



MANAGED KUBERNETES MEET THE FUTURE OF AI AND ML



WITH CLOUD&HEAT



OVERVIEW



1. Overview
2. Cloud&Heat
3. Managed Kubernetes
4. Managed Kubernetes and secustack
5. Use Case: AI4BD
6. Wrapping up



BENEFITS OF CLOUD&HEAT



Data Security

Specifically important, if you have high requirements on data security and privacy



Located in Germany

Our ISO 27001 certified operation services are provided from Germany



Green Solutions

Sustainable operation of the digital infrastructure



Full Stack Provision

Full control from physical node (including e.g. GPUs), via Iaas up to k8s



High Flexibility

1. Individual user requirements are addressed by us
2. An infrastructure tailored for your application is provided



Remote as well as On-Prem

Stack is provided as fully-managed solution in our Public or Private Cloud as well as an On-Prem solution

JOIN THE CLOUD&HEAT FAMILY

1

Business

We value long-term partnerships and want to support your business development

2

Benefit

Benefit from a diverse and attractive C&H customer network from all over the world

3

Experience

Be part of our ecosystem and work alongside with us during the planning, construction and operations of your IT infrastructure

4

Sustainable

C&H combines sustainability with digitalization to reduce the global CO₂ footprint



WE USE 100% RENEWABLE ENERGY

WE LIVE GREEN IT



Reduction of Power Consumption

by eliminating onboard fans



Increase of Energy Efficiency

by water cooling technology



Reduction of Emissions

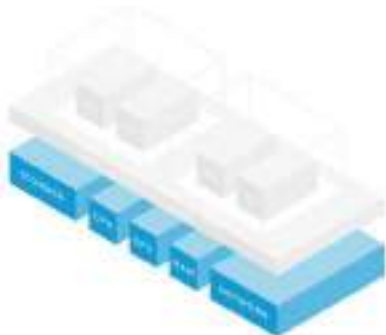
by waste heat recovery



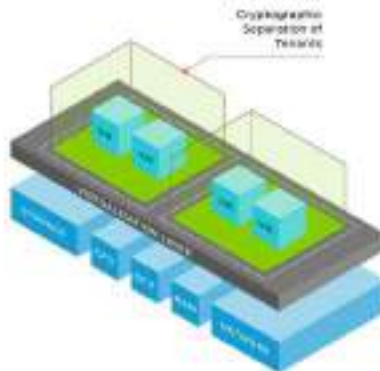


OUR OFFER TAILORED INFRASTRUCTURE

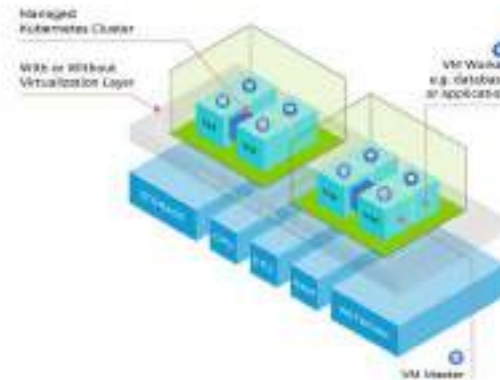
Bare Metal



Infrastructure as a Service
Powered by **secustack**



Managed Kubernetes



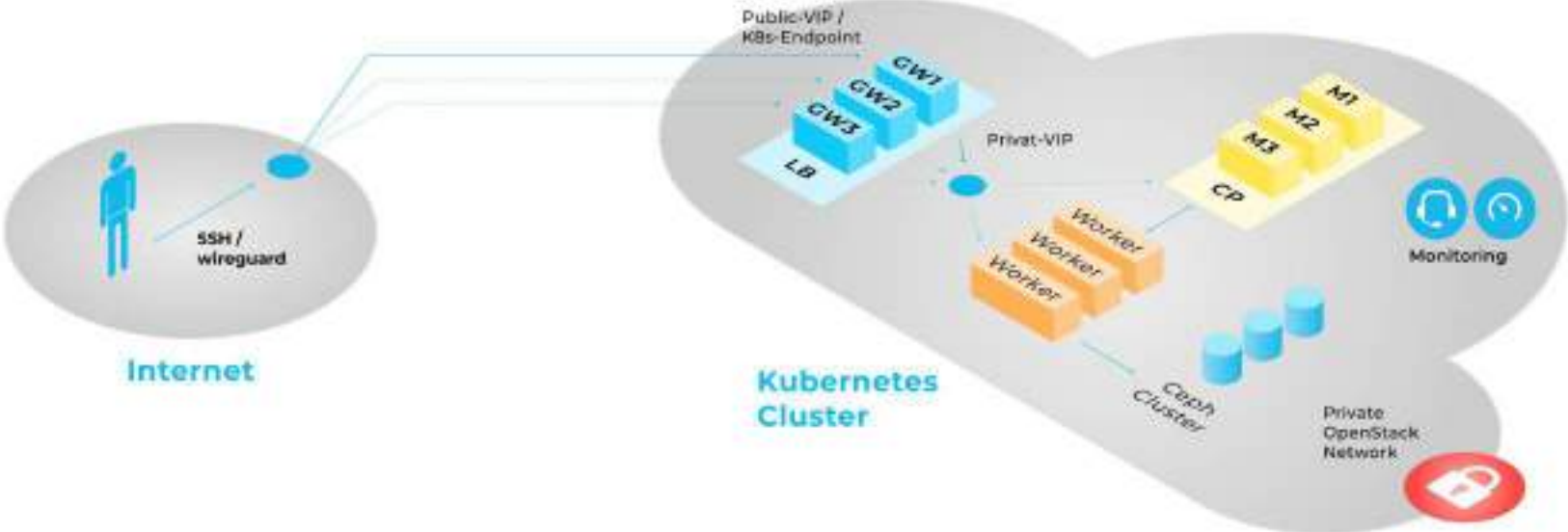


THE LAYER ON TOP: MANAGED KUBERNETES





KUBERNETES OVERVIEW





WHY TO CHOOSE MANAGED KUBERNETES BY CLOUD&HEAT?

1

Security-hardened
Infrastructure provided
by SecuStack

2

Future-oriented hence energy
efficiency and sustainability
without reducing the compute
performance

3

Entire software stack is based
on Open-Source software, thus
there is no vendor lock-in and
our technology stack can be
audited

4

High availability due
to redundant
infrastructure and services

5

24/7 monitoring and
operations

6

Include customer's
requirements
e.g. flexible selection of
update time



A SECURITY-HARDENED FOUNDATION FOR **MANAGED KUBERNETES (MK8S)**

1

Open-source based, therefore auditable source code
(trustworthy code base)

2

Cryptographic validation of the OS images for k8s VMs

3

Encryption of user storage (OS images, volumes)

4

Intra-cloud network traffic encryption

5

Optional: VPN as a Service (VPNaaS) for secured access to k8s cluster
(based on BSI-certified technology)

6

Optional: Key management service protected by hardware extensions like
HSM (Hardware Security Module) or SGX (Intel Software Guard Extensions)





MACHINE LEARNING & CLOUD&HEAT CUSTOMIZED MANAGED KUBERNETES

REFERENCE USE CASE AI4BD

AI4BD searched for a suitable cloud provider for their clients to process and secure their sensitive data.

Security hardened foundation + tailored infrastructure
= individual foundation for **Cognitive Business Robotics (CBR)**

CBR services:

- ▶ AI4BD delivers Cognitive Enterprise Systems with @CBR Coworker for every company.
- ▶ CBR coworkers are cognitive digital employees who work with people and cyber assets.
- ▶ CBR coworkers are immediately operational, learn continuously and secure knowledge in companies sustainably.



▶ [Link to website: Use Case AI4BD](#)





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