BREAKING THE MEGA CLOUD CHAINS: HOW TO GAIN MORE BY PAYING LESS FOR YOUR CLOUD INFRASTRUCTURE

IS IT POSSIBLE TO PAY LESS BUT GET MORE?

Surprisingly, yes! At least when it comes to your cloud services.

It's 2023; we've been through a pandemic, recession, record inflation, global unrest…most organizations that have made it this far are still struggling to get to a comfortable place.

Many companies are facing huge pressure to trim back their infrastructure spend and increase the value they are getting from those dollars.

As this pressure builds, companies must truly evaluate their cost of infrastructure and educate themselves on alternatives to high cost mega cloud providers.

Like most companies, did you start out using AWS, Azure, or Google Cloud? The "big 3" providers are generally first to come to mind when cloud resources are required.

It makes sense - they are well-known, trusted, and easy to start using. The initial costs are low. However, as your cloud requirements grow, so does your bill. And often, by a LOT. But, by that time, it often seems like a larger pain than it's worth to leave and bring your workloads elsewhere.

We're here to tell you that it absolutely is worth it.

Let's talk about when moving to a new cloud platform makes sense, what options exist, and key considerations to make regarding public versus private cloud.

"If you're operating at scale, the cost of [public] cloud can at least double your infrastructure bill."

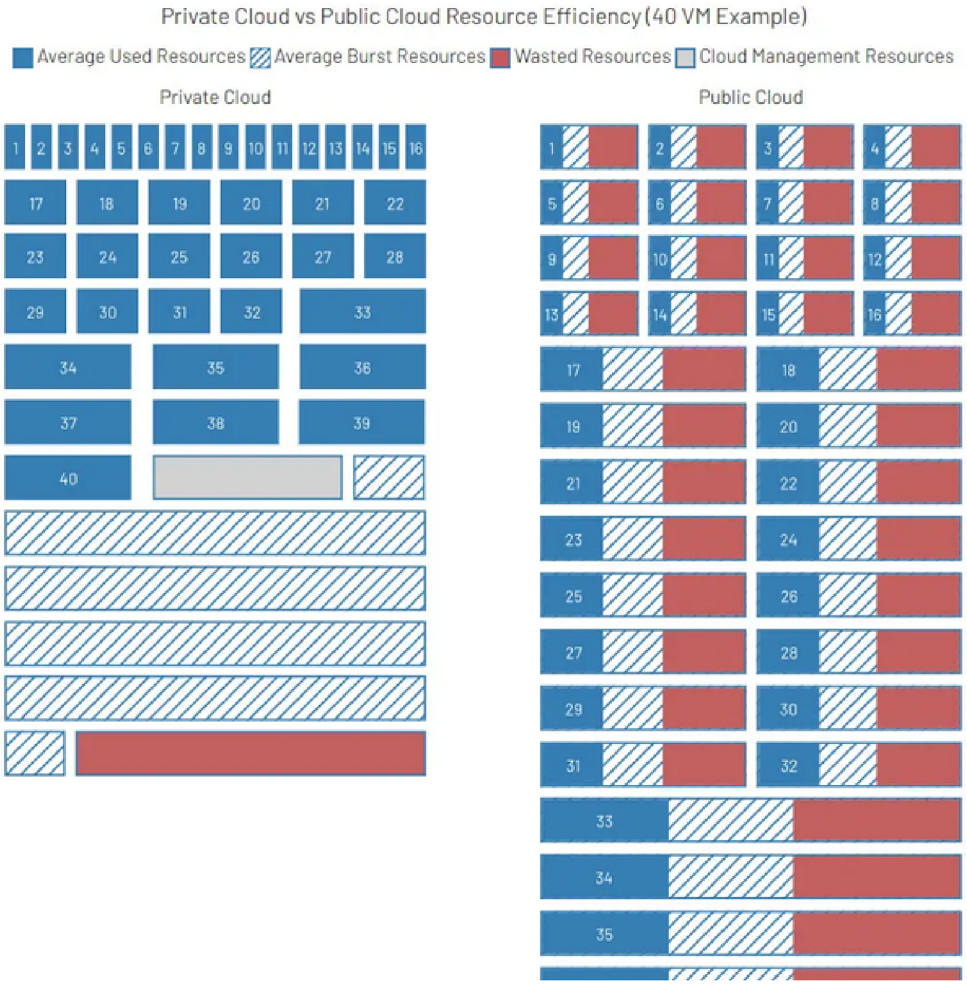
The Cost of Cloud, a Trillion Dollar Paradox by Andreessen Horowitz

PUBLIC CLOUD ADVANTAGES?

A search on “public cloud advantages” will nearly always include some statements about public cloud being “less expensive” than alternatives. Unfortunately, this common narrative is simply not true for many situations!

Public cloud for companies with small total workloads is absolutely a great choice. If you are interested in what is “small” and ways to understand when your tipping point occurs, check our A Cost Tipping Point Guide for IT Professionals: Public vs Private Cloud. The advantage we are speaking about comes in for companies that have reached their tipping point. As you scale this advantage becomes very meaningful.

At scale the resource management advantage becomes larger and larger in raw savings. A small deployment example of just 40 VMs can give you an idea of what is going to happen. Keep in mind that many companies use thousands of mixed size VMs or hundreds of very large VMs. The costs can very quickly become significant.



In particular, we created programs to help SaaS companies and hosting and cloud providers that run on those public clouds to exit as they have found themselves with little or no profit just because of the cost of the public cloud.

More information about alternatives to public cloud is needed to help leaders in IT explain when public cloud is right or when private cloud, bare metal, colocation, or owned data centers are the right choice.

IS PUBLIC CLOUD MORE COST-EFFECTIVE THAN PRIVATE CLOUD?

All providers, both traditional hardware companies and cloud providers, quote significant savings over traditional public clouds. The cost of on-demand open source private clouds, including management by either company or the provider, is falling between 20% and 60% less than resources from the public clouds or closed source private clouds.

Public clouds offer a number of user conveniences when it comes to quickly deploying and scaling clouds when you need them. But if you are responsible for driving profitability in your company, you know how expensive a public cloud can be. When you begin to hit certain cloud spending tipping points each month, it may be time to look at public cloud alternatives.

Cost Factors	Public Cloud	OpenMetal Cloud
Wasted Cloud Resource Costs	While waste can result from mismanagement, wasted resources are more often an issue of using a cloud not built for your unique needs. This results in paying for resources you DON'T need to get the resources you DO need.	Each OpenMetal Cloud Cores give you three managed bare metal servers with ownership over the entire pool of server resources. Additionally, you have access to root configurations of each server to customize settings for your unique workloads to achieve better control over compute and storage utilization to maximize our cloud spend.
High Data Transfer (Egress) Costs	While most public cloud providers do not charge for ingress (incoming data), they have found that egress (outgoing data) offers an opportunity to make a healthy profit margin, creating a costly line item on invoices.	Each OpenMetal Cloud Core comes with a certain amount of egress included. If you exceed this amount, charges are incurred by the megabit at the 95% percentile. This flattens bursting and leads to more controlled costs, providing a significant advantage over per GB billing used by most public cloud providers.
Unpredictable or Hidden Costs	Lack of control over all of these factors can result in complex pricing models that are hard to understand or predict, which can result in unexpected expenses and possible budget overruns.	Each OpenMetal Cloud Core offers transparent and fair hardware-based pricing to simplify billing and make your expenses more predictable.

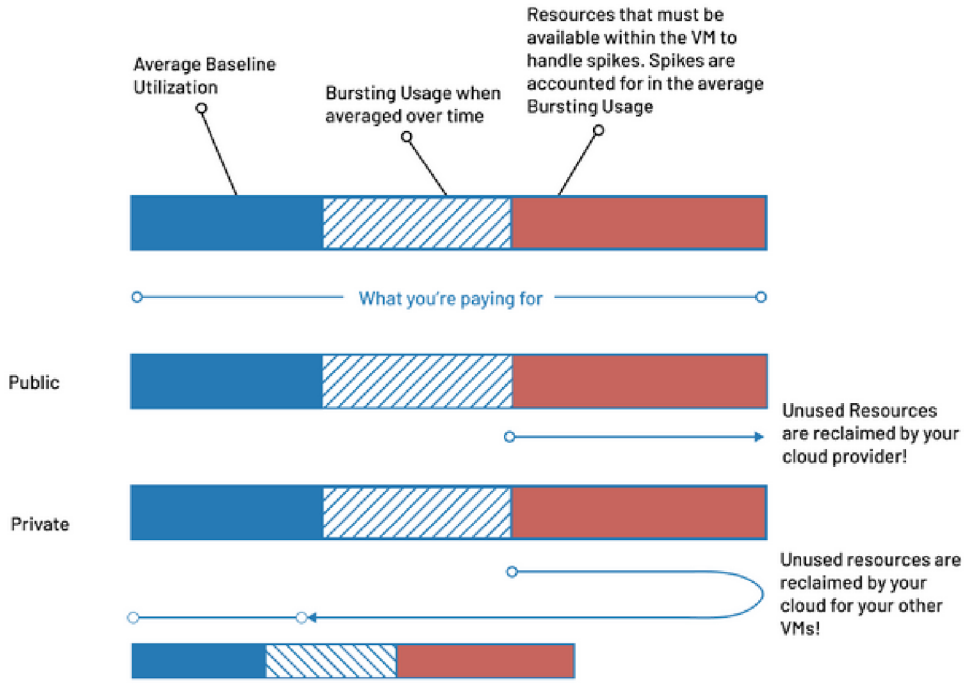
PRIVATE CLOUD VS PUBLIC CLOUD RESOURCE EFFICIENCY

When you lease a virtual machine from a public cloud, you must pay for a VM for a workload that will use roughly 30% of the resources on average and will burst to use, when averaged out over time, no more than 30% more. When averaged, this leaves roughly 40% of the VM wasted.

Unfortunately, you must still lease this average wasted space by getting a much larger VM than your workload really needs. If you do not, your workload will run into limits periodically that will ultimately degrade your performance both at the rare, but critical, times your workload needs the full resources and at the times that the workload should already have finished but could not because it was delayed by resource constraints.

The advantage private cloud has over public in this area comes from a basic fundamental difference: you are leasing all the resources of the hardware and not just the virtual resources.

This means when you provision a VM you can provision the size you need, but during the time that VM is not spiking to consume the top level limit of the VM, those previously wasted resources are accessible via your private cloud software to be used by your other VMs!



In public cloud, your wasted resources are often designed to be reclaimed by the public cloud to be resold to other users. This is another key area for savings and a strong reason to move away from public cloud offerings.

Occasionally you may hear the idea that if there is so much waste in the VM why not add more workloads into the VM? That is certainly one of the options, but it also negates the key benefit of workload separation that is fundamental to cloud and virtualization. And your system admin team or your SREs will be very angry with you! Usage of containers in VMs is a reasonably safe way to do this and is common already but typically for related parts of a single system which has its constraints. Either way, that requires quite a shift in thinking and typically design.

ON-DEMAND OPEN SOURCE PRIVATE CLOUDS COST SIGNIFICANTLY LESS THAN PUBLIC CLOUDS OR CLOSED SOURCE PRIVATE CLOUDS

Costs and benefits vary by a company's current methods to deliver IT resources. Generally though, the cost of on-demand open source private cloud, including management by either company or the provider, is between 10% and 60% less than resources from the public clouds or closed source private clouds.

Private clouds can offer attractive cost considerations because, as a single-tenant environment, you have better control over customization of resource utilization. This also delivers advantages in security and operational efficiency. But private clouds can also carry significant risk of capital and operational costs, as well as associated deployment and scalability delays.

Cost Factors	Private Cloud	OpenMetal Cloud
Hardware and Infrastructure Costs	Traditional private clouds typically require capital investments in servers, storage, and networking equipment which can be a significant obstacle to both upfront costs and the time it takes to build and deploy.	Each OpenMetal Cloud Cores give you three managed bare metal servers with root level access, that you can deploy within 45 seconds, and be billed on as little as an hourly basis.
Licensing Fees	Most traditional private clouds include vendor licensing fees on operating systems, virtualization platforms, and other tools that can quickly increase monthly cloud costs.	OpenMetal Cloud Cores are built on OpenStack and integrated with open source solutions to minimize (or remove) licensing fees, as well as commonly associated vendor lock-in cost concerns.
Maintenance and Support Costs	Most traditional private clouds require costly IT service and support staffing to manage the physical well-being and security of physical infrastructure.	OpenMetal Cloud Cores may offer a private cloud model, but it is still a cloud. Our team manages the hardware and includes assisted support to help you minimize IT staff and/or OpEx costs.

WHAT ABOUT CLOUD REPATRIATION COSTS?

Cloud repatriation is when a company is moving workloads out of the public clouds to be under the company's direct responsibility. This is typically used to describe when moving from the "mega clouds" (AWS, Azure, GCP, etc.) and is generally done to reap the cost-savings benefits.

What actually happens when a company moves the workload is more accurately called "workload repatriation" in most scenarios. Thus, cloud repatriation is often a misnomer.

The advent of cloud repatriation as a term may have come from the idea that a company would be forced to not only move the workload but also move it "off the cloud". The important distinction here is the public cloud is not "the cloud". The cloud is a concept of separating hardware management from the usage of resources supplied by that hardware.

In years past, it was complex to create your own cloud, but today many providers have released software or hardware and software combinations that make it trivial to create a cloud. Therefore, repatriation costs have fallen.

Cloud repatriation does not require moving away from a cloud approach to infrastructure.

Even if you have determined that your workload is a better fit for non-cloud approaches, it will often be the case that it is only the primary workload and not secondary supporting infrastructure.

For example, you will still want object storage in your cloud for backups. But you might want direct hardware access for your databases without VM or container overhead.

What about the resources needed to migrate to an OpenStack private cloud? Doesn't that negate any cost savings?

The typically cited issue with OpenStack private clouds is the complexity to establish it initially. The required skill set of a team to deploy and manage the cloud was a barrier. Risk of failure was high. Upfront investment was necessary.

By eliminating the risks and time to production utilization, on-demand private clouds open a critical door for both smaller IT groups and large companies.

Our product, OpenMetal Private Cloud, accomplished the Trivial to Deploy moniker in 2020.

ADDITIONAL ADVANTAGES OF PRIVATE CLOUD OVER PUBLIC CLOUD

Empowering users to leverage new technologies without additional cost or red tape

First, as key technologies are included within a modern private cloud, for no additional cost, it empowers users to leverage new technologies on their timeline and without complex red tape.

If a development team wants to experiment with a Kubernetes based software deployment, the models and system are already available to them within their current IT infrastructure.

Retaining valuable in-house IT teams and talent by leveraging self-managed, on-demand private clouds

Second, many companies are facing the move from in house data centers or colocation to cloud.

The current IT team has significant value and that value is often partially negated by the move to a public cloud. Moving to a self-managed, on-demand, private cloud leverages that existing team. This gives a company the ultimate in cost savings while keeping talented people that contribute much more than just IT services.

The top self-managed offerings will offer onboarding services, ongoing training, and 3rd level support from the provider. They may also offer managed private cloud, and starting with that level of service may be logical as well. Self-managed provides the ultimate cost savings and leverages the talented people you already have.

Traditional private cloud has its own challenges including wasted resources that can eliminate any benefits. But modern private cloud providers have matured along with the rest of the cloud market. Using an OpenMetal cloud as a hosted private cloud is just one example.

THE ONGOING NEED FOR BOTH TRADITIONAL HARDWARE PROVIDERS AND CLOUD PROVIDERS (PLUS YOUR OWN EXPERTS)

When a company moves their workloads out of a public cloud it does not mean they move their workloads back to how they were managed before. There is no reason to move to an older infrastructure model as having an in-house cloud is relatively straightforward nowadays.

Did you use Terraform or Ansible to automate the creation of your cloud infrastructure on AWS, GCP, or Azure? Well, guess what, that same infrastructure as code mentality is supported by popular private cloud software like OpenMetal clouds.

Did your Dev team fall in love with Kubernetes? It is pretty awesome, for sure, and guess what? Kubernetes is also standard stock for any modern cloud.

Many companies have found that skills need to be reintroduced to the company to take on “cloud administration”. This may be a concern for you, but the ease of running clouds has also dramatically advanced in the past 5 years. For self-managed clouds, **an experienced system administrator can learn to run clouds in as little as 40 hours**.

Relearning hardware is a valid concern, but one that has boundaries and multiple ways to de-risk including onboarding, service contracts, and management options that yield **per VM costs that are still well below mega cloud costs and can be temporary**.

WRAPPING UP

“The solution we found with OpenMetal was perfect because we are now able to spin up new environments very cost-effectively, get to market faster with our solutions, and still create an agile environment that supports existing production customers while enabling net-new customer opportunities.”

Gary MacDougall, CTO - Pypestream

Companies are deeply entrenched, and rightly so, into the concept of “cloud”. But, it is important to be crystal clear that the cloud is not a destination. It is an approach that can be implemented in many ways and not just by moving to a few mega public clouds.

We believe that reducing reliance on the hyper-scaler public cloud providers is both imperative and smart for businesses moving forward. Cloud costs have spiraled out of control and make growing your company nearly impossible once you’ve reached a tipping point.

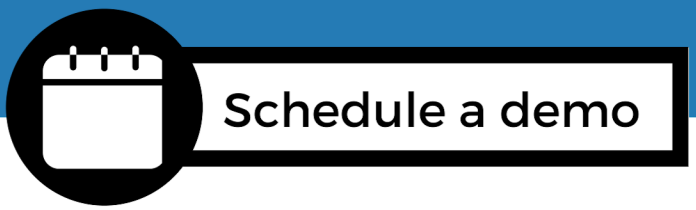
On-demand hosted private cloud removes startup expense and risk and gives you the benefits of the private cloud immediately. We are excited to introduce OpenMetal and invite you to explore a new option to be “in the cloud”.

REQUEST A TRIAL OF OPENMETAL CLOUD >

ABOUT OPENMETAL

OpenMetal is a leading provider of open source cloud and infrastructure-as-a-service (IaaS) solutions. By combining the strengths of traditional public cloud, private cloud, and bare metal fused into an alternative cloud platform (powered by OpenStack and Ceph), OpenMetal eases accessibility to highly complex open source systems and allows companies of all sizes to realize new opportunities in performance, productivity, and profitability. A strategic member of the Open Infrastructure Foundation (OIF), OpenMetal is committed to empowering individuals – by themselves or within teams – to meaningfully contribute to the larger open source community to foster innovation that benefits all.

Did this resonate with your business needs? Contact our team to find out how OpenMetal can optimize your infrastructure and help you break away from exorbitant public cloud costs and restrictions.



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