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How to reduce cloud costs and prepare for 2023

Businesses must consider costs, time, quality, and agility – especially given the impending economic slowdown. So you might ask yourself:

> *What can I do to reduce costs, while moving forward with the most strategic initiatives in preparing for the future?*

The majority of companies will use their data to obtain insights to get ready for potential political, natural, or economic events. Despite being a smart plan, there are some areas of spending that are ignored, as you will learn by reading this whitepaper.

So, how can companies reduce costs effectively?

This whitepaper provides information on cloud costs along with long-term measures for lowering them.

Let's dive in.

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How to efficiently reduce your cloud budget

The Wall Street Journal asked technology leaders about their biggest mistakes. The first thing that came to mind was **spending too much on the cloud**. According to Amazon's AWS, hosting a data warehouse costs businesses between **$19,000 to $25,000** per terabyte annually if they start out on their own. Let's suppose the organisation uses **big data** and requires 50 TB of data. A yearly budget of **up to $1,250,000** is needed for building and upkeep.

That is quite a lot of money for information, and it **grows with every terabyte**. Let's keep in mind, this amount is only to build and maintain the data warehouse. On top of that comes the costs of cloud-native application development and deployment. So, how can your business reduce costs and still proceed with vital business initiatives?

Gartner names 7 reasons for rising cloud budgets that you could tackle:

1. **Ungoverned costs** – This ranges from many little credit card bills to the time spent on a project that you might miss.
2. **Unanticipated usage** – As the cloud framework grows, so will your application development and deployment. If your cloud framework isn't scalable, your cloud costs will rise.
3. **No commitments** – Businesses often refrain from commitment to save money, but actually spend more on ongoing operational costs just to create a good-looking budget for two quarters.
4. **Dev waste** – This includes idle or underused tech resources and developer efficiency. If your employees must tackle different tasks than the ones they should focus on, your costs rise steadily.
5. **Too much production headroom** – This includes the lack of autoscaling for applications. Most companies miss either the knowledge or the workforce to do so.
6. **Wrongsizing production** – A production environment that doesn't support the business goal can cost a lot of money.
7. **Suboptimal design and implementation** – If you don't take into consideration your business goals during the design phase, you might end up paying more.

It is a lot to take in at once. Let's put it in other words, because simplicity is where efficiency starts. Our experience has led us to recognise a simple truth:

Cost reduction = toil reduction

Gartner's article basically hints towards toil reduction as cost saving tactic. Reducing toil **increases productivity**, but also encourages businesses to **strategically embrace cloud-native technology**.

This results in lower expenses due to less time and resource waste. In addition, it creates possibilities for the future. Google, who recently welcomed us into their cloud partner network, backs up the assertion that **businesses toil up to 80% of the time** in their quarterly survey.

What is toil?

Google explains the term as follows:

> *Toil is the kind of work tied to running a production service that tends to be manual, repetitive, automatable, tactical, devoid of enduring value, and that scales linearly as a service grows.*

Let's see what toil looks like in reality. We've prepared a table for you that shows examples of various toil-generating activities in the cloud-native environment:

Manual	The manual creation from web UI or CLI.
Repetitive	Backups.
Automatable	Most runbooks, if human judgement isn't needed.
Tactical	Pager alerts.
No enduring value	The removal or clean-up of old/stale issues.
As service grows	Manual deployments/releases – The higher the number of deployments, the bigger the challenge.

If left unchecked, **toil has a tendency to grow**. It can quickly expand to take up to 100% of everyone's time while generating unwanted costs. Yet, sometimes, toil is a valid part of a process and doesn't need to be changed. This is where Google suggests that up to 50% of toil is acceptable.

Instead of putting up with this waste, let's consider how to end unnecessary toil and develop a procedure that will reduce costs while achieving your company's objectives.

The right approach for toil reduction

Gartner analyst Ed Anderson told the Wall Street Journal: Organisations that lack plans to track and monitor costs, **overspend by an average of 40%**. But there is no one-size-fits-all solution to toil reduction. Instead, it is best to have an individual infrastructure deployment that allows you to **automate specific tasks and processes**. Doing so can increase productivity and prevents long delays to get information.

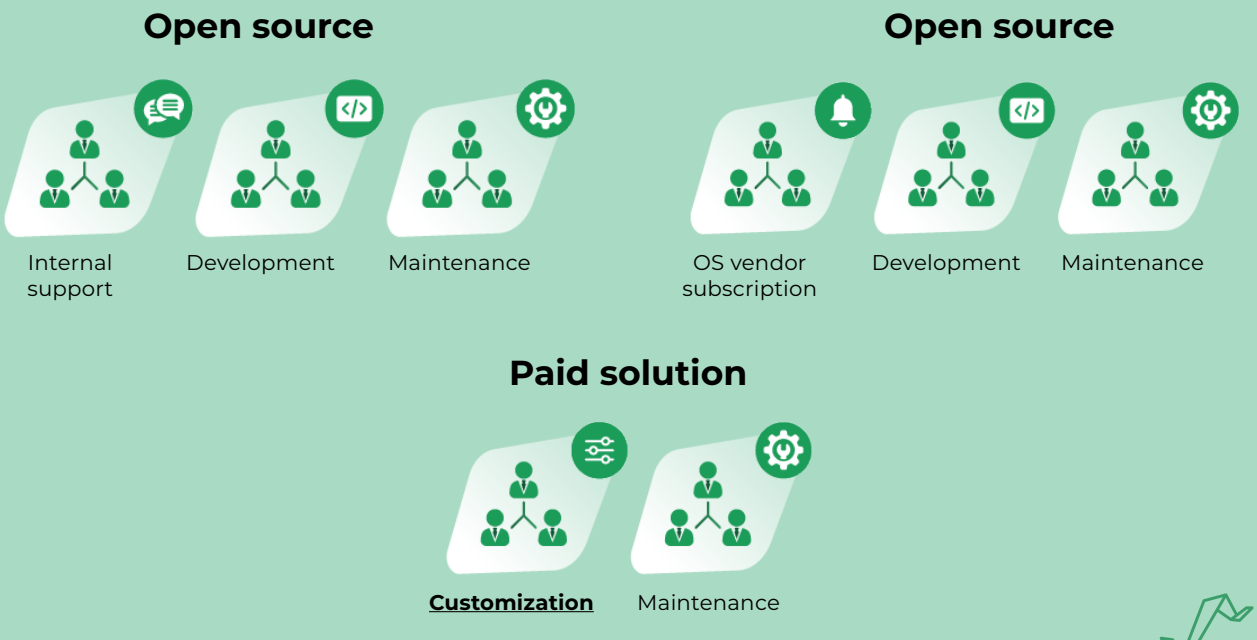
So, what are the most effective technologies?

Before looking into that question, it's important to consider if paid or open-source technologies will perform better overall, given your business objectives.

Open source or paid?

You can decide between open source software and paid solutions. Both have their pros and cons. The Wall Street Journal claims that building software from scratch costs a lot of money. So, why would a custom approach, with an open source software, be the best solution? Might there be a different way?

It is true that **open source needs more effort**. As you can see in the graphic below, open source requires at least three teams to work properly.



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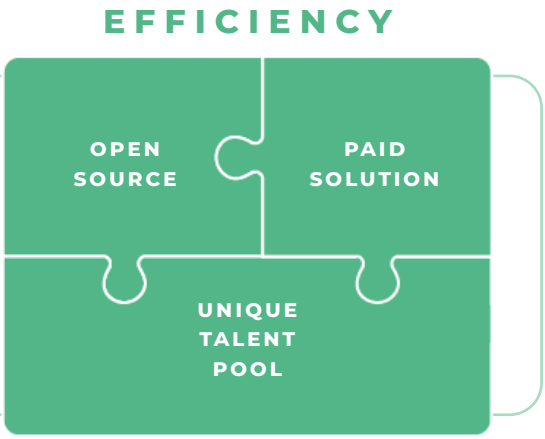
Nevertheless, the lack of dependency on a vendor **permits continuous innovation**. This implies that you can cooperate with development teams to **advance your business** and **meet its specific needs**. Paid solutions, on the other hand, put a stop to innovation. Because of their closed proprietary nature, they only permit customization. It might even stop cost reduction in some situations.

For instance, VirtusLab **uses open source software and paid solutions to meet the specific needs of each client**. The effective application of both solutions is the key to success. The precise selection, along with a unique talent pool, gives us the potential to advance innovation and, with it, your business.



Choose the right technology

Given the vast opportunities and the number of new technologies on the market, it is crucial to evaluate the software. This helps you understand if the software is worthwhile and whether it meets your needs and will work reliably.

Let's look at a method for evaluating the technology you want to use:

1. Start with an **internal proof of concept** and consider certain factors. Clarify the benefits of using the solution, its build, and its compatibility with your current stack.

2. Then, move into the **verification** phase. In a document, explain the problem space and the expected outcome. While using the solution, examine the trade-offs and edge cases.

3. The last step is **deployment** and **assessment** of said technology.

We have prepared a detailed article on how to evaluate cloud-native technology. We recommend you read it:

How to evaluate cloud-native technology and build trust.

What else can you do to reduce costs in cloud

Some companies turn solely to paid solutions to **fill a knowledge gap** in their organisation. As we've already seen, software needs to be tested and used strategically to avoid adding unnecessary toil and cost to your company.

It is good practice to assess your tech stack and get rid of unwanted or unused software. Licencing fees can drive costs up very quickly. If you don't control your cloud spend, as Gartner suggests, you might increase your cloud budget unknowingly.

Once costs rise higher than expected, organisations may rely on cost optimisation software. This software will find some processes to optimise and reduce costs. But the software doesn't include the following:

- Your goals
- The whole context of your business
- The architecture of your cloud infrastructure

As a result, you'll end up only scratching the surface of the cost issue.

Boost developer productivity to decrease costs

To do more than scratch the surface, you'll need to **look at developer productivity**. Cloud costs increase when highly paid developers cannot work efficiently due to inconsistent infrastructure deployment. Furthermore, infrastructure standardisation is difficult since each cloud service offers different tools. This means you'll need to either build expertise in various systems or reach out to a software engineering partner with the expertise required. If you turn to a software engineering partner, you'll save costs in the long run since you tap into an existing knowledge base.

Cost reduction with a multi-cloud strategy

Some companies think that a multi-cloud adoption reduces costs. However, as specialists in multi-cloud adoption, we cannot say it is the way to go for cost reduction. For example, it increases complexity, makes alignment between different technologies harder, and requires experience and competencies that are sometimes hard to find in the market and expensive within a small talent pool. Effective multi-cloud teams must apply their skills consistently, regardless of the target environment. This way, you'll maximise productivity and minimise toil.

Let's talk numbers

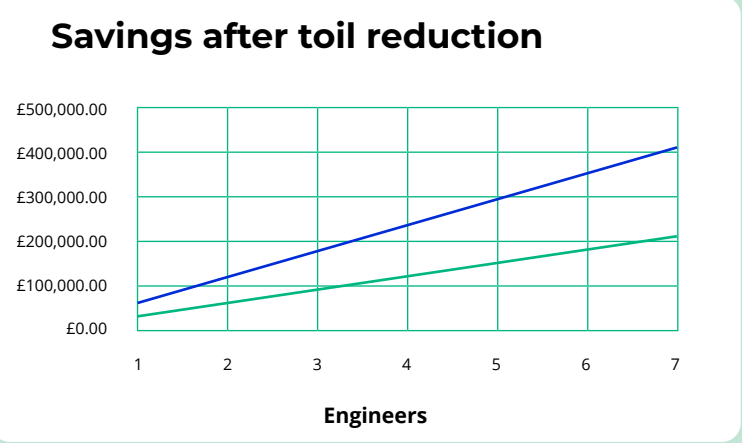
For instance, VirtusLab reduces manual and repetitive application deployment processes while maintaining security, governance, and compliance standards, **saving enterprises up to 49% in time to value**.

49%

Time savings

They say time is money. So, let's translate this into figures we can relate to. Say an engineer's average annual salary is £58,585. If we apply our time reduction within application deployment to cost reduction, we will see a significant amount of savings.

Engineers	Salary	Savings after toil reduction
1	£58,585.00	£28,706.65
2	£117,170.00	£57,413.30
3	£175,755.00	£86,119.95
4	£234,340.00	£114,826.60
5	£292,925.00	£143,533.25
6	£351,510.00	£172,239.90
7	£410,095.00	£200,946.55



The amount of money you save can be used elsewhere. Instead of maintaining the infrastructure, your engineers can focus on more valuable tasks. This is due to improved efficiency, such as reduced deployment time or lead time to production and slow manual processes.

Let's see how this manifests itself in practice using one of our case studies.

A case study for cost reduction

Let's examine and identify the benefits of reducing toil in the cloud. Since every business is unique, gaining a clear understanding of what to optimise and when is vital.

Our client, a large retail company in Europe, wanted to reduce maintenance costs to focus on making new cloud-native applications. Unfortunately, slow, manual processes held deliveries back and negatively affected the solutions' reliability.

The solution

VirtusLab centralised the infrastructure by building a **Kubernetes-based internal platform for developers**, in line with our client's security, governance, and compliance standards.

Using this platform, our client gained reliability and scalability through a **standardised and repeatable deployment with full infrastructure lifecycle management automation**. This enabled measurement and optimisation regarding workloads and the underlying cloud environment. It also prevented other application teams from duplicating and building their own interim solutions, which isn't a sustainable approach in the long run.

The **infrastructure lifecycle management automation** allowed our client's development teams to focus on actual development work instead of managing the infrastructure, which had previously taken up a significant part of their engineering time.

We also ensured the reliability of the infrastructure with **support and incident** management following a site reliability engineering (SRE) approach. This allowed us to operate the system at scale, solve possible issues faster, and automate operations tasks via runbooks.

Moreover, our client processed onboarding, logging and tooling integrations manually. VirtusLab has **automated these day-one activities** to reduce friction and optimise time-consuming processes.

All of the above **helped to pave a path to production** for application teams. This reduced production lead time, translating into less engineering time to deploy a new app. In the end, VirtusLab helped deliver cost savings.

If you want to know more about cost savings, we invite you to read this case study:

Centralised deployment platform for a top global retailer.

Cost reduction by turning to nearshoring partners

Outsourcing is a way to reduce costs. Even Deloitte's 2020 survey shows that the number one reason for working with an outsourcing partner is cost reduction. But you need to keep in mind that not every outsourcing partner can help you with cost reduction.

There are several options of how to outsource:

Nearshoring

is a popular outsourcing strategy for 66% of leaders polled in the PWC Global Outsourcing Survey in 2007. It provides specific services to a business as a third-party organisation. The main difference from other models is that the third-party organisation is located in a nearby country. This geographic closeness of a nearshoring partner brings several advantages to reduce costs:

- **Creates an efficient collaboration base** – This helps you keep your supervision hours low, and you can take care of more important tasks.
- **Fuels your business with the needed expertise** – You don't have to pay more hours to let your employees familiarise with the problem space.
- **Creates a transparent workflow** – This lets you have constant control over everything happening and pivot the strategy immediately if something goes awry.
- **Shares their knowledge and foster a self-service approach** – This allows you to act faster and more independently.
- **Communicates clearly** – It speeds up processes and reduces future operations costs.

If you want to read about all the pros and cons of every outsourcing model available, please visit our blog:

Nearshoring, Onshoring, Offshoring: Which model fits your software engineering and IT consulting needs?

Conclusion

Cost reduction can be tackled in various ways. For example, you can use software, an external or internal auditor, or partner up with a nearshoring company that understands your needs and has the expertise to reduce costs in the long run. But as Gartner also suggests, a good cost reduction strategy starts with a well-designed infrastructure.

Here's a recap of the best practices that reduce toil and lead to cost reduction:

- Standardise and centralise your cloud infrastructure
- Refrain from only trusting cost optimisation software
- Enable automation with a proper infrastructure
- Boost developer productivity
- Choose open-source and paid technologies strategically
- Choose the right cloud provider
- Reduce idle or underused resources
- Tap into cloud-native expertise.

Drop us a line if you want more information on cost reduction for your company and how VirtusLab may help you.

LET'S TALK

VIRTUSLAB

A reliable partner in a world powered by software.

We build complex software systems that precisely match the needs of our clients – on time and on budget. We guide them through sophisticated IT transformation scenarios, respecting the work and the emotions that live in the legacy, and we have the know-how to modernize it efficiently.

VirtusLab helps you build excellent teams as well as educate and mentor existing ones. We might do short term enablement or stay for long term projects with maintenance and support.

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