



# Swisscom Cloud: Managed K8s & Hands-on with Camptocamp

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Camptocamp: Julien Acroute, Federico Sismondi





# Presenters and Contacts



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# Agenda

1. Introduction of Swisscom Private Cloud	30 min
• ESC - Enterprise Service Cloud (platform) + portal demo	<i>Fabien</i>
2. Introduction of Swisscom Kubernetes Service	30 min
• KKP - Kubermatic K8s Platform, SKP - Swisscom K8s Platform	<i>Christian &amp; Fabio</i>
3. Information for the hands-on & Break	15 min
4. Hands-on labs for participants	2h
1. Bootstrap - Create the Kubernetes Cluster	
2. Init - Install tools	<i>Julien &amp;</i>
3. Story - Python based Particle Accelerator	<i>Frederico</i>
4. Run - Deploy the lab and play with the metrics	
5. Discover - Observability tools using EBPF	

# Enterprise Service Cloud

ESC version 3 - Platform and Services

ESC is the Swiss private (community) Cloud for companies, offering IT infrastructure, security, and managed services all from a single source – fully integrated, automated, locally hosted, and flexibly scalable.



## Enterprise Service Cloud (ESC) - Topics

- Why Swisscom and ESC Private Cloud
  - ESC Compliance and Certifications
  - Enterprise Service Cloud Catalogue
    - ESC Cloud is 4 Datacenters in Switzerland
    - ESC Services and Self-service Portals
    - Swisscom Cloud Connectivity Options
  - ESC OnPrem Stack in your own DC  
(same portals, same experience)
  - ESC AI Ecosystem and Platform





# Why Swisscom & ESC

## Experienced experts / Proximity

Regardless of the operating model (on-premise, private, public cloud or hybrid), our 400+ seasoned **cloud specialists** have the experience to support you.

**Tailored:** A customizable **Private Cloud** with managed services and integration into hybrid Cloud models for your workload and DR strategy



## Close at hand / Swissness

We take a local, trustworthy approach to implementing global innovations and are always close at hand to deal with your issues quickly, competently and directly.

Network and Cloud **operation and data storage are in Switzerland**

## Secure and confidential

From our networks to our data centers, we consistently ensure the **highest standards of security** which meet your **compliance** requirements. (Sovereignty, local regulations, Swiss Law for data protection)

Network and Cloud services, all with **security by design**.



# Certifications – Enterprise Serviced Cloud



ISO 14001

Environmental  
Management



ISO 9001

Quality  
Management



ISO 22301

Business  
Continuity  
Management



ISO 20000

IT Service  
Management



ISO 27001

Security  
Management



GAMP 5

Good Automated  
Manufacturing  
Practice

## Reporting

ISAE3402

ISAE3000





# Enterprise Service Cloud Catalogue



Pay-per-Use  
Pricing Model

## Extended Services



Provider  
managed



Professional  
Services



Application  
Management



Public Cloud  
Access



Advanced  
Security



Support  
ITSM/JIRA



On-Prem  
Solution

## Cloud Services



Virtual  
Machine



Managed  
OS



Managed  
DBMS



Kubernetes  
Service



File Service  
Premium



Object  
Storage S3



Gateway  
Services



Swiss AI  
Platform

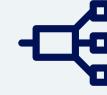
## Base Services



Swiss Data  
Centers



Storage &  
Backup



Network  
Overlay



Base  
Security



Log & Event  
Exposure



Service  
Catalogue



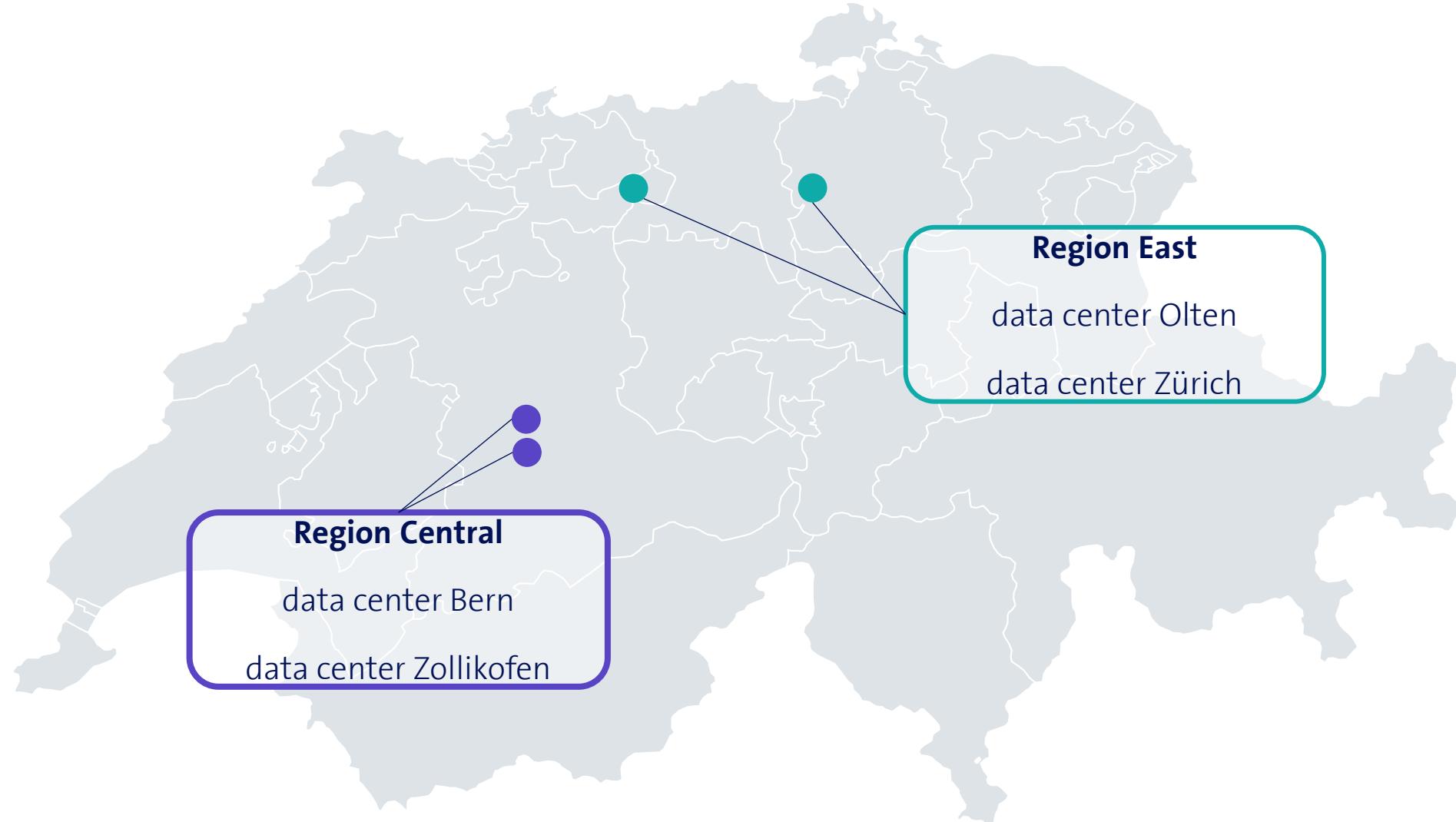
Portal/API



# Operated from Switzerland in Swisscom DataCenters

Enterprise Service Cloud Regions and Tier-4 DataCenters \*

Swisscom & C2C, 04.12.2025, KCD: Cloud Managed K8s & Hands-on





# ESC Services Catalog



## Compute Services

- IaaS VM (unmanaged templates)  
Option: Managed OS RHEL/Windows
- AI Platform: GPUaaS, Work Hub, GenAI Studio
- Kubernetes Services (legacy and new)

## Storage Services

- File Services – SMB, NFS + iSCSI  
Option Kubernetes with NFS/iSCSI CSI
- Object Storage compliant S3

## Database Services

- Managed MS SQL / Option: Oracle

## Network Services

- Managed Forward/Reverse Proxy

## Tenant Management

- Consumption, Reports and Administration

The screenshot shows the ESC Services Catalog interface. On the left, there's a sidebar with navigation links: Home, Dashboard, All Instances, All Requests, Compute, IaaS Services, Virtual Machines, AI Platform, Gen AI Studio, Kubernetes Service (which has a 'New' badge), and Managed Kubernetes. The 'Compute' section is currently active. To the right of the sidebar, there are three main sections: 'Storage' (File Service, File Service Kubernetes, Object Storage S3), 'Databases' (Managed MS SQL Server AO, Managed MS SQL Server), and 'Networking' (Managed Forward Proxy, Managed Reverse Proxy). Each section has an upward arrow icon in its header.

\* Large portfolio of SaaS and Hosted Services on top of ESC (e.g. ELK, Splunk, PGSQL, ...)



# ESC Portals: service specific orchestrators

## SCO – Swisscom Cloud Orchestrator

- Main portal deploy all service, some service have their own orchestration portal (focus consumption)
- Management of VMs with easy GUI
- Resource isolation and RBAC per "space"

## IaaS vCD – vCloud Director (VMware Hypervisors)

- Fine grained management of VM, Template and VM Networks
- Day2 action integrated for Managed OS

## NSX Manager - VM Distributed Firewall UI

- Control DFW Firewall objects and policies (tags)

## KKP – Kubermatic Kubernetes Platform portal

- Management of Kubermatic projects (RBAC, Quotas)
- Kubernetes cluster deployment and lifecycle

## IA Platform - ClearML Portal for GPUaaS

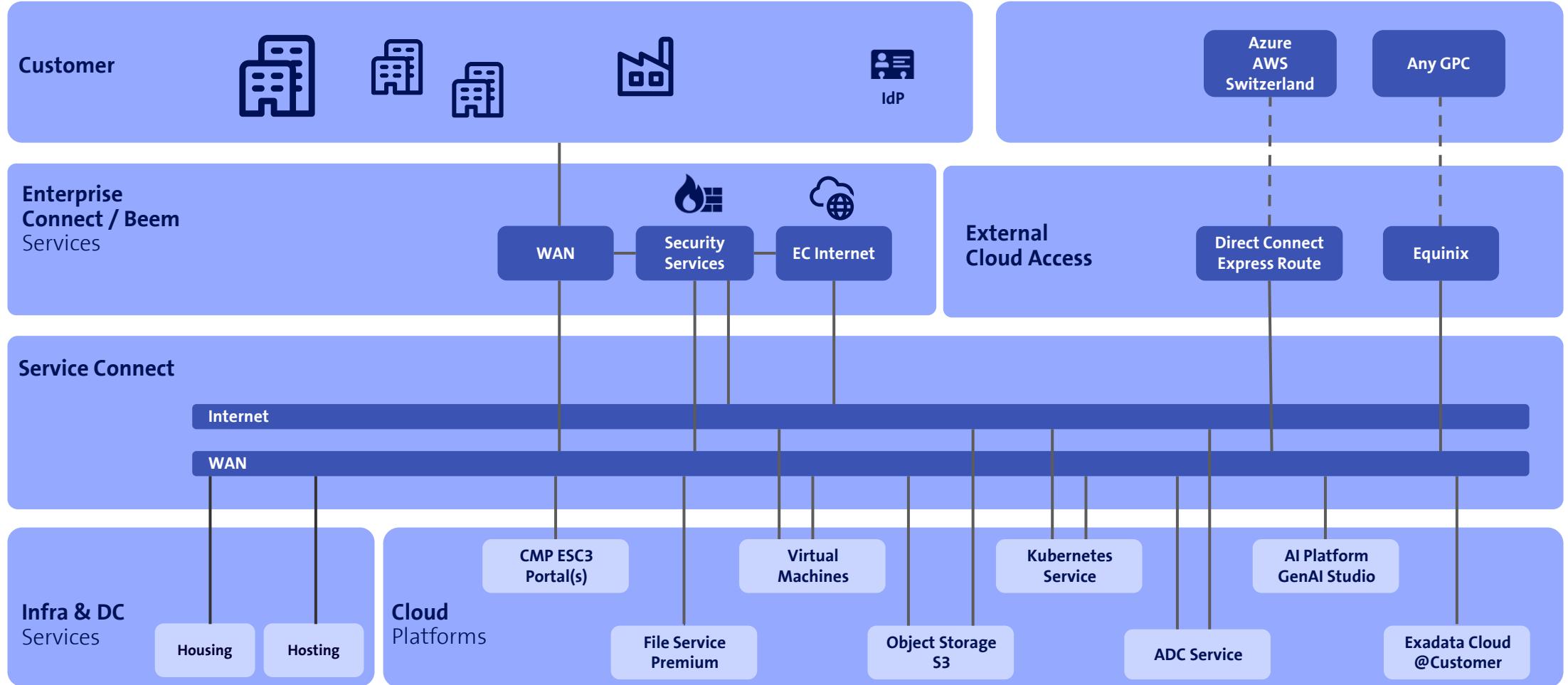
- GPU as a Service: orchestrate container on GPU hosts for inference or training – expose AI API endpoint
- K8s cluster with H100 (training) and L40S (inference)

## AI PaaS – GenAI Studio (Vellum)

- Customizable AI models, workflow, fine-tuning, ...



# Swisscom Cloud Connectivity





# ESC OnPrem: The Swisscom Private Cloud – in your own Datacenter

The instantiated services workload continue to run even if connectivity with provider is lost.

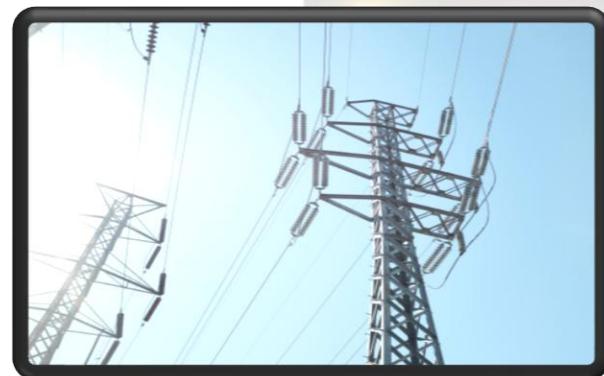
Same self-service Portal/API for both Cloud and OnPrem.

Issues to solved for critical infrastructure:

- Geopolitical situation
- Cyberattack / **Disaster Recovery**  
(Local and remote immutable backups)
- **Power shortage** / power supply failure
- **Data sovereignty** (exit strategy)
- Skills and staff shortages

Monthly charged (pay as you grow)

Scalable solution: S, M, L, XL stack size





# Enterprise Service Cloud OnPrem scope of service

## Extended Services



Provider  
managed



Professional  
Services



Application  
Management



Public Cloud  
Access



Advanced  
Security



Support  
ITSM/JIRA



On-Prem  
IT Solution

## Cloud Services



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Object  
Storage S3



Gateway  
Services



Swiss AI  
Platform

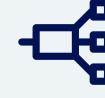
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Log & Event  
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Service  
Catalogue

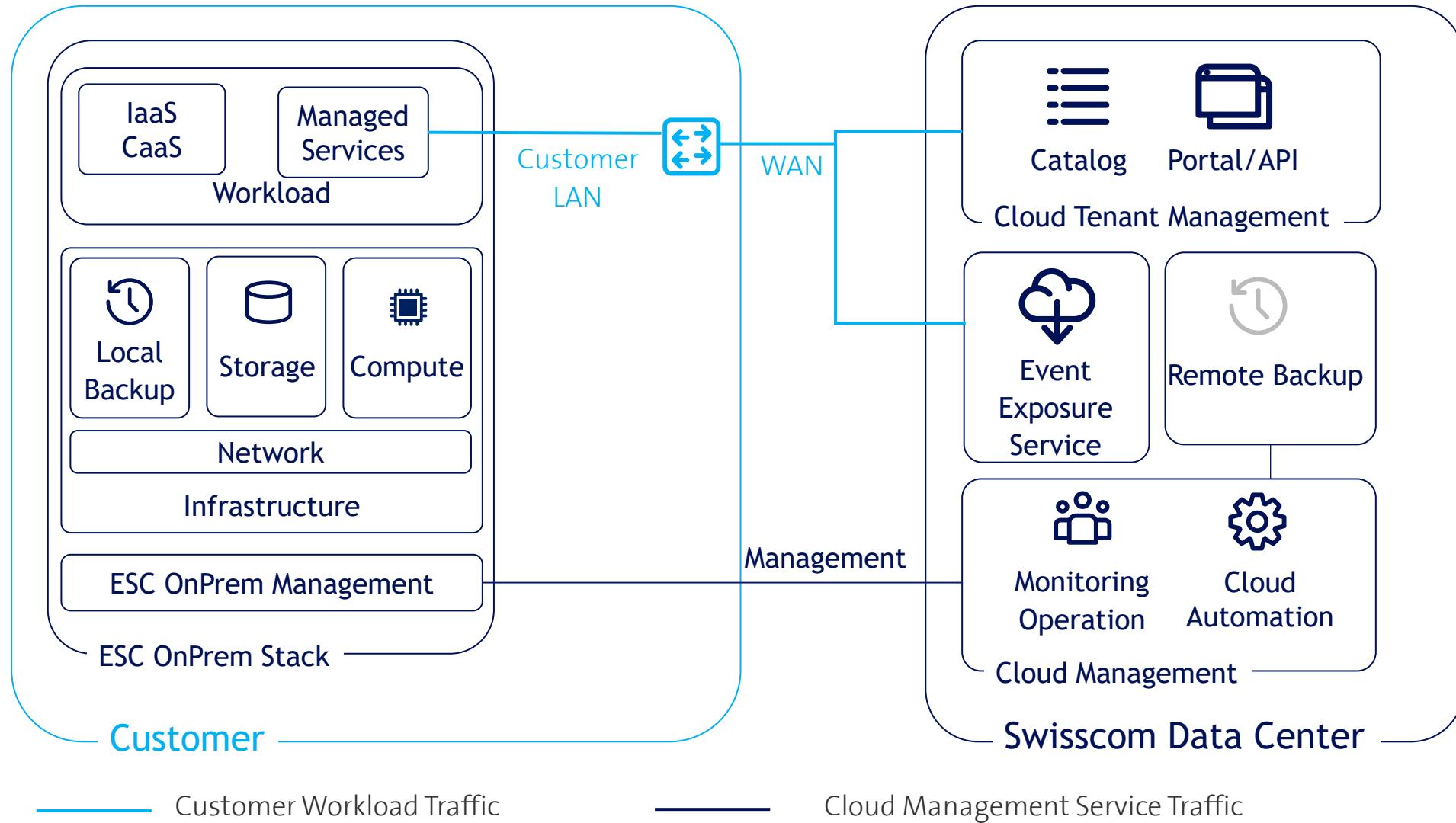


Portal/API



# ESC OnPrem High-Level Architecture

Swisscom & C2C, 04.12.2025, KCD: Cloud Managed K8s & Hands-on





## Partially or fully managed by Swisscom

You decide which cloud services you want to manage and which to outsource to us – wherever your workload is based.



Customer Service Manager



Support

### Partially managed

by Swisscom



Cloud Managed Services



Support and Reliability



Operation and Lifecycle



Professional Services S, M, L



Managed Application Services

### Fully managed

by Swisscom



Cloud Managed Services



Support and Reliability



Operation and Lifecycle



Professional Services S, M, L



Managed Application Services



Basic Functionalities

Infrastructure



# Composing products to support all needs of a private AI platform end-to-end

## Swiss AI Platform

<https://digital.swisscom.com/products/swiss-ai-platform/info>

### Inference Endpoints (private/public)

- Access to a wide range of models hosted on the Swiss AI Platform through APIs (LLMs, embedding & more)
- Users: Software Engineers, Data Engineers, Business User with technical knowhow
- Pricing: Token-based with a fixed base

### AI Work Hub

- Service offering for corporates that evolved within the area of "classical" ML (regression, classifiers, computer vision, NLP) and profit from generative AI.
- Provides access to managed compute infrastructure, large language model collection and many NVIDIA et al. tools and services.
- Enable collaboration across teams (Notebooks, Pipelines, Profilers, MLOps, etc.) for end-to-end lifecycle support.
- Users: Data Scientists, ML Engineers, Data Engineers
- Pricing: User subscription and pay-per-use (e.g. storage)

### Center of Excellence

- The Center of Excellence is a pool of experts from Swisscom, NVIDIA, Universities and partners ready to support you end-to-end in your AI journey - Thinking, shaping, developing, deploying and operating your AI solution – tailor-made to your needs.

### GenAI Studio

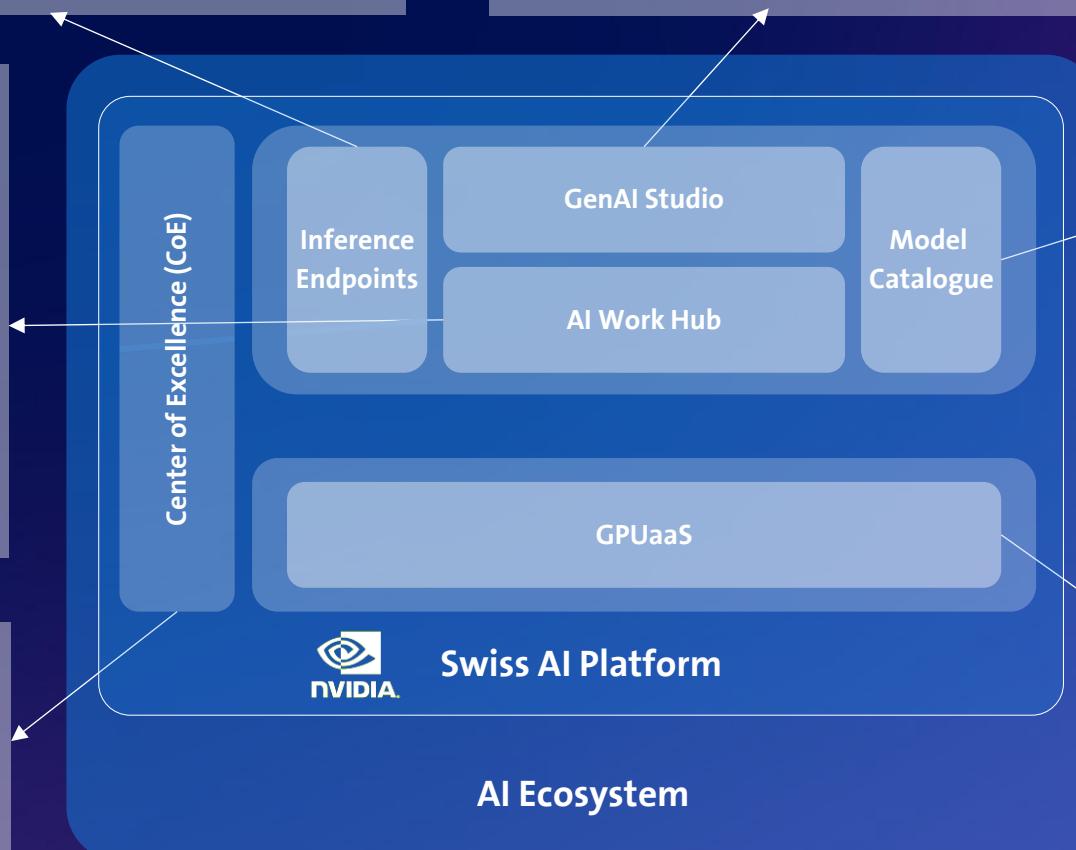
- Service offering for easy access to GenAI services (e.g., inference, retrieval augmented generation) through API endpoints → Login, create access credentials, select model, RAG it, if needed, and deploy.
- Users: Software Engineers, Data Engineers, Business User with technical knowhow
- Pricing: Token-based for inference and a surcharge for RAG-ing

### Model Catalog

- Library of curated open source and to-be-licensed models
- Model (co-)developed by Swisscom
- Users: Data Scientists, ML Engineers, Data Engineers
- Pricing: Token-based surcharge or request based

### GPU as a Service (GPUaaS)

- Service offering for companies, startups, universities that want security, reliability and performance of dedicated hardware to run compute intensive scientific experiments or any other custom models – min. 1xL40S up to several DGXs (1 DGX = 8 x H100).
- Bare metal with minimal configuration and monitoring tool provided.
- Users: Software Engineers, Research Engineers, ML Engineers
- Pricing: Pay-per-use or monthly basis





# Demo

## ESC Portal

- Service deployment (e.g. S3)

## vCD/NSX Portals

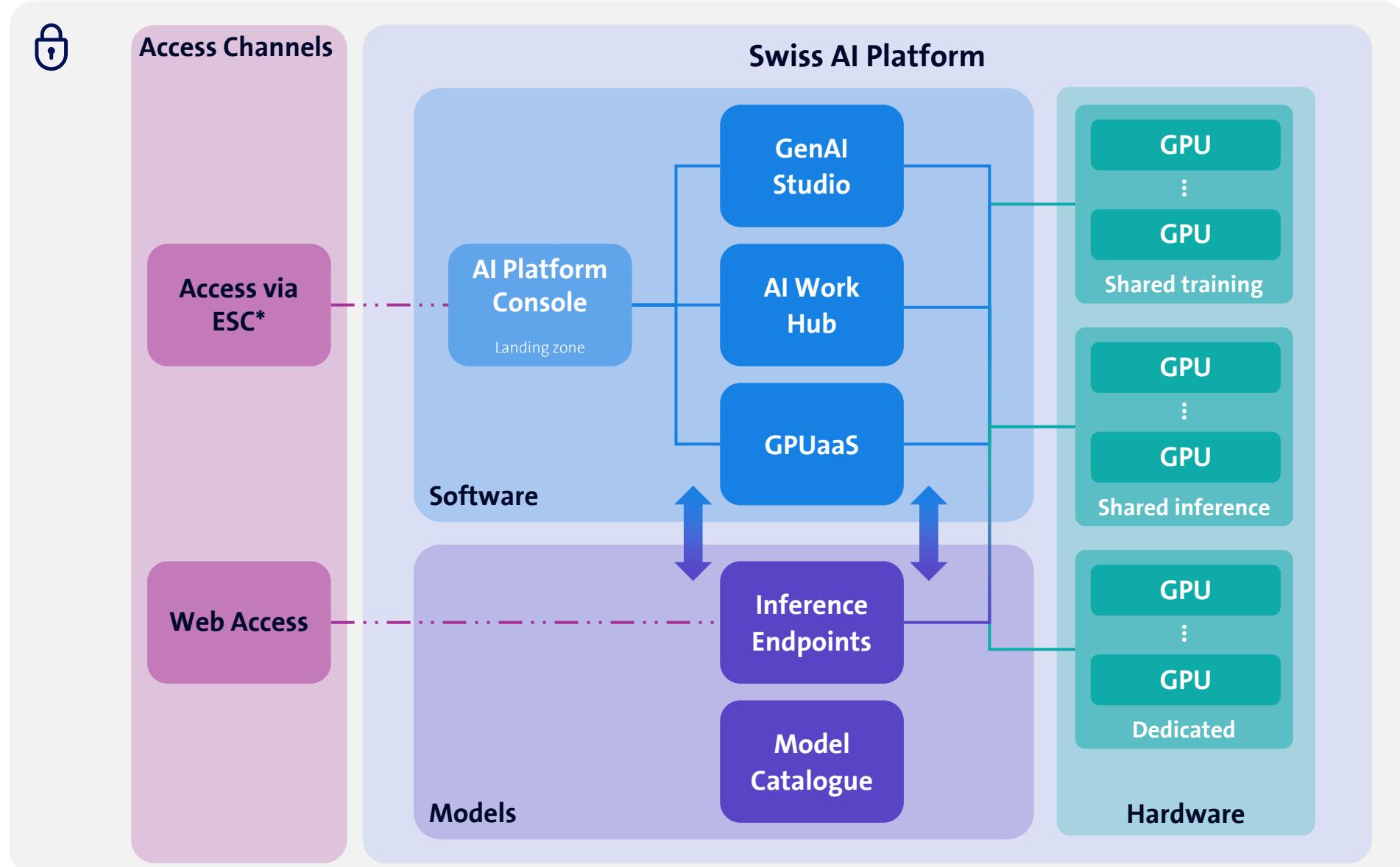
- VM and Distributed Firewall Management

## Swiss AI Portal

- Schedule LLM 2 container images on GPUaaS
  - openai/gpt-oss-20b -> L40S
  - openai/gpt-oss-120b -> 2x H110
- Use Open WebUI Chat



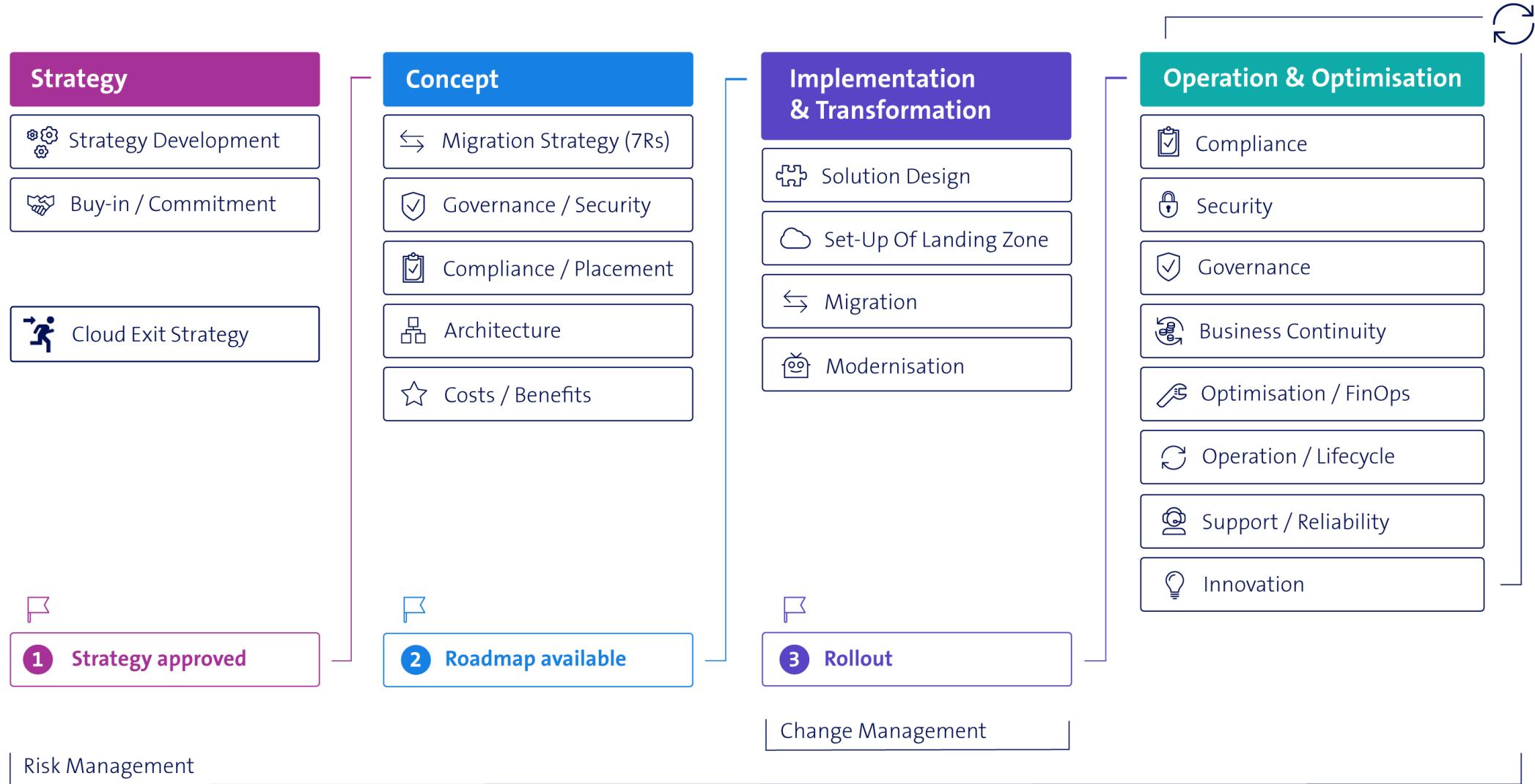
# Secure access via ESC and direct access, composed of hardware, software & models Swiss AI Platform landscape





# We support you on your journey to the Cloud with Professional Services

## Landing Zone for ESC Cloud Onboarding and also ...



# Kubernetes Service





## Kubernetes Service

Private Cloud next-gen Kubernetes Offering - Available in ESC



Kubernetes  
Cluster-aaS



Customer  
Self-Serviced



Fully Automated  
Provisioning



Managed by  
Swisscom



High availability  
across 3 AZ



Variation of Sizes  
& Scalable



Pay-per-Use  
Pricing Model



Datacenters &  
Operations in CH



Advanced Storage  
Capabilities



Autoscaling



Support of Hybrid-  
Cloud use-cases  
(e.g. EKS, AKS Integration)



Extensibility



# Key Advantages of Kubernetes Service



## Modern, cloud native infrastructure with upstream Kubernetes integration

- Open-source software components
- Certified by CNCF, compatible with upstream Kubernetes
- More lightweight and resource-efficient than platforms like OpenShift
- Self-service Developer and Operations Portal (UI & API)
- Can be combined with additional ESC services such as File Service Kubernetes or S3 Object storage

## Efficient management

- Automated Cluster Lifecycle Management (scaling & updates)
- Enhanced Multi-tenancy and Role-Based Access Control
- Advanced Multi-cloud and Edge Support (with full integration support planned)

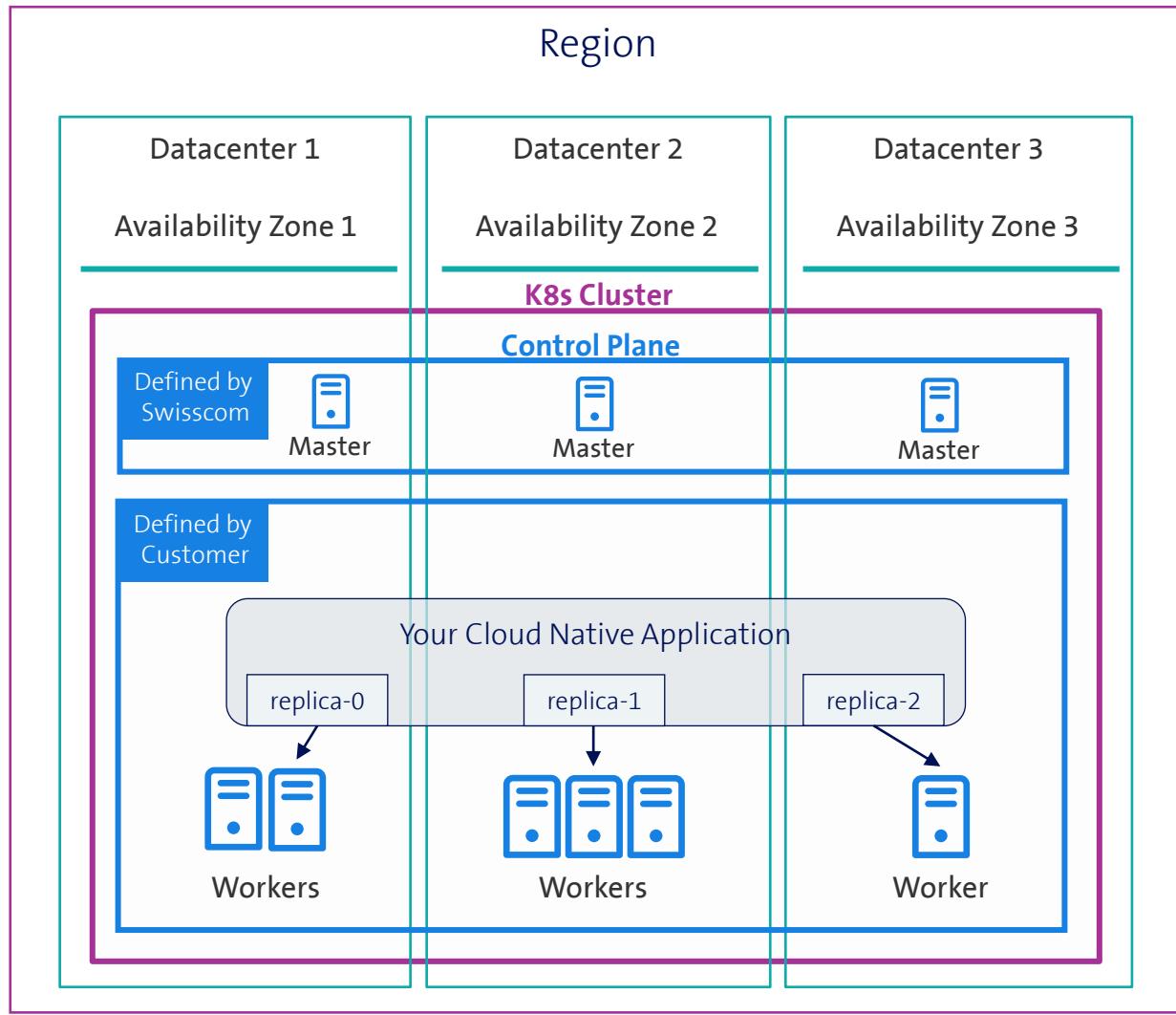


# Kubernetes Services Architecture



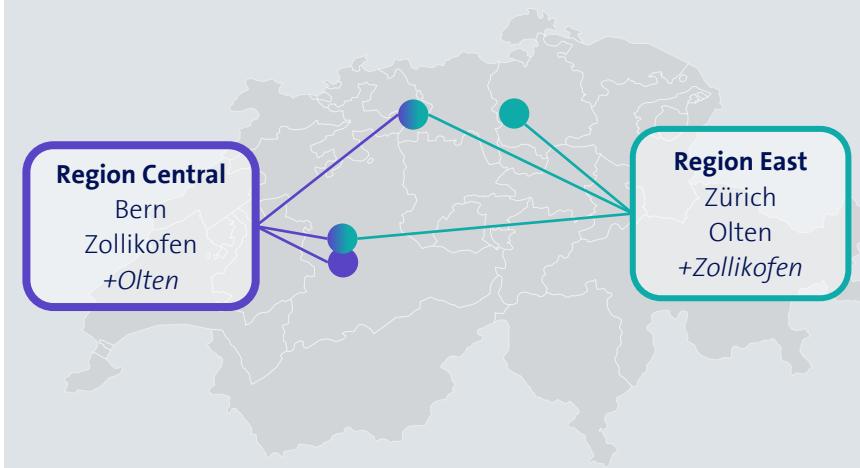
# Kubernetes Service

## Redundant, HA platform setup



### Best practices design

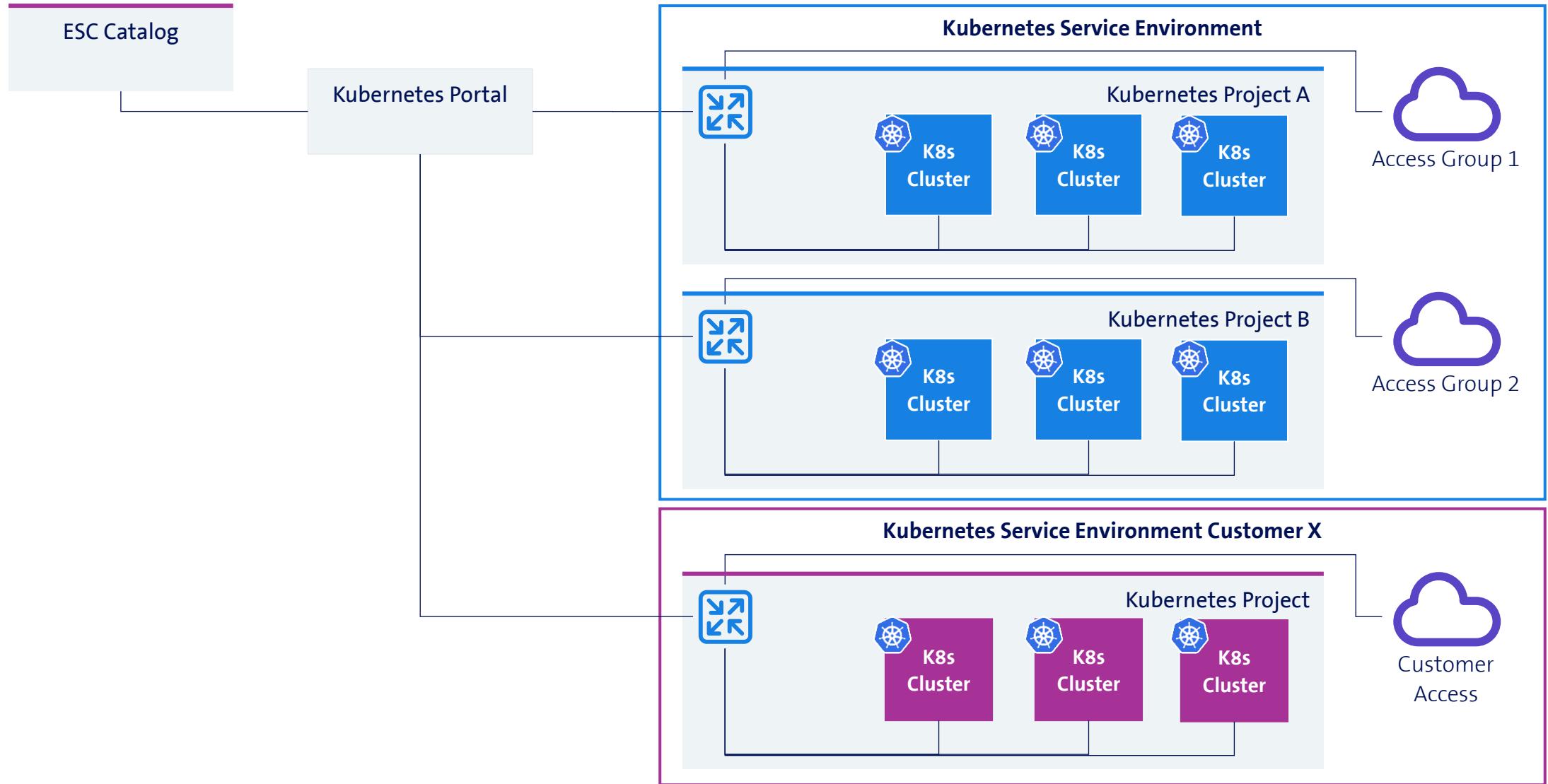
- **Redundancy on all critical layers**
- **No downtime on single failure**
- 4 datacenters located in Switzerland: Bern, Zollikofen, Olten, Zurich
- Kubernetes service stretched across 3 datacenters & 3 availability zones
- Worker Node Pools can freely be placed in all Availability Zones without any restrictions or constraints





# Kubernetes Service Environment & Projects

## Abstraction levels & access segregation





## Live Demo



# ESC Kubernetes Service

Sign in



# Swisscom Cloud: Managed K8s & Hands-on with Camptocamp

Thank you very much for joining us today – your feedback is highly appreciated



<https://forms.office.com/e/wvFsrT5Wmc>

