversized infrastructure.

To avoid under-provisioning issues, enable autoscaling with a load balancer or use serverless technologies.

- **Automate cloud processes**

  Your business does not use all resources 24/7. Some workloads are seasonal or temporary. Automating cloud processes will allow you to identify your resource usage pattern and minimise idle workloads.

  By enabling autoscaling, you can align your resource usage with the demand, driving significant savings during periods of diminished activity. By facilitating auto-shutdown, you can auto-terminate redundant schedules.

- **Use ARM-based processors**

  Advanced RISC Machine (ARM) processors are significantly more energy-efficient than x86 processors and, therefore, critical in optimising cloud spend.

- **Use reserved instances**

  Reserved instances are highly discounted resources that cloud providers offer in exchange for committed use. They allow you to save up to 75% over on-demand resources.

  However, you should commit to reserved instances after analysing your resource usage since the deal applies irrespective of whether you need the same capacity in the future.

- **Establish a FinOps discipline**

  FinOps, or financial operations, is a crucial management practice that promotes accountability and responsibility sharing for an organisation's cloud investments.

  FinOps teams comprising engineering, business, and operations personnel optimise cloud spend by balancing the speed, cost, and quality of the organisation's cloud architecture.

  Establishing a strong FinOps culture in your company will enable you to identify instances of overspending and help you maximise business value through the cloud. FinOps teams may subscribe to third-party tools and services for cloud spend optimisation. These typically include -

  - Recommendations for reducing cloud spend
  - Visibility and reporting tools to track your cloud deployment across all business units
  - Real-time anomaly detection with AI/ML algorithms
  - Forecasting and budgeting tools for improved cloud cost planning
  - Showback and chargeback tracking for spend awareness and increased accountability for hidden cloud costs

Conclusion

To thrive in a digital economy, businesses are increasingly taking their operations to the public cloud.

While the cloud is indispensable for the ease of provisioning, scalability, and agility that it affords, most businesses overlook hidden costs that pile up during the transition. Besides incurring losses, such organisations fail to realise the full value of their cloud investments.

To optimise cloud spend, businesses need a migration strategy that anticipates hidden cloud costs and identifies cost-saving opportunities across all resource purchase and usage cycles. Establishing a cloud spend management platform and leveraging tools and practices that maximise visibility into cloud costs are crucial in controlling overspend.

* For organizations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed on organizational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive, yet modular suite of services is doing exactly that. Equipping organizations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, Live Enterprise is building connected organizations that are innovating collaboratively for the future.

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