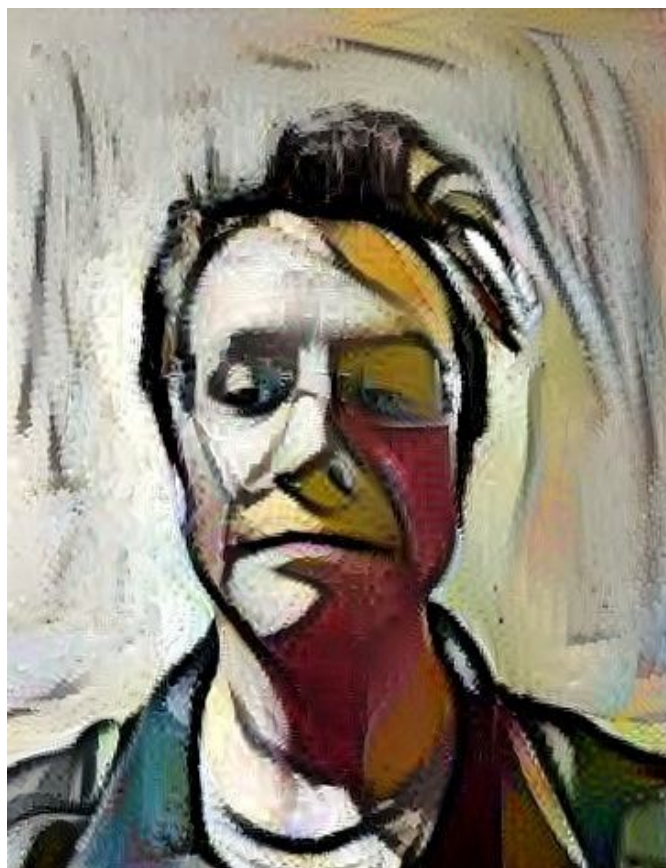


Sovereign Cloud Stack

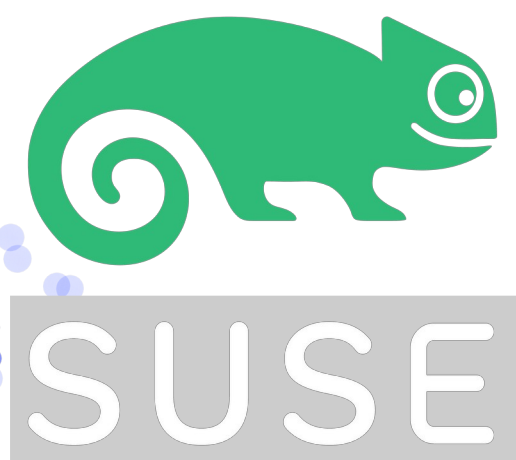
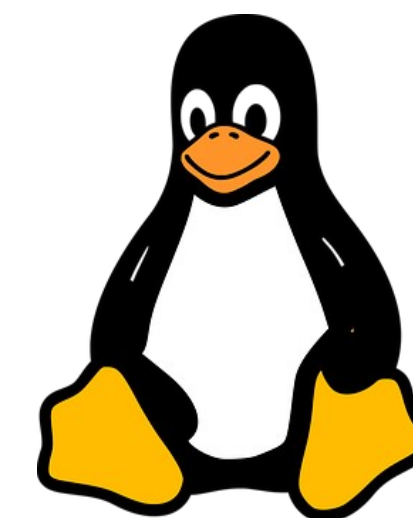
Open Source Collaboration Across Projects To Build Platforms

Kurt Garloff <s7n@garloff.de>
Felix Kronlage-Dammers <fkr@osb-alliance.com>





Kurt Garloff
s7n@garloff.de

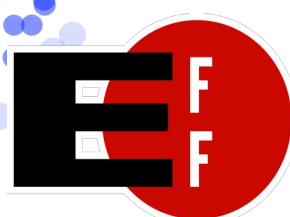


Supported by:



on the basis of a decision
by the German Bundestag

SPRIN-D



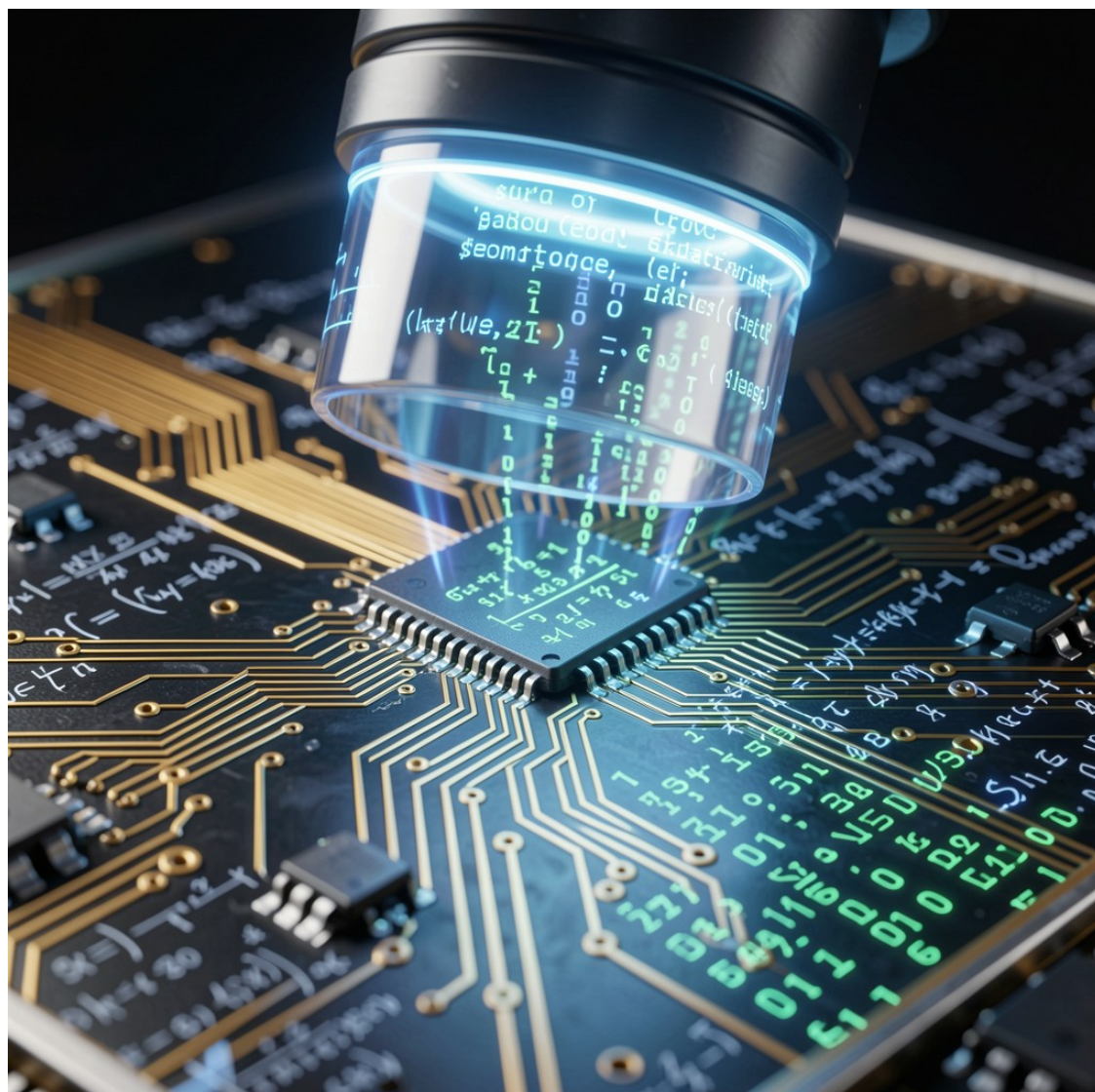


Open Source for fun and (non-)profit.



Felix Kronlage-Dammers
fkr@osb-alliance.com

Why Open Source matters to us



Learning



Collaboration



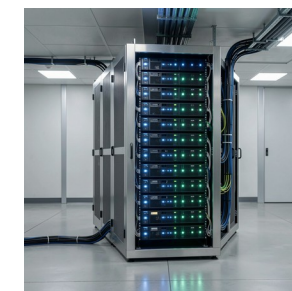
Empowerment

Open Source Software (OSS) everywhere

1990



2015



Permissionless innovation (aka OSS)
has created and runs the Internet

Images AI generated (Flux)

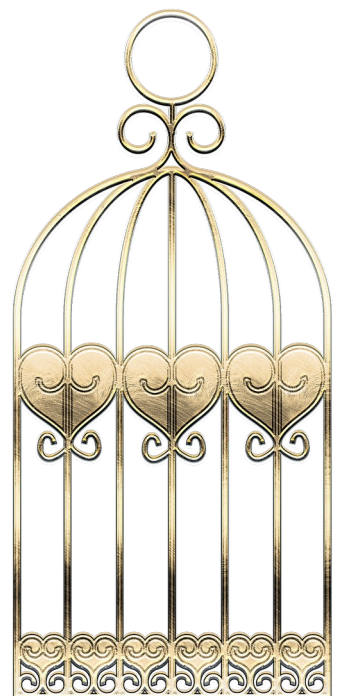
Infrastructure Platforms (as of 2020/2024)



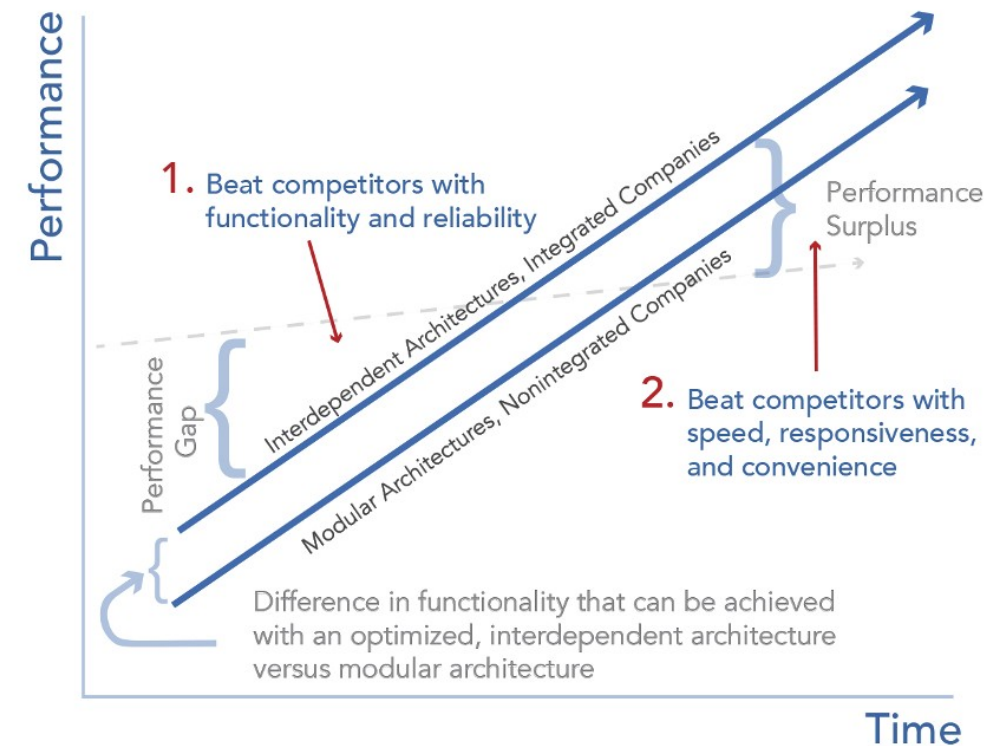
IBM Cloud



- Everyone builds on top of Open Source
- All of these platforms are proprietary
 - No provider interchangeability
 - Users can't operate the platform themselves
 - Except for VCP – yet, you're totally locked in (removal of VDDK)
 - Innovation is only driven by the vendor



Why does OSS not (yet) win for big (cloud) platforms?



Christensen/Raynor: The Innovator's Dilemma



Platform creators have learned

- Proprietary solutions leverage OSS as well ...
 - Even sponsor OSS work for non-differentiating parts of their stacks
 - Attractive employer
 - Permissive licenses allow for reproprietaryization

Building large platforms is hard

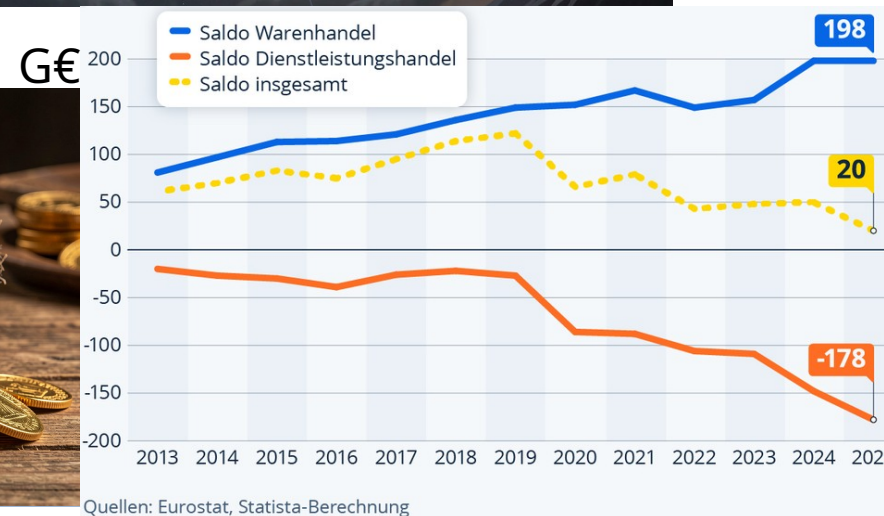
- Creating a coherent, usable, reliable, scalable distributed system
- Many projects need to collaborate
 - Collaboration is hard work
 - Integration is hard work
 - Productization is hard work

Why it should matter to everyone (2020)

- Power distribution
 - Users vs Providers
 - Civil society vs Corporations
 - Democratic Countries vs. predator Nations



- Value creation & innovation
 - It's the economy, stupid ;-)

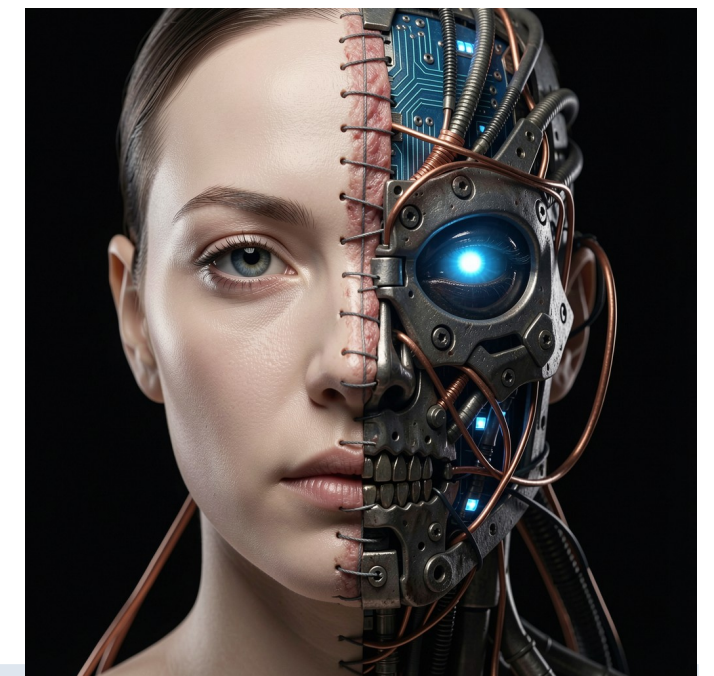


- Values
 - Who creates the rules?



Update 2025:

- Supply chains are actively weaponized (see e.g. ICC, Rare Earths, Energy, ...)
- The next IT revolution ahead: AI makes many things tractable by computers that were previously not accessible to automation.



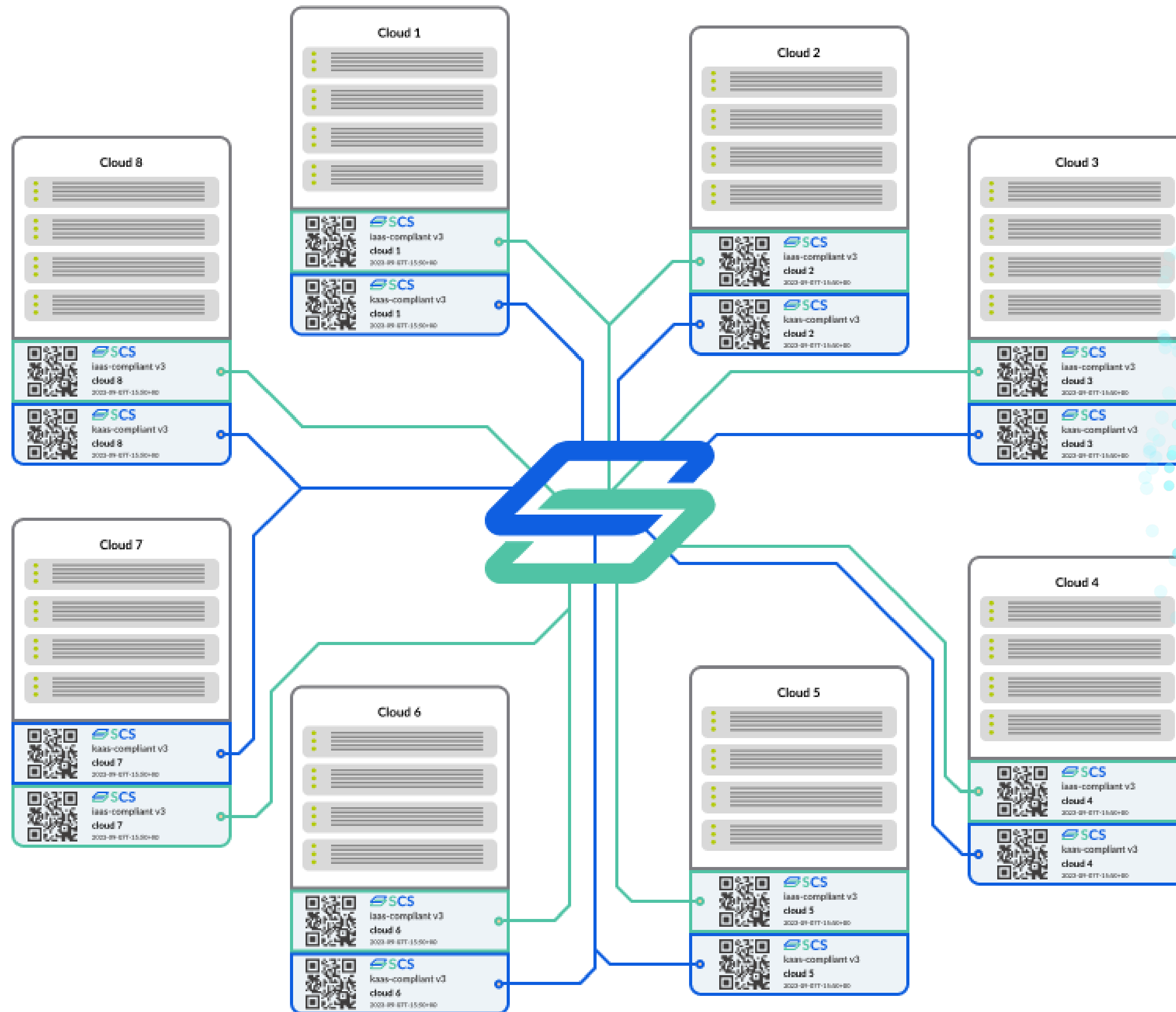
[*] Data sources:

<https://de.statista.com/infografik/34279/salden-des-handels-mit-waren-und-dienstleistungen-zwischen-der-eu-und-den-usa/>
https://ec.europa.eu/eurostat/databrowser/view/bop_its6_det_custom_21530241/bookmark/table?lang=en&bookmarkId=bf417b3b-76de-4740-a043-e2b78be1ccfd&c=1779259639842

Sovereign Cloud Stack (SCS) is a European initiative that creates an **open, transparent** and **vendor-neutral** cloud ecosystem that guarantees **sovereignty**.

The emphasis is on real **freedom of choice**. SCS is based on **certifiable standards**, a **modular software stack** and practical **knowledge transfer**.

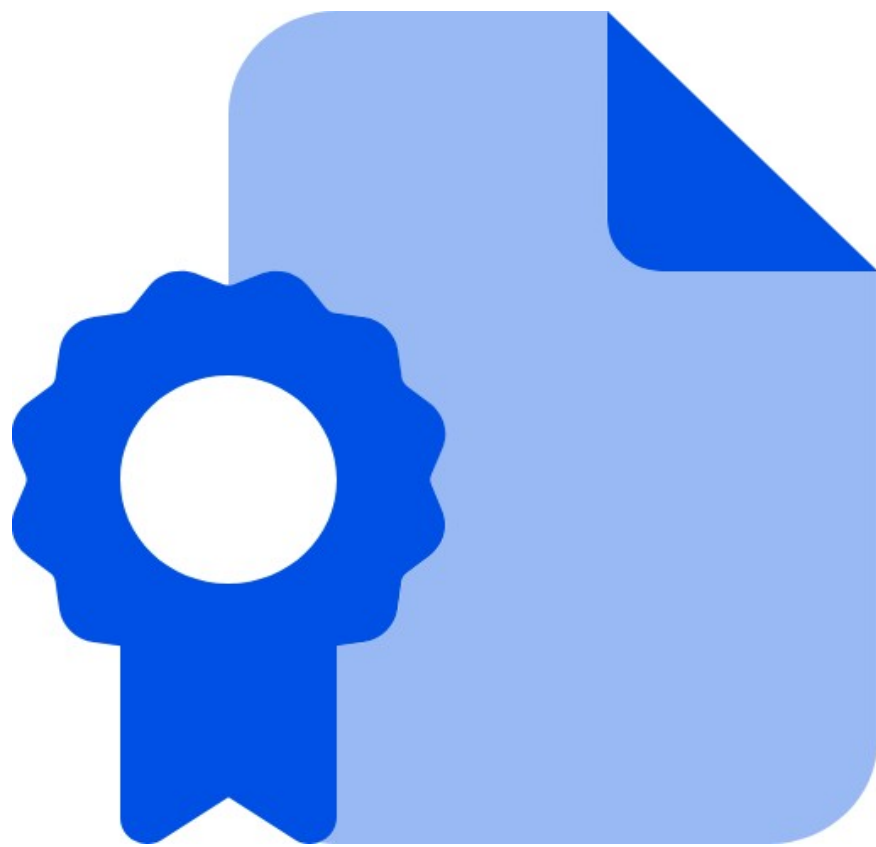
SCS = an open federated Hyperscaler



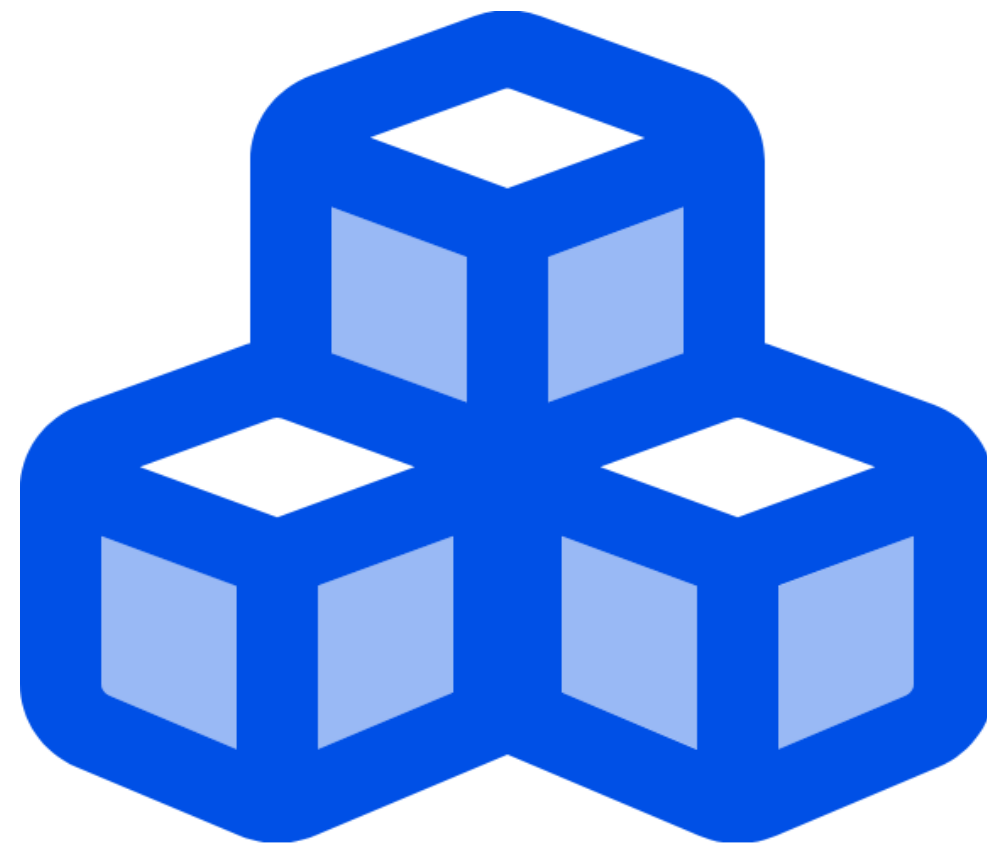
Sovereign Cloud Stack – Origin and Context

- 4-year funded project, funded by the BMWK until the end of 2024
- Founding of the Forum SCS-Standards in 2025 as part of the Open Source Business Alliance e.V. (OSBA)

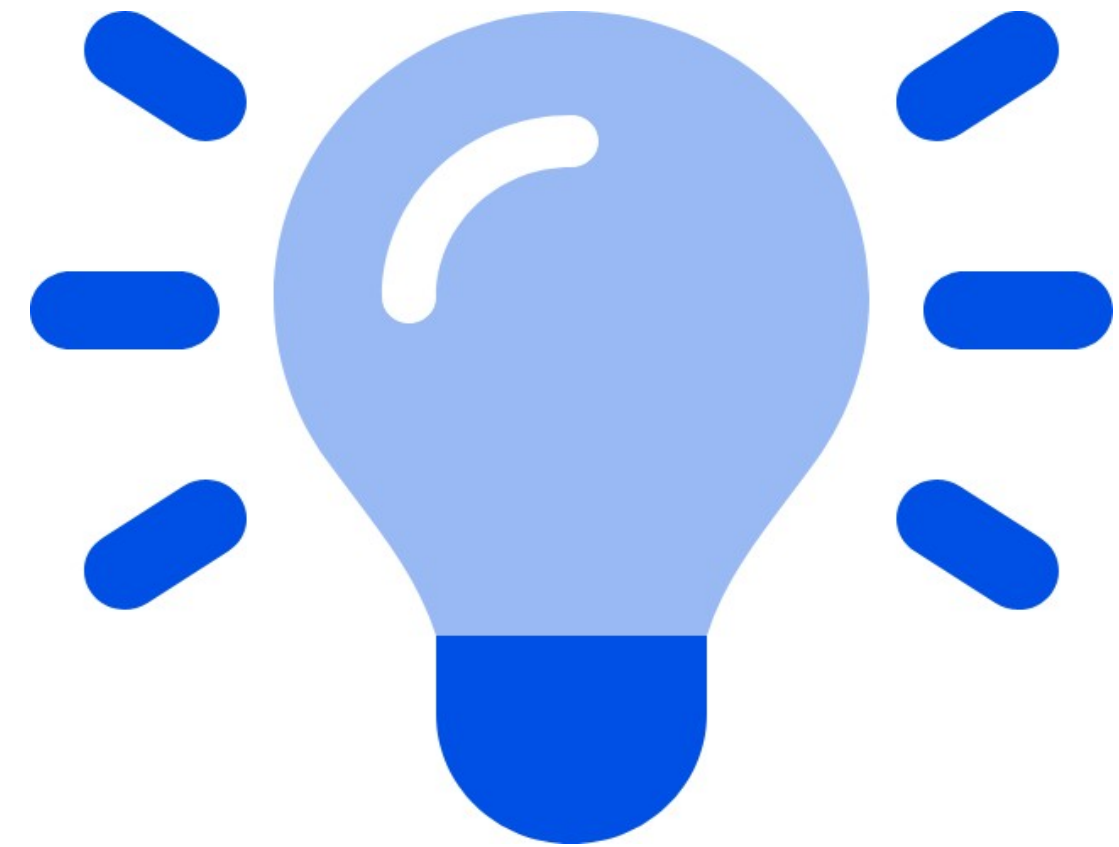
Sovereign Cloud Stack – Three Pillars



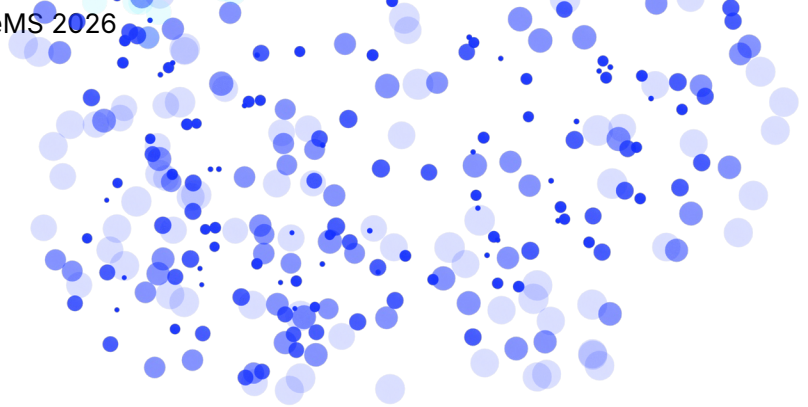
Certifiable Standards



Modular Software Stack



Knowledge Transfer



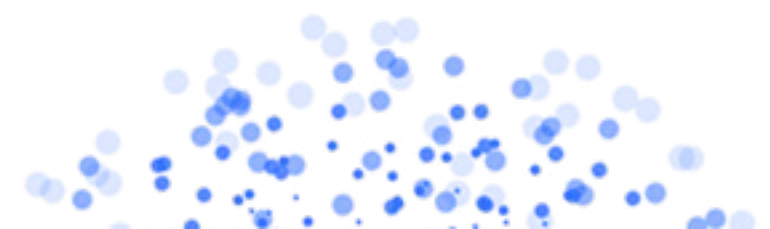
Sovereign Cloud Stack – at a Glance

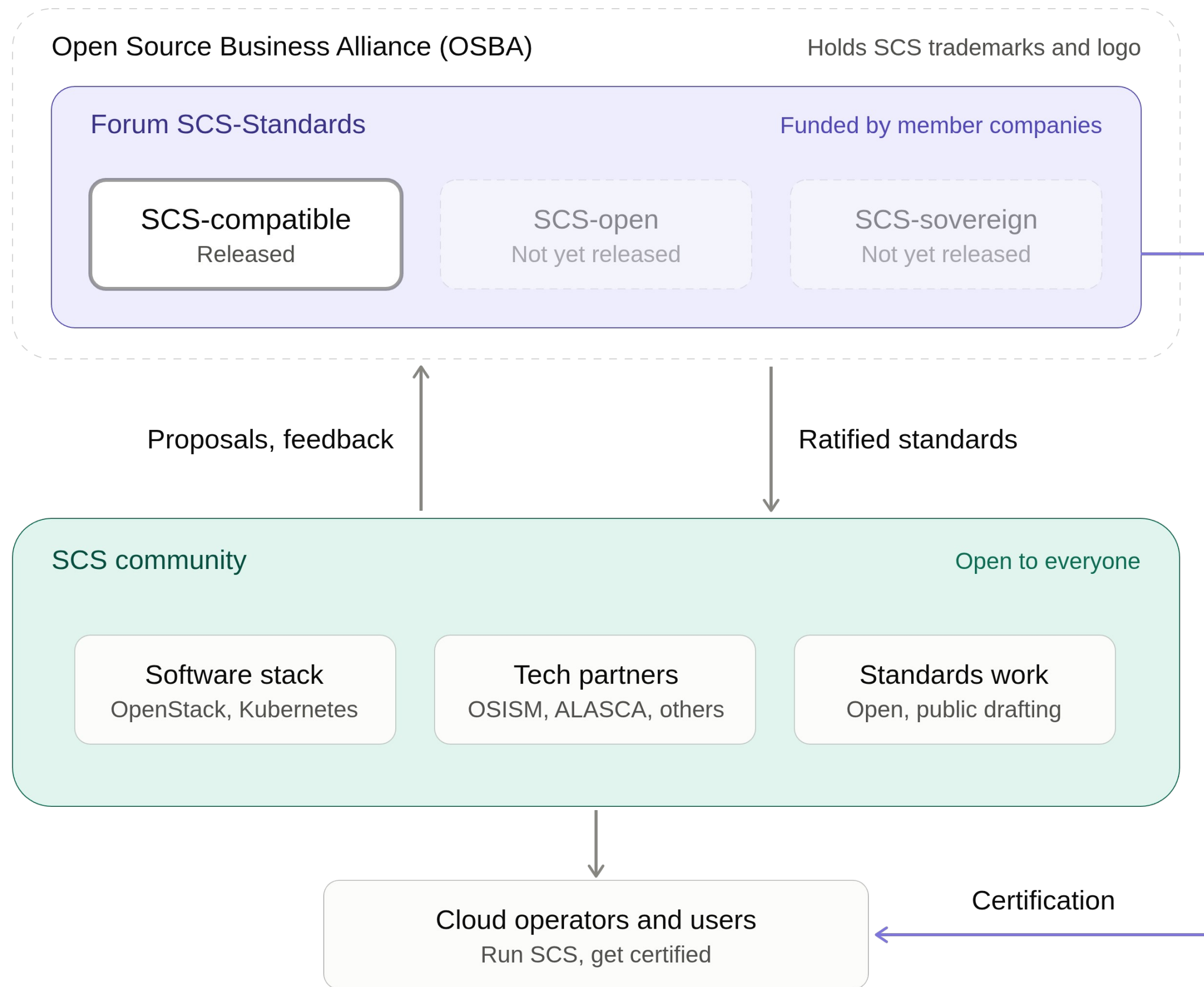
Our Goals

- → Fostering digital sovereignty in Europe
- → Technological independence
- → Building a cloud infrastructure with the highest possible compatibility and interoperability

Who is Sovereign Cloud Stack relevant for?

- SMEs, IT service providers, and cloud providers
- Data center operators
- Public administrations
- Research institutions
- Civil society and open-source communities

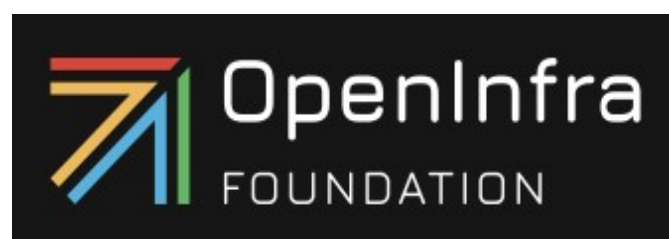


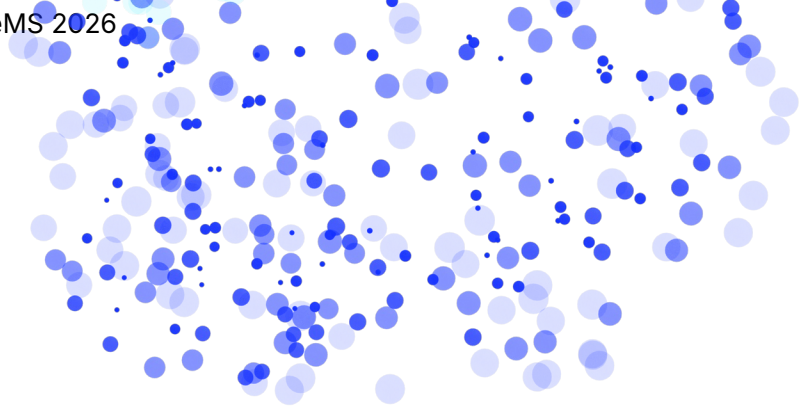


Forum SCS-Standards - Members



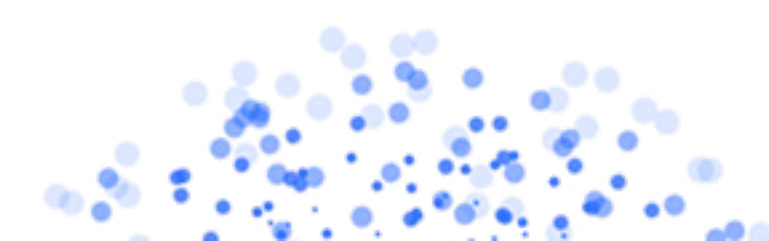
Upstream first!





Forum SCS-Standards - Objectives

- Continuous **further development of the SCS standards**.
- **Define certification programs**, document them openly, and continuously develop them further.
- **Execution of certifications** to ensure high quality requirements.
- **Promote exchange and collaboration** – through regular meetings, open discussion formats, and active community participation to further develop the SCS standards.
- Actively **support the open source community** around the SCS standards to promote innovation, exchange, and shared growth.
- Responsibly **manage the "Sovereign Cloud Stack" brand** and ensure that only certified offerings are permitted to use it.



Digital Sovereignty & SCS Certification

Levels of digital sovereignty

4: Operability: Transparency and accessible Knowledge (Skill building)

3: Technological Sovereignty: Transparency and ability to contribute and innovate

2: Provider switch capability: Choice between many operators, in-sourcing option (on-premise)

1: Data sovereignty, compliance with regulation (GDPR)

SCS Certification Level

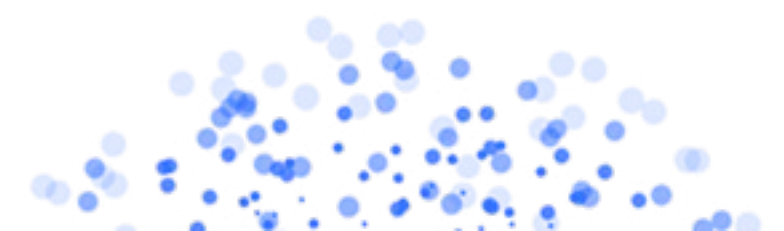


4: "**SCS-sovereign**" – Ops/IAM stacks are OSS; transparency on monitoring and incidents, contribution to Open Operations (5 Opens)

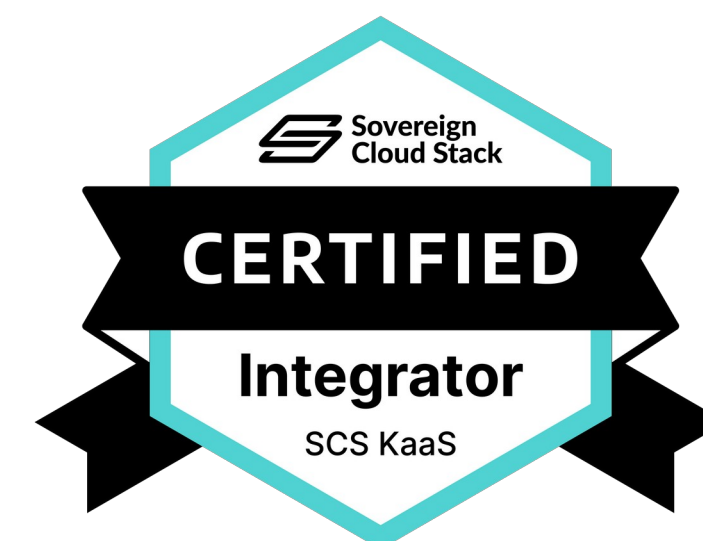
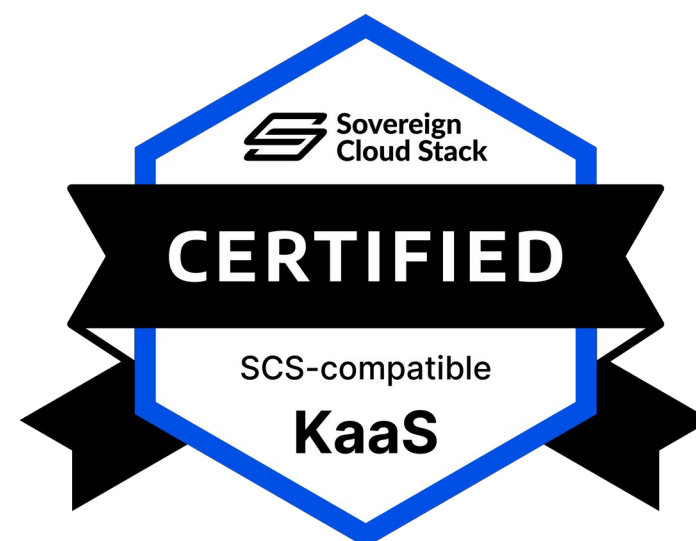
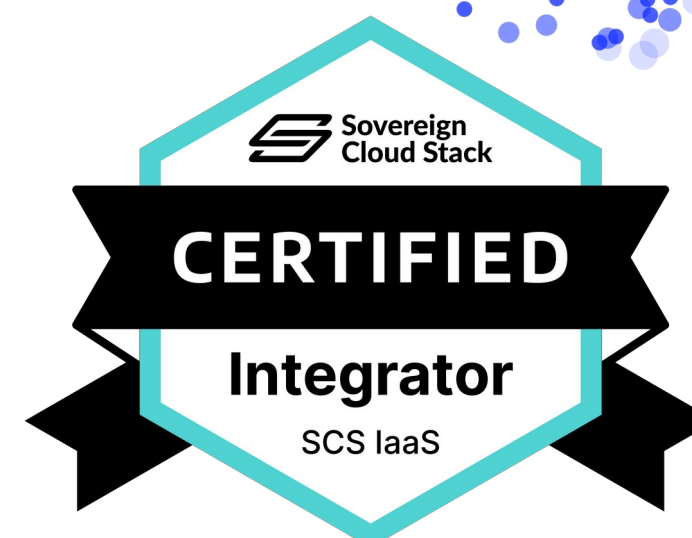
3: "**SCS-open**" – SBOM for functional stack available and fully OSS (4 Opens)

2: "**SCS-compatible**" – technical compatibility (conformity tests from CNCF, OIF, SCS)

1: (Not SCS-specific): ENISA/Gaia-X labels & legal rules



Certifiable Standards



Certifiable Standards

Standards are the central element of Sovereign Cloud Stack. The SCS standards define verifiable requirements that **ensure interoperability** and **quality**. They form the **foundation for certification**, allowing cloud solutions to demonstrate their digital sovereignty.

The **standards** represent **jointly developed**, documented agreements on how cloud infrastructures should be deployed, operated, or further developed.

SCS 2020 - 2026: Achievements

30 heise online [heise+ entdecken](#)

heise+ Newsticker Security IT & Tech Developer KI Entertainment Wissenschaft

Deutschland-Stack: Sovereign administration with over 50 open standards

The IT Planning Council has defined many open standards for administrative IT – from ODF to post-quantum crypto. However, some gaps still exist.

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As a result, the document is unusually concrete in its breadth and level of detail for the otherwise rather cautious standardization policy of German administration. It ranges from file formats like ODF to cloud standards like OpenStack and Sovereign Cloud Stack, and even AI agent protocols that are sometimes only a few months old.

(Image: heise medien)

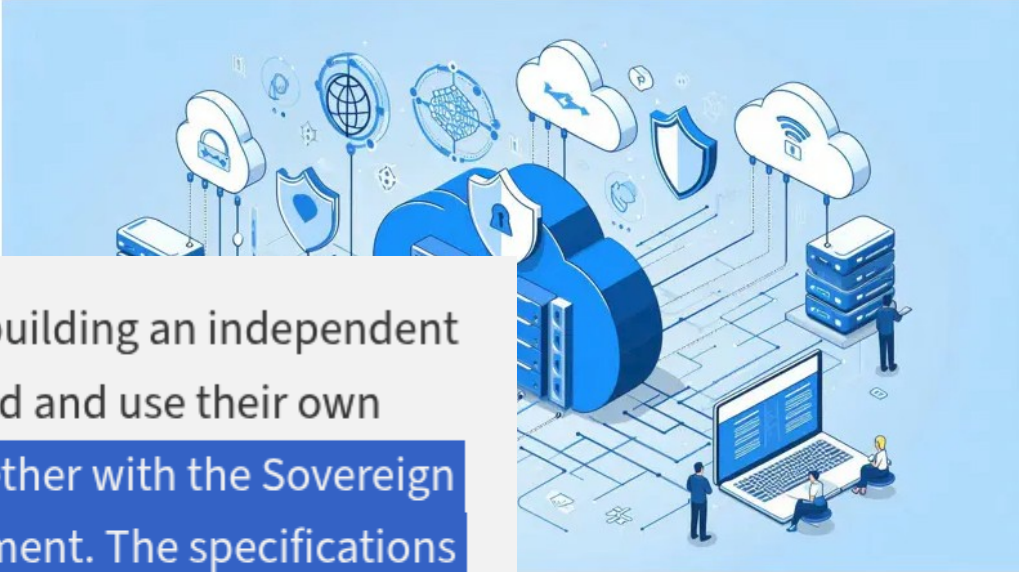
30 heise online [heise+ entdecken](#)

heise+ Newsticker Security IT & Tech Developer KI Entertainment Wissens

GovStack publishes specifications for sovereign cloud infrastructure

The GovStack initiative has presented specifications for the development of sovereign cloud infrastructures. One German project already meets the requirements.

🇩🇪 🔊 🖨️



line / dmK)

The GovStack initiative has published specifications for building an independent cloud infrastructure. Governments should be able to build and use their own cloud on this basis. To this end, GovStack is working together with the Sovereign Cloud Stack (SCS) project funded by the German government. The specifications for the cloud infrastructure are part of the initiative's overarching goal. It aims to develop a digital construction kit that governments can use to build their own e-government applications.

SCS 2020 - 2026: Achievements

SCS Compliance Monitor

Certified SCS-compatible IaaS

These environments are officially certified by the SCS certification assessment body according to [SCS-0004](#). They are regularly tested against the certificate scope [SCS-compatible IaaS](#).

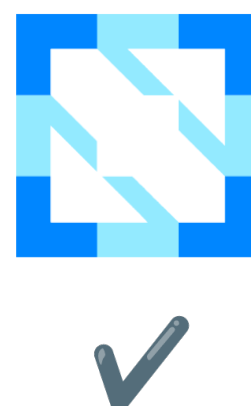
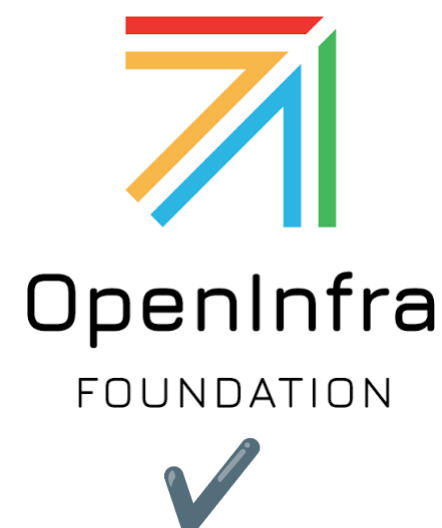
Name	Description	Operator	SCS-compatible IaaS	HealthMon
Cloud&Heat IaaS	Public cloud for customers (1 SCS region)	Cloud&Heat Technologies GmbH	✓ v5.1	n/a
CNDS	Public cloud for customers (2 SCS regions)	artcodix GmbH	✓ v5.1	HM
REGIO.cloud	Public cloud for customers (1 SCS region)	OSISM GmbH	✓ v5.1	HM
ScaleUp Open Cloud	Public cloud for customers (1 SCS region)	ScaleUp Technologies GmbH & Co. KG	✓ v6	HM

Certified SCS-compatible KaaS

These environments are officially certified by the SCS certification assessment body according to [SCS-0004](#). They are regularly tested against the certificate scope [SCS-compatible KaaS](#).

Name	Description	Operator	SCS-compatible KaaS
noris Sovereign Cloud (nSC)	Public KaaS cloud based on Gardener (1 SCS configuration)	noris network AG	✓ v1
ScaleUp Open Cloud	Public KaaS cloud based on Gardener (1 SCS configuration)	ScaleUp Technologies GmbH & Co. KG	✓ v1
Syself Autopilot	KaaS offering based on ClusterStacks (1 SCS configuration)	Syself GmbH	● -

SCS 2026: Scaling through larger Collaboration



Collaboration on Cloud Standards



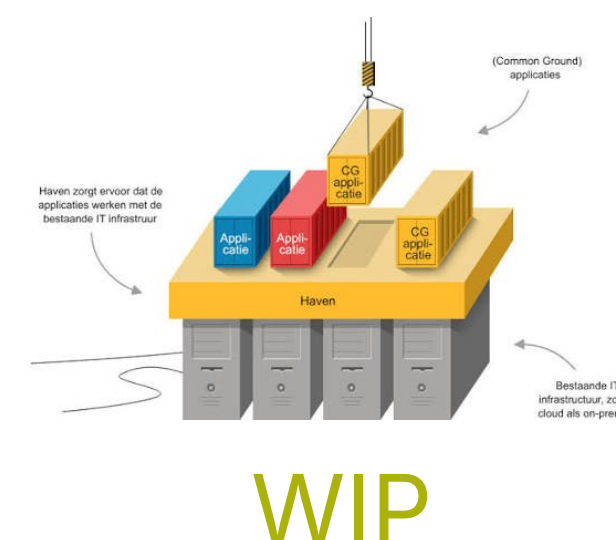
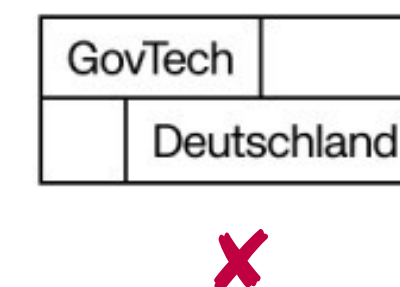
Kurt Garloff, Marius Feldmann
November 27, 2023

Collaboration on Cloud Standards

Sovereign Cloud Stack and ALASCA e.V.: joining forces for good standards



ALASCA



...

Sovereign Cloud Stack

We're looking forward to any of your questions! And collaboration!

scs-contact@osb-alliance.com

SCAN ME

