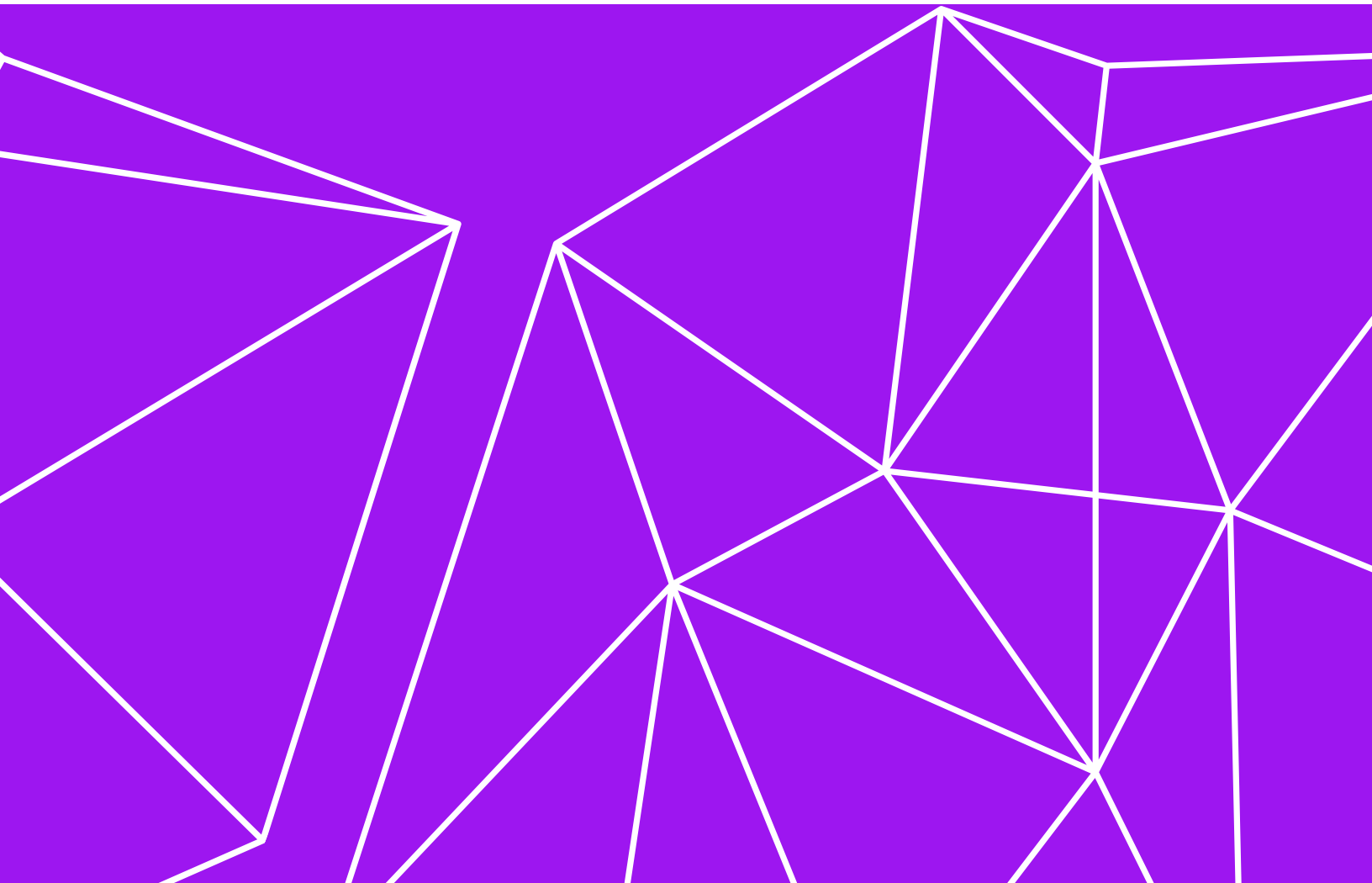
LYRID

JANUARY 2023

How to Cut Your IT Costs in 2023

What companies like Microsoft, Adobe, and Salesforce are Doing to Drive Down their IT Costs



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Introduction

Recession. Layoffs. Hiring freeze.

If you've been tuned into any major news outlet, social media app, or even family gossip at the dinner table, you've probably heard these terms floating around. Industry giants like Amazon, Google, and Meta have been slowing down their hiring processes and letting talented individuals go because of market conditions; removing people from the boat does not have to be the only solution to keep it afloat.

The current situation we're in is dire, don't get me wrong. However, this also creates a unique opportunity for businesses to look towards unorthodox ways to cut their IT costs, whether it's by choosing an alternative service from that of an AWS or Azure-tier provider, reallocating budgets, or restrategizing in general.

How can you quickly reduce operations and offset inflation for your business without compromising your application performance?

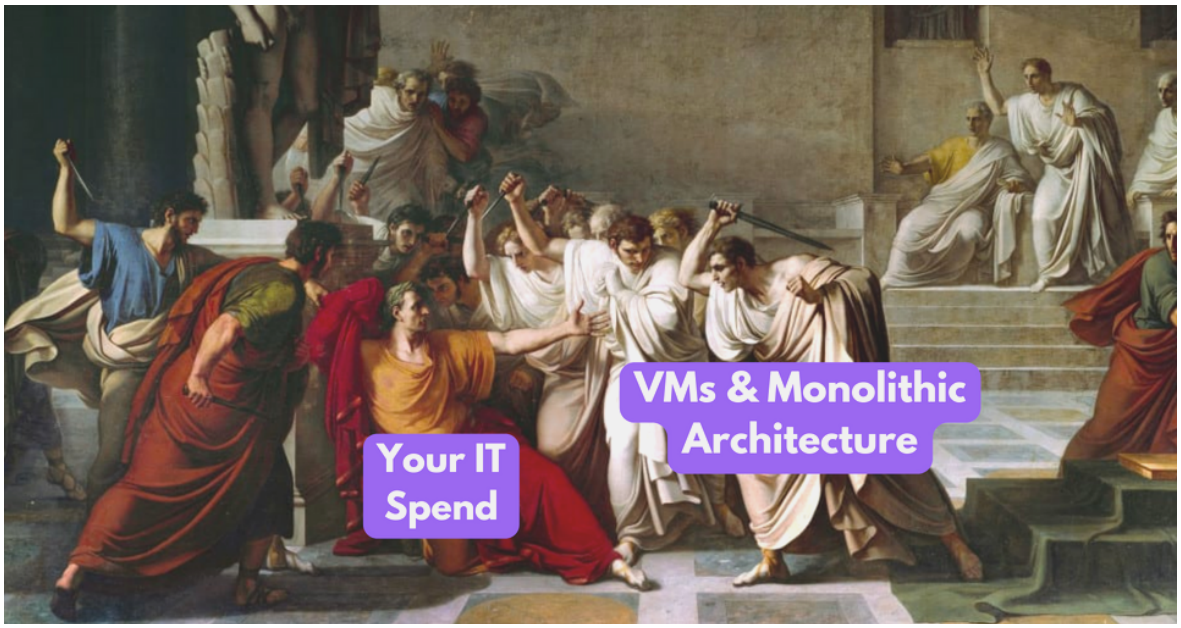
A Julius Caesar Moment, But It's Your IT Spend

We all know the tale of Julius Caesar: Roman dictator stabbed in the back by 60 or so of his closest senators and advisors.

Take a moment to evaluate your tech stack; do you notice anything that's off?

If you said no you're probably right. At first glance, the tech you're using may seem fine and - given that your application and website are still up and running - won't need any improvement for years to come.

And then VMs and monolithic applications enter the picture.



In this situation, your IT spend is Julius Caesar (minus the infamy) and VMs and monolithic applications are the senators and advisors, plotting your IT spend's demise behind the scenes. But why?

A Julius Caesar Moment, But It's Your IT Spend

Let's start with monolithic applications: they're single unit applications that can be complex and difficult to operate with and on. The cost bleeding occurs because of its single unit build. Imagine having to update a single part of the application- instead of updating only that part, you're forced to update the whole application, which can prove deadly in some instances and work backwards. Because of the single unit build, monolithic applications are often hard to debug, with its complexity wreaking havoc and causing miscommunication among engineering teams. Even scaling a monolithic application is an Olympics-level task that involves scaling the whole application by adding more compute resources than needed.

All this trouble for an application that, in the long run, will cost you more money.

A Julius Caesar Moment, But It's Your IT Spend

> **The way to combat high IT costs? Renovate your infrastructure.**

Virtual machines, or VMs, are environments that utilize software to deploy and run applications, instead of the traditional physical machine. VMs are heavy in storage space and require more costs to expand, though the real reason why VMs are causing your IT spend to skyrocket is because of their use of operating systems (OS). Each VM requires layers of OS and a hypervisor to create and run the VM. For each of these operating systems and hypervisors being used, licensing and tax fees are tacked on, with server hosting costs being added into the mix too.

While utilizing monolithic apps and VMs can be beneficial initially, long-term costs will prove to be the nail in the coffin for anybody's IT spend.

The way to combat these costs? Renovate your infrastructure.

2023 Edition

3 KEY STRATEGIES FOR REDUCING YOUR IT COSTS

We went over the reason why your IT spend budget might be bleeding, but here are the 3 ways to seal this wound and reduce your IT costs:

Strategy #1: Containerize your application

If you've seen any of our social media posts or blogs before this one, then you'll know that at Lyrid, we're HUGE fans of microservices.What's not to love about microservices?

For one, they're self-contained; meaning that if one service were to fail and maintenance were needed, the other microservices will not be placed in any jeopardy.

Management becomes more clear as whole teams can be assigned to separate microservices. Microservices are also easier to scale and more flexible than monolithic applications.

While microservices are a bit more expensive than running a monolithic application initially, the savings from microservices will be apparent over time.

Strategy #1: Containerize your application

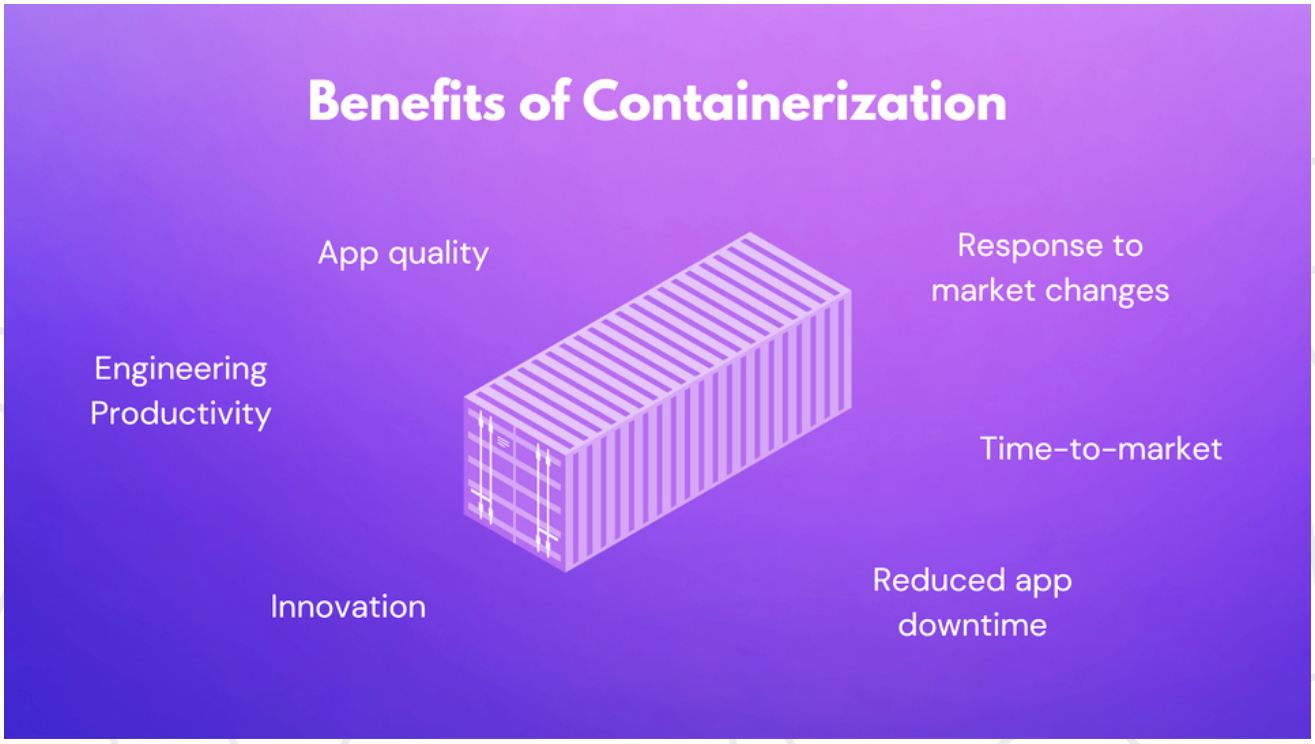
Faster development, streamlined management, and the ability to debug issues without having to shutdown the application are just some ways that microservices help you save.

However, where microservices truly shine is when they're run inside a container.

Containers are software that compiles code and their assets required to run in a nice, manageable package- similar to a present. They're extremely lightweight - meaning that rather than utilizing a separate operating system (OS), they share one with the machine they are run on - and are able to bounce between environments seamlessly. Containerization allows you to deploy and run your applications virtually anywhere, whether it's on a VM or a bare metal infrastructure (which can prove to be thrifty). Containers themselves are hyper flexible and are able to pack multiples of themselves into a single machine with ease due to their small stature. Sounds familiar, right?

When microservices become containerized, their positive attributes are doubled-down. The containerized microservice develops faster and is more flexible in terms of management and portability. By removing the need for multiple operating systems in an architecture that involves VMs, containerized microservices significantly reduce the unnecessary overuse of resources and omits the costs of OS and server licensing, proving to be a force to be reckoned with in terms of power and costs.

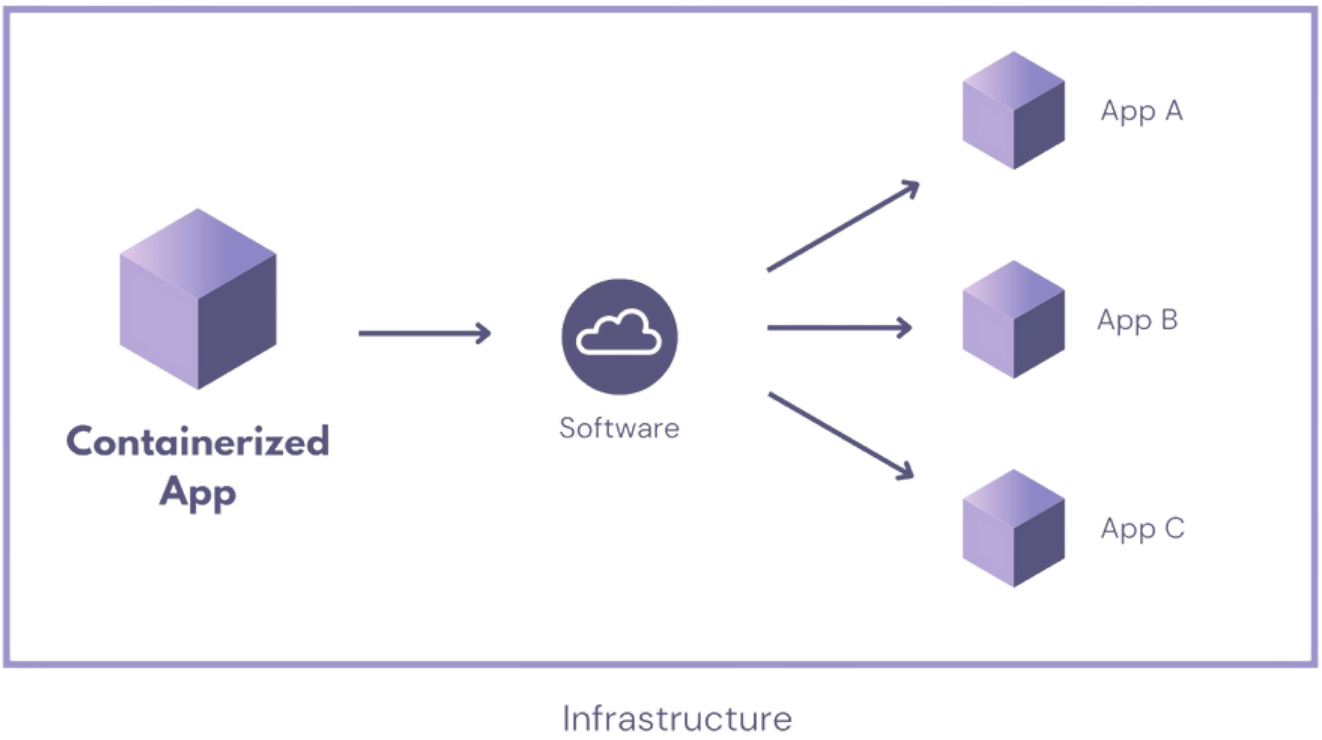
Deploying through a layer of Kubernetes, containerized microservices get the VIP treatment, receiving all the automation benefits of Kubernetes and the efficient deployment and container management. This isn't anything new, either. Generally speaking, the container and Kubernetes option are the go-to solution for companies, with 96% of organizations adopting this Kubernetes.



Planning on shifting to an organization-wide microservice architecture by yourself? Here are some things to consider:

- A highly experienced DevOps personnel/team is recommended for this shift, especially dealing with your applications in a monolithic structure
- The process is time consuming and daunting; each microservice takes 1-2 days to containerize, and that's not counting the time it takes to migrate everything
- If handled poorly, the shift will expose and increase vulnerabilities: the more self-contained services there are, the higher the entry points

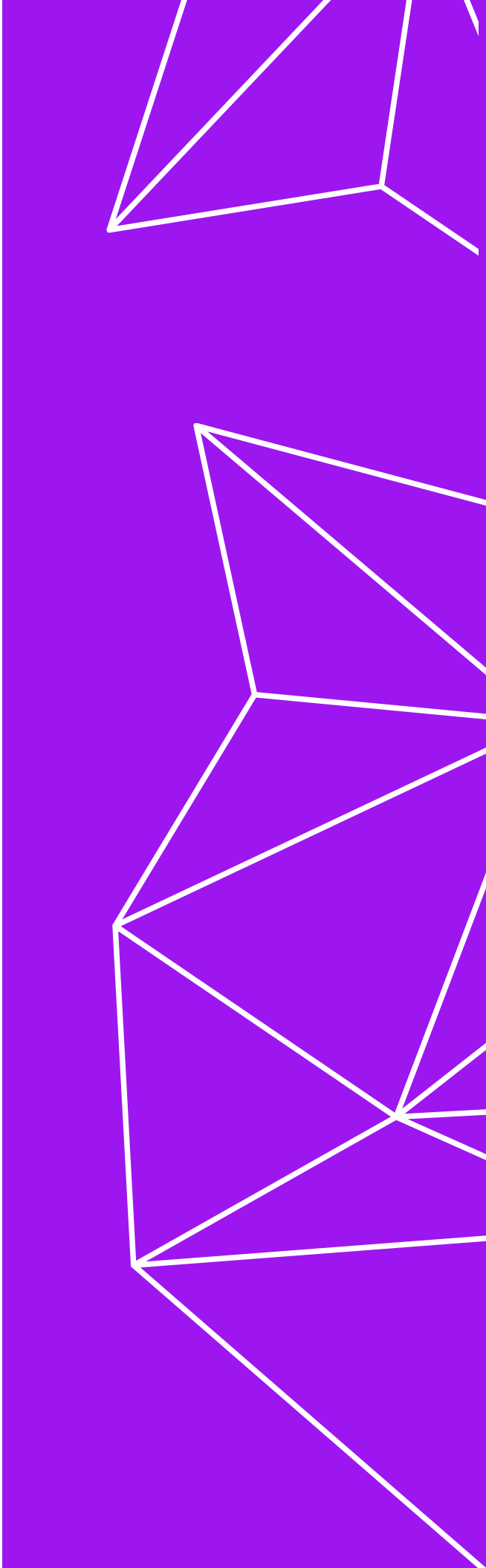
Although the process may seem tedious and dangerous, 92% of organizations have greatly benefited from the adoption of microservices. It's no wonder why so many companies, including titans like Amazon and Spotify, are making the shift and saving millions of dollars every year.



Strategy #2

Run your application on bare metal hardware

Nowadays, bare metal is barely mentioned as a viable option, especially in a cloud-dominated world. However, this is where most people fail to see the potential cost-savings and power supply that this technology brings to the table.

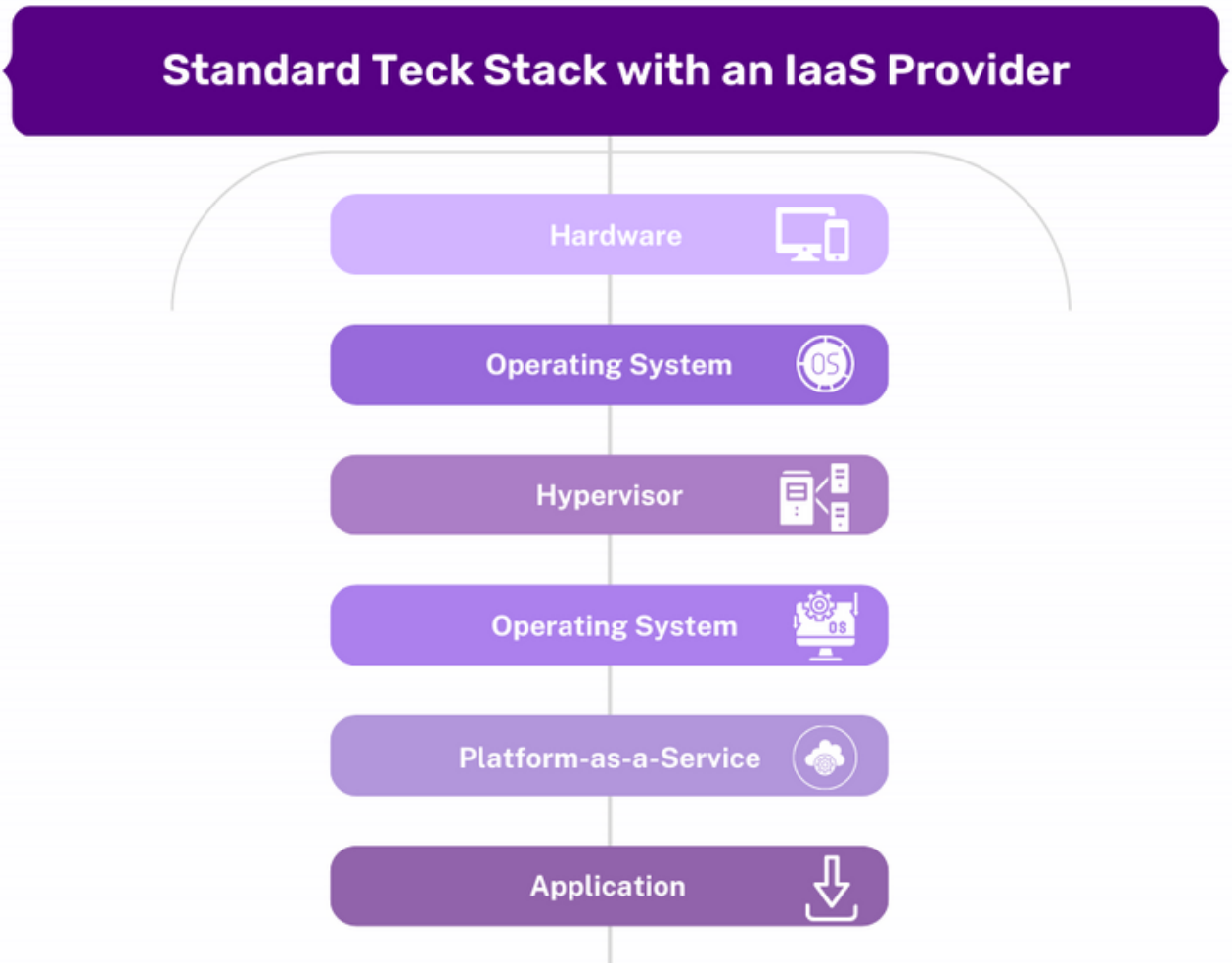


Being able to stand its ground against huge IaaS cloud services, bare metal - specifically bare metal cloud - combines the efficient, low latency exterior of alternatives like Big Data and IoT with the cost-reducing interior of Kubernetes. Unlike VMs pulling from a machine, bare metal runs straight from the machine, providing full capability, better utilization, and greater service control - all at a faster speed.

Let's look at the per-unit price of bare metal vs. IaaS, for example. Initially, pay per unit of resource consumption with IaaS will seem advantageous, especially if your application still needs to scale. Once more users flock towards your application, the IaaS model of “pay for what you use” will start bleeding your wallet. Bare metal, on the other hand, provides a flat rate to rent a bare metal machine, with the need to pay anymore being contingent on whether you want to add more machines or not.

Running your application on bare metal hardware can also reduce your IT costs by omitting pieces within a traditional IaaS tech stack that aren’t necessary in bare metal operations.

Strategy #2: Run your application on bare metal hardware



If you notice in the graphic above, the IaaS tech stack includes a hypervisor, but what it doesn't explicitly show is the hypervisor tax.

Hypervisor tax is the total cost of running the hypervisor and VM, including any costs like licensing and support, to operating systems and compute time. If this didn't sound bad enough, these costs typically ramp up as you scale, with VMs requiring more and more of these resources to run efficiently. Bare metal allows you to bypass these hidden costs - amongst the costs of OS licenses and servers - letting you pay that flat rate to rent the machine.

Bare Metal

NUMBERS & STATISTICS

In 2021, this market was valued at $5.5 billion, with a CAGR of 23% from 2022 to 2029.

$5.5 B
bare metal market

23%
CAGR, 2022-2029

The bare metal market is only growing, too. In 2021, this market was valued at $5.5 billion, with a CAGR of 23% from 2022 to 2029. With the increase in bare metal cloud utilization, who knows how far this goes.

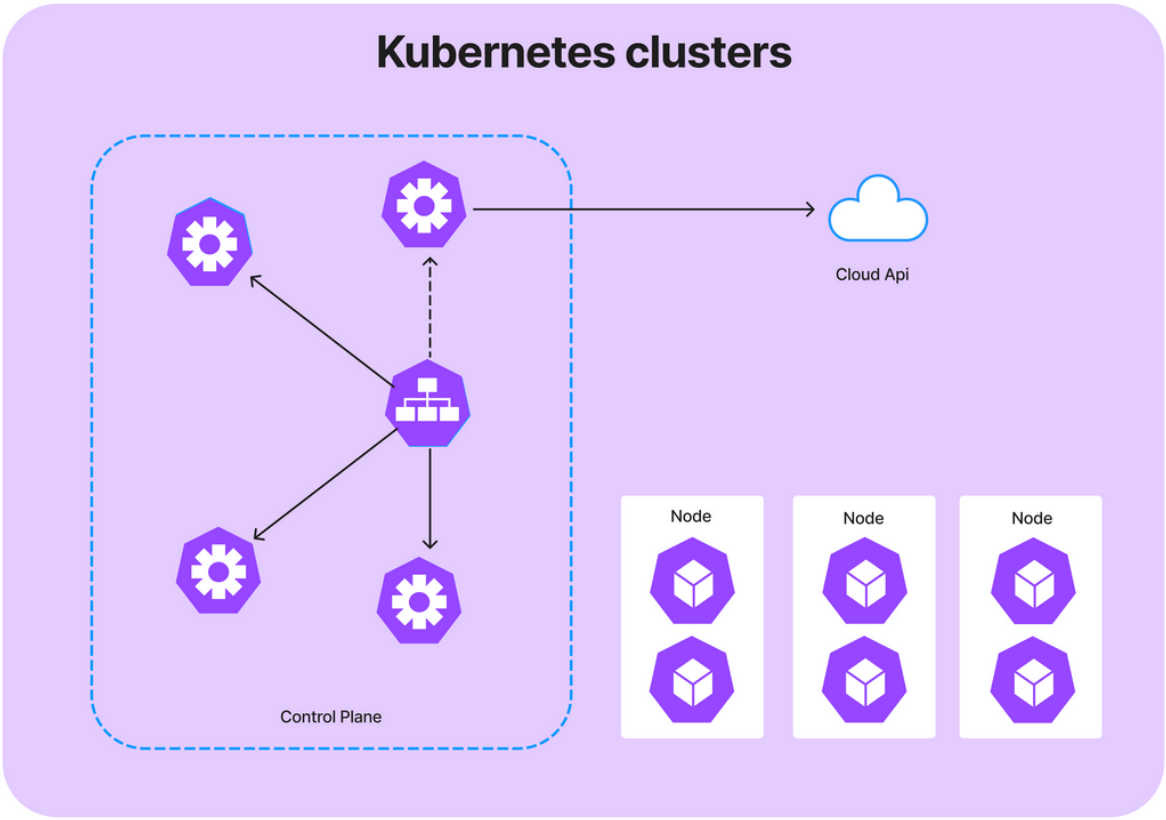
The process of utilizing a bare metal server is complex. From the start, configuration and management of a bare metal system requires the work of an experienced professional and some time to implement. Costs can be high initially, however, as your solution scales, the cost of running on a bare metal server will be mitigated. Instead of having your own bare metal server, running your solution within one at a data center might prove to be the most cost effective method.

Strategy #3

Embrace Kubernetes architecture

SaaS companies and Kubernetes are like two peas in a pod, like the Batman and Robin of the tech-driven world.

Software housed in companies like Shopify, Hubspot, and Adobe are used by millions of people around the world daily, pushing them to the extremes. Kubernetes not only supports the everyday operations of these software applications, but also supports the budget sheets of their parent companies



Embrace Kubernetes architecture

How does Kubernetes create opportunities for companies - from startups to industry juggernauts - to cut their IT costs and maximize their resource use? Through their automation capabilities.

Here are some automation attributes of Kubernetes and how they slash your IT costs:

- Depending on your workload, Kubernetes can automatically scale your clusters up or down and allocate the minimum amount of resources required to operate a cluster operationally - potentially reducing the amount of resources used.

- Automated load-balancing will distribute traffic across different services to ensure application stability, encouraging constant application uptime and stability and reducing overall churn.

- Automated self-healing allows Kubernetes to restart or kill your application if necessary, heal it, and then redeploy contingent on whether the app meets a set of user-defined health requirements. This backup system ensures that your apps will always be operational.

I’m sensing you see a common theme amongst these attributes: the removal of interference within the development, deployment, and maintenance processes. Coupled with containerized microservices, Kubernetes is able to significantly slash your IT spend.

NUMBERS

In the U.S, the average Kubernetes engineer's salary is $156,773, according to Ziprecruiter.

$156,773

Kubernetes Engineer Annual Salary

Because Kubernetes provides a simple and all-encompassing solution, the technology itself is complex. If configured incorrectly, your application performance can actually decrease, and IT costs will drive up as a result of faulty deployment. In addition, the migration process could take days, even weeks, to accomplish with a professional. Looking to implement Kubernetes into your organization? We highly recommend that you have a Kubernetes engineer or professional on standby for this timely implementation.

Oftentimes, a salary can be the make it or break it moment in a budget. In the U.S, the average Kubernetes engineer's salary is $156,773, according to Ziprecruiter. Coupled with the time and resources spent during the onboarding phase, you'll likely be spending more money than anticipated. If money and extending your runway is a top priority, especially at the moment, then hiring another engineer might not be the best decision financially (though it's totally up to your discretion).

However, managed Kubernetes has become a viable alternative to hosting your own Kubernetes in-house.

In a 2021 survey conducted by the Cloud Native Computing Foundation (CNCF), it was found that 79% of respondents were found to be using “Certified Kubernetes Hosted platforms” instead of pushing for their own Kubernetes.

And that number is expected to grow in the next couple of years.

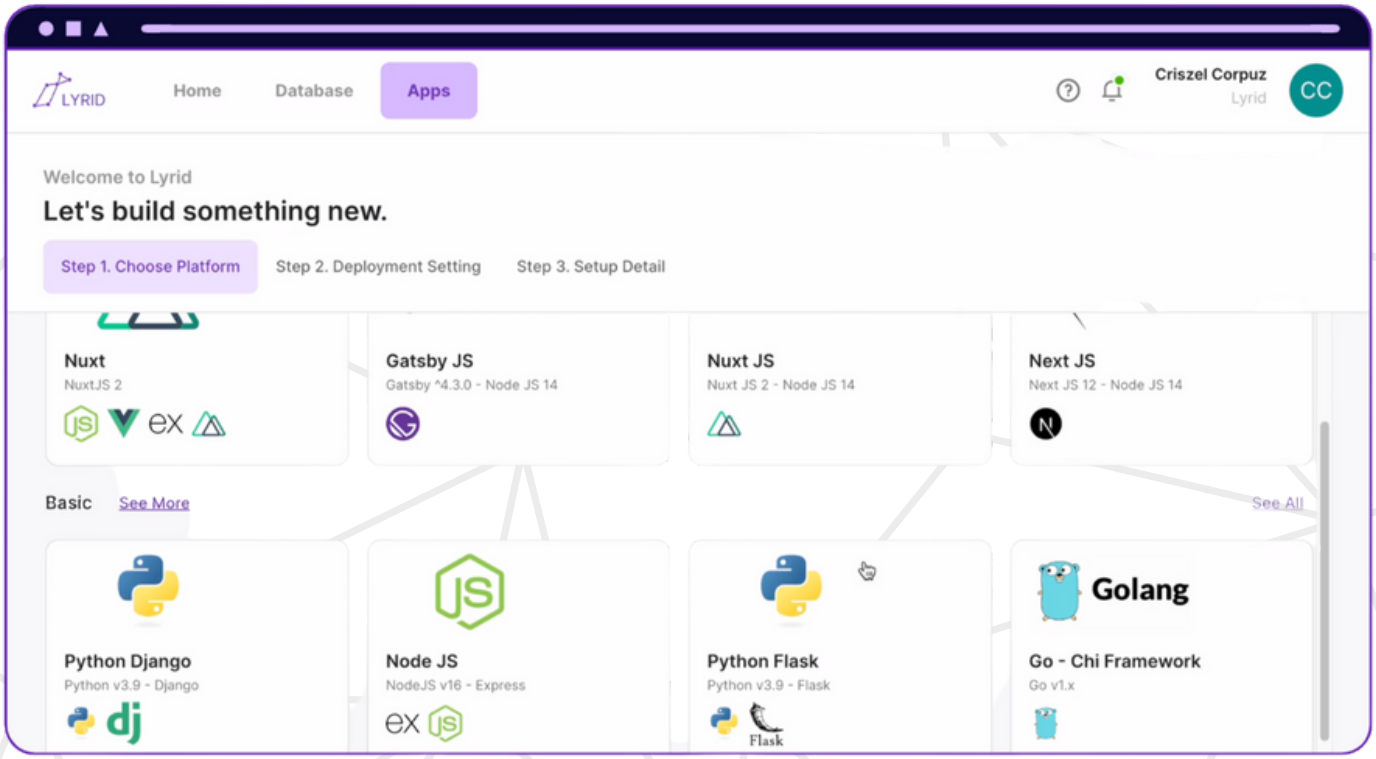
The Holy Grail of Cutting IT Costs

Want to know the #1 way to cut your IT costs?

Short answer: Lyrid

Long answer:

Lyrid is a multi-cloud solution geared towards making development more affordable and automated. With our experience and expertise in managing Kubernetes, we strive to streamline your engineering processes and cut your costs.



Strategy #1: Containerize your application

We're able to cut your overall IT costs by:

- Partnering with local data centers and using their bare metal hardware to give your application the full utilization of physical equipment while avoiding the overhead costs of VMs (we recently partnered with Biznet Gio, Indonesia's largest ISP, for data centers- click here to learn more!)

- Giving you access to deploy and manage your clusters on our Kubernetes automation platform; providing all of the automated goodness of Kubernetes without the hefty price tag of a Kubernetes engineer to manage it

We've been told that Lyrid Kubernetes has truly saved applications, however we would like for you to be the judge of that.

Strategy #1: Containerize your application

Partnering with us means partnering with a company that truly cares about your solution.

Partners and clients receive:

- Support from our DevOps team with 16 years of experience for easy microservices migration
- Access to Lyrid's local data center that offer cheaper bare metal hardware
- Specialize in managed Kubernetes - You do not need to know Kubernetes to take advantage of Kubernetes
- Integration of tried and tested preconfigured solutions from Lyrid partners, saving you development time and energy with 1 click

And have proven to be successful!

Our Kubernetes platform is aimed at giving you a streamlined and convenient Kubernetes experience, with personalized customer service to help guide you through any processes. The results we drive are profitability, efficiency, and an unparalleled customer service experience.

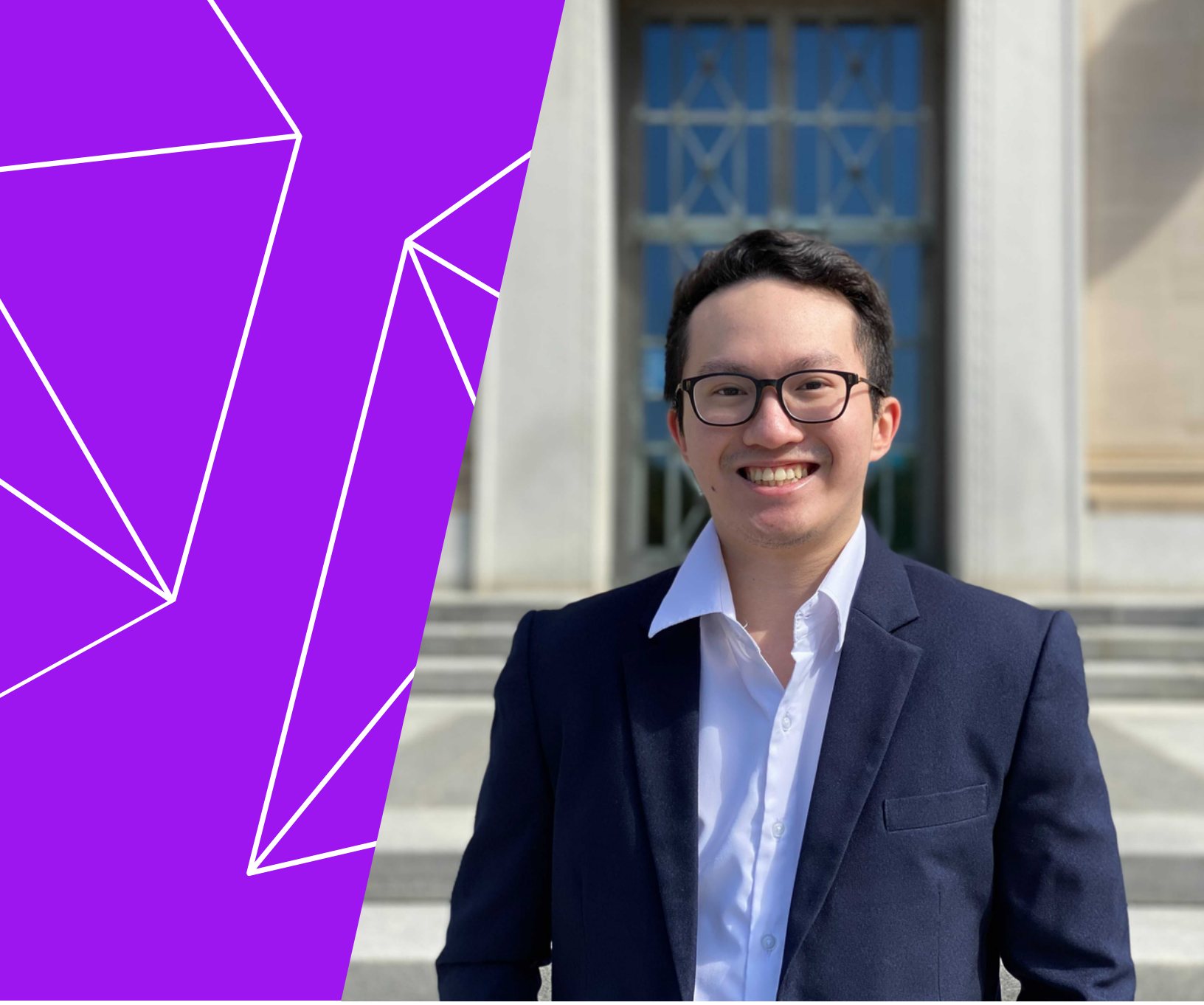
What Now?

“Experience is the teacher of all things.”
-Julius Caesar

You may have experienced the epic highs of using Kubernetes and microservices, the tragic lows of relying on monolithic applications and VMs, but at the end of the day - regardless of outcome - these highs and lows are just experiences.

To experience is to learn; we spent the entirety of the blog teaching you about containers, microservices, and Kubernetes - but why not experience them firsthand?

If you’re interested in experiencing our Kubernetes platform, visit our product page!



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Questions?
Contact us.

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