



Solution Brief: **Constellation**

# TURN THE PUBLIC CLOUD INTO YOUR PRIVATE CLOUD

Constellation brings Confidential Computing to the enterprise world. Effortlessly create end-to-end encrypted and verifiable Kubernetes deployments in the cloud without changing your existing architectures or tools.

**Confidential Computing as it should be.**

# THE CHALLENGE

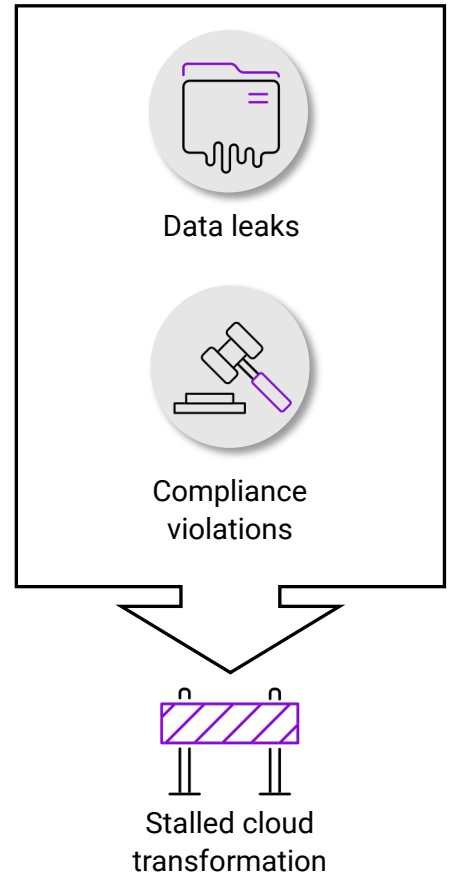
## HOW TO TRUST THE CLOUD?

Enterprises leverage the cloud to improve cost-efficiency, reliability, and scalability of business applications. However, cloud computing is also inherently subject to compliance and security concerns.

From the outside, it is impossible to tell who has access to your data in a cloud environment. The cloud infrastructure could be compromised by hackers or malware, or malicious insiders could be able to access underlying systems without leaving a trace. As such, data leaks and compliance violations are major risks associated with cloud transformation.

Consequently, enterprises are cautious to move sensitive or mission-critical applications to the cloud, leaving large amounts of potential value untapped. To address this, enterprises are spending large amounts on 3<sup>rd</sup> party cloud-security products. Still, the fundamental problem of having to fully trust the cloud infrastructure remains unsolved, as existing solutions can at best mitigate the risk or detect breaches after the fact.

### Risks in the cloud



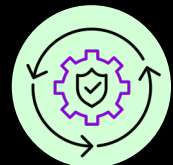
# THE SOLUTION

## Constellation

Constellation solves the "trust problem" of the cloud. Constellation leverages the latest Confidential Computing technology to make your containerized workloads end-to-end encrypted and verifiable. Even the cloud provider cannot access your data anymore.

Constellation works with all major clouds. With it, you can lift and shift existing Kubernetes deployments to unprecedented levels of security without changing tools or code. Constellation makes Confidential Computing easy-to-use, easy-to-scale, and enterprise-ready.

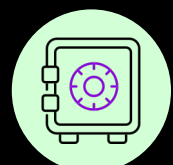
**Turn the public cloud into your private cloud.**



Everything always encrypted, even at runtime



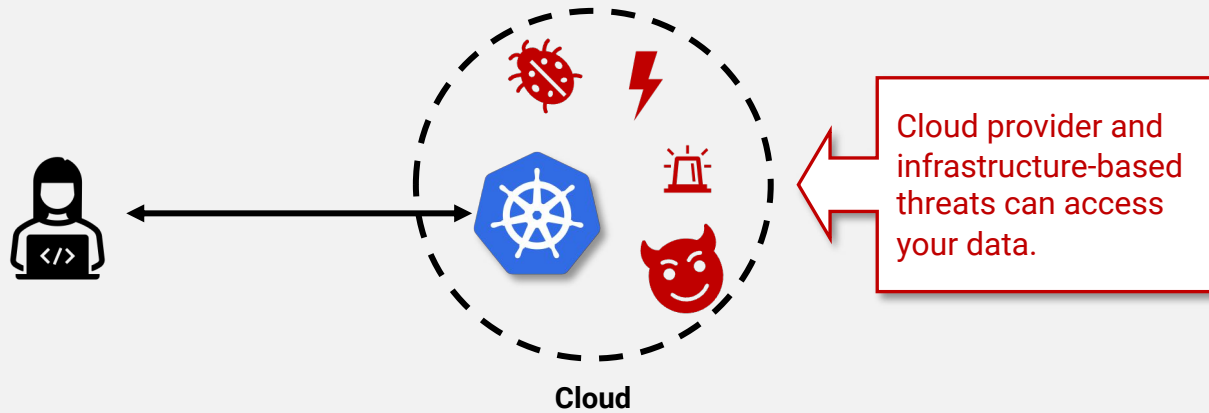
Everything verifiable



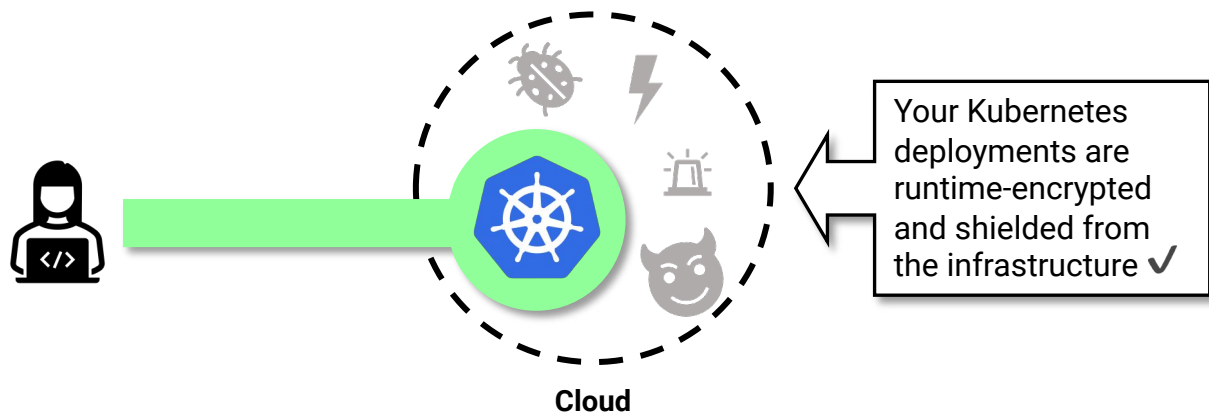
Complete isolation from cloud infrastructure

# THE CONCEPT

CONSTELLATION TAKES YOU FROM HERE...



TO HERE...



IN ONLY 3 STEPS WITH AN EASY-TO-USE CLI

```
$ constellation create <instance type> <size> [...]  
$ constellation init [...]  
$ constellation verify [...]  
  
$ kubectl [...]
```

Works with all your existing Kubernetes tools and integrations.

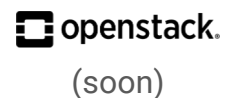
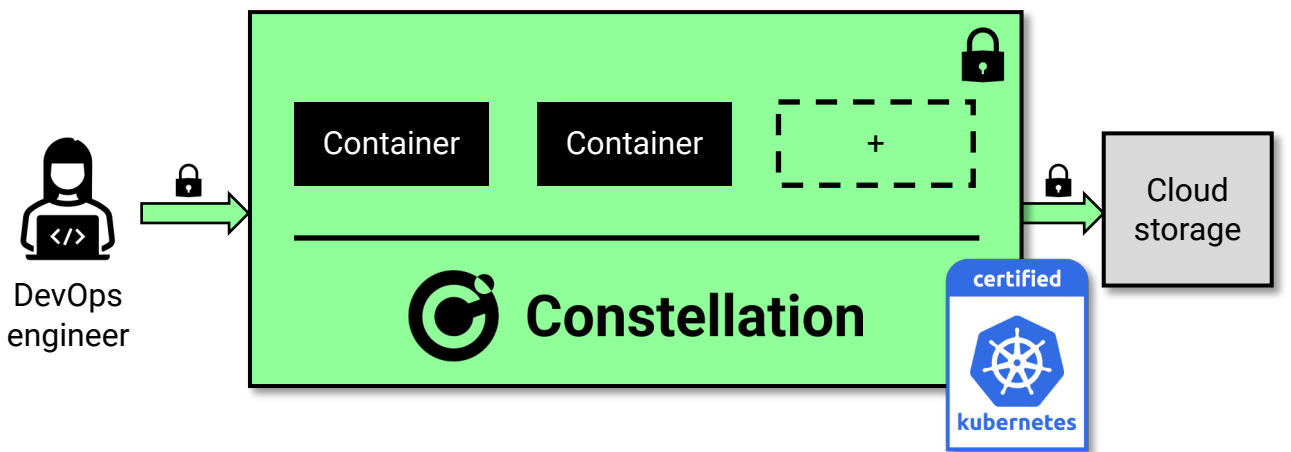
# PLAIN KUBERNETES FROM THE INSIDE

## CONFIDENTIAL CLUSTER FROM THE OUTSIDE



From the inside, a Constellation deployment looks, feels, and works just like normal Kubernetes. No need to change your existing tools and setups. Connecting to external services works just like you're used to and features like auto-scaling do as well.

What does change though is that your entire Kubernetes deployment is shielded from the rest of the cloud. This is achieved by running all containers and all of Kubernetes inside attested Confidential VMs, which are connected via a Confidential VPN and use Confidential Storage.

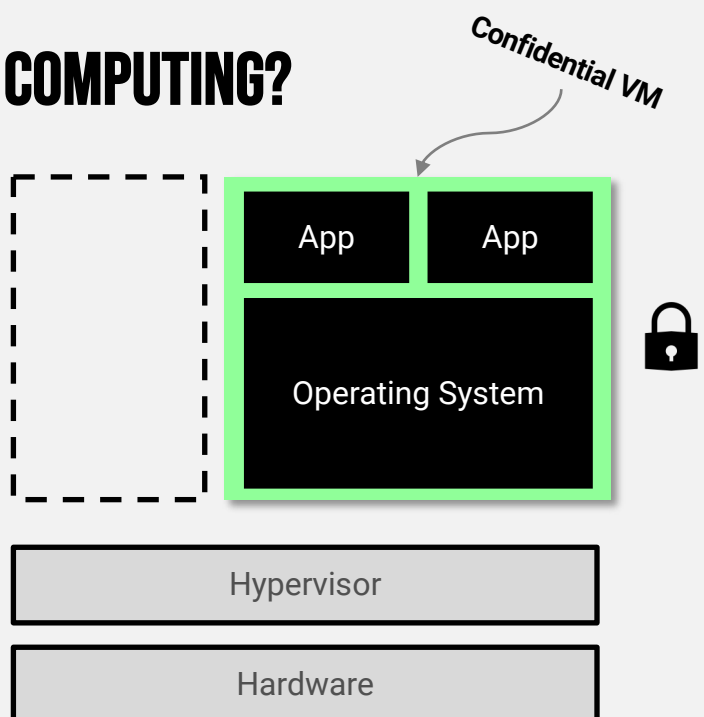


## WHAT IS CONFIDENTIAL COMPUTING?

**Confidential Computing** is what enables Constellation's groundbreaking security features. Recent processors from AMD and in the future also from Intel and Arm allow for the creation of Confidential VMs, which...

1. remain encrypted at runtime in memory,
2. are strongly isolated from the rest of the system, and
3. can be cryptographically verified.

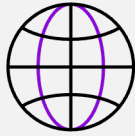
Confidential Computing-enabled hardware is readily available in all major clouds. Constellation puts the hardware to use at scale and manages all the Confidential Computing-specific aspects.



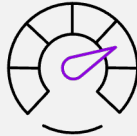
# KEY FEATURES



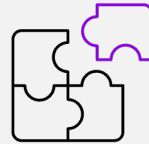
True end-to-end confidentiality



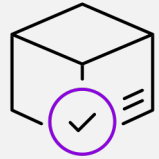
Multi-cloud



Performance



Easy-to-use,  
easy-to-integrate



Runs and scales  
all containers

## EMBARK INTO THE FUTURE OF CLOUD SECURITY WITH CONSTELLATION



Get in touch to schedule a personal demo.

[contact@edgeless.systems](mailto:contact@edgeless.systems)

[www.edgeless.systems](http://www.edgeless.systems)



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