

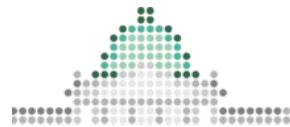


SCS 2024-12-11

Sovereign Cloud Stack: Introduction for Parldigi

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<https://scs.community/>
<https://github.com/SovereignCloudStack/>



Parldigi

Parlamentarische Gruppe
Digitale Nachhaltigkeit
Groupe parlementaire po
un numérique responsabl



<https://scs.community>

Gefördert durch:

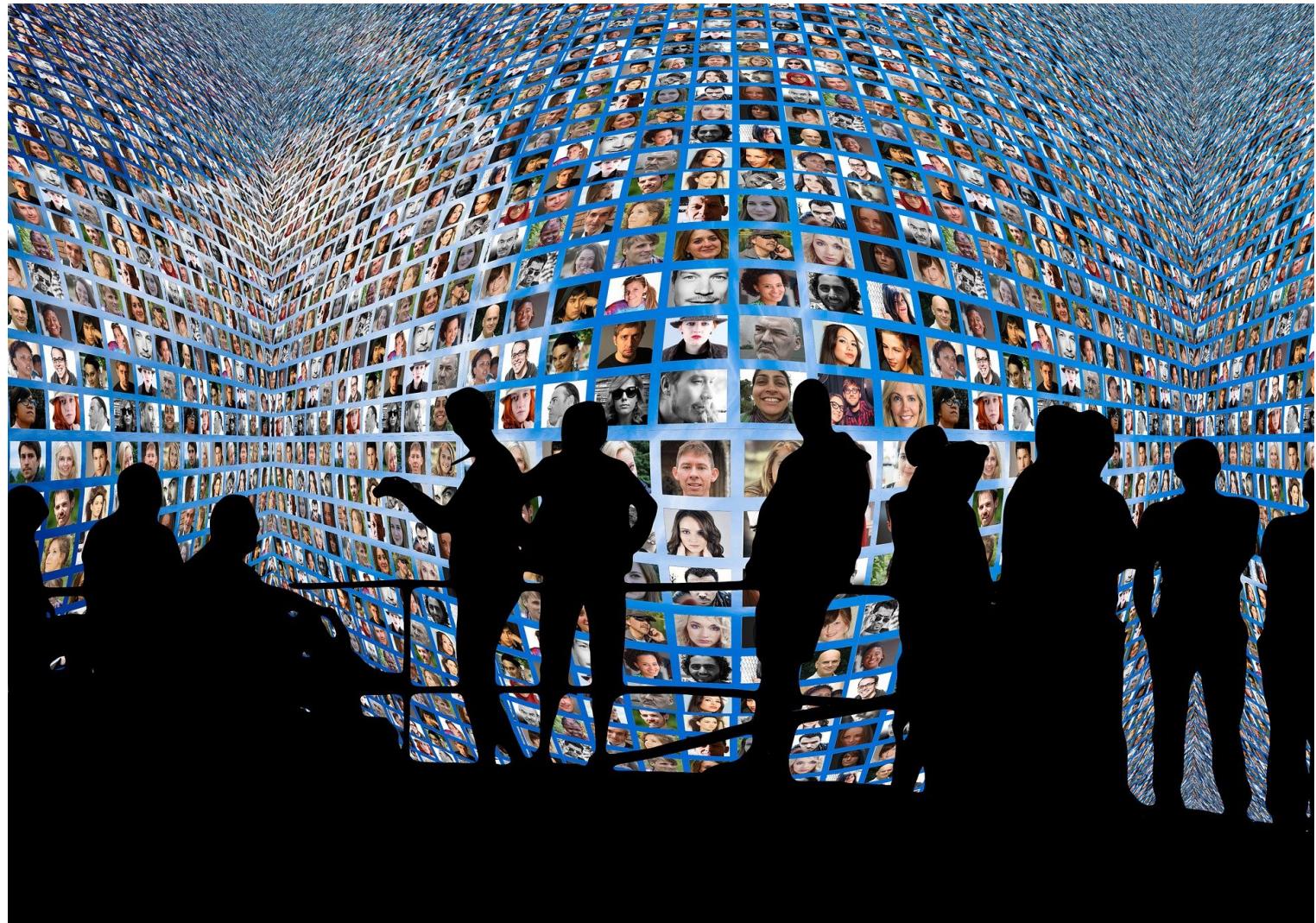


aufgrund eines Beschlusses
des Deutschen Bundestages



**OSB Open Source
Business
ALLIANCE**
Bundesverband für digitale Souveränität e.V.

One platform - standardized, built and operated by many.



Sponsoring for our idea ...

 Sovereign
Cloud Stack
— An OSB ALLIANCE project —



SPRIN-D

Very supportive.
Fast to support project with paid research contract.
Good advice for first supported project.



BMW K

Very supportive.
Bound by slow alignment and decision processes.
Lots of projects ...



gaia-x

Vorhabenbeschreibung

(zur vertraulichen Behandlung)

Zum Projekt GAIA-X



Vorhaben: Sovereign Cloud Stack

Akronym: SCS



Schlagworte zum Vorhaben:

GAIA-X, SCS, Digitale Souveränität, Infrastruktur, Cloud,
Föderierung, Open Source, Infrastructure as Code, OSB Alliance

Antragsteller:

Open Source Business Alliance – Bundesverband für digitale Souveränität e.V.
Breitscheidstr. 4

70174 Stuttgart

Fon: +49 711 90715-390

Fax: +49 711 90715-350

vertreten durch:

Peter Ganter (Vorstandsvorsitzender)

E-Mail: ganter@osb-alliance.com

Version: 2020-12-21

Funding proposal (12/2020)

Collaboratively written in .rst and managed with git.

Huge work items master spread sheet, extracted data with python (ODSReader) into doc. Needed several times, e.g. when we discovered that we can not deduce VAT.

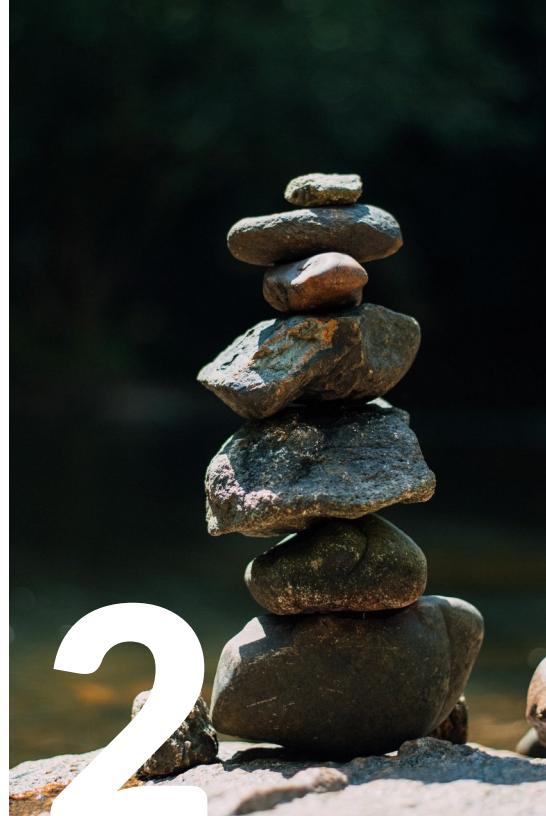
Also handed in offers to substantiate cost calculations and avoid money to be locked.
(1st year only, not very successful ...)

6 months till notice of funding
Lost money and people.

Sovereign Cloud Stack Deliverables



Certifiable Standards



Modular Open Source
Reference Implementation



Operational Knowledge

Frank Jacobsen (he/him) • 1st
Vice President, Head of Public Sector / Healthcare...
1d • 0

Kurt Garloff • You
Co-Leader / CTO Sovereign Cloud S...
1d ...
Hi Stefan,
nicht für alle Anwendungen benötigt
man echte Souveränität, da bin ich bei
Dir.
Und insofern haben die ...see more

Like | Reply

Georges Welz • 2nd
CEO Delos Cloud GmbH - Views ar...
1d ...
Hi Kurt,
In diesem Fall reden wir eben nicht von
einem Datentreuhänder-Modell, denn
da wäre der Begriff „souverän“, wie
korrekt von Dir angemerkt, p ...see more

Like • 2 | Reply

Kurt Garloff • You
Co-Leader / CTO Sovereign Cloud S...
1d ...
Georges Welz - ich lene gerne immer
dazu, danke für das Gesprächsangebot!
Ich interprete Deine Aussage so, dass
das Datentreuhänder Modell
entscheidend weiterentwick ...see more

Like • 1 | Reply



Sovereignty debate

Sovereignty has become a marketing term :-(

- Providing data protection (GDPR compliance) is a good start ... “data sovereignty”.
- Ability to chose (without redoing automation/integration)
 - Ability to use many providers and federate
 - Requires technical standards/compatibility **SCS**-compatible
- Ability to shape technology and innovate “technological sovereignty”
 - Requires 4 Opens **SCS**-open
 - Skills to understand and operate infrastructure
 - Open Operations **SCS**-sovereign

10/2022

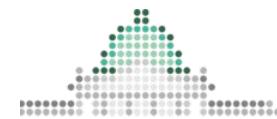
DuD
Datenbank und Datenwirtschaft
Technik und Politik in
Informationstechnologie und Telekommunikation

the cloud report

Digital Sovereignty

Additional: Sovereign Technology - Open Source - Data Residency - New Work - Open Policy Agent - Container Days





Digital Sovereignty & SCS Certification

Levels of digital sovereignty

- 4: Operational Transparency and accessible Knowledge (Skill building)
- 3: Technological Transparency and ability to contribute and shape
- 2: Choice between many operators, in-sourcing option (on-premise)
- 1: 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



SCS Standards

 SCS

- [Standards](#)
- [For Operators](#)
- [For Contributors](#)
- [Community](#)
- [FAQ](#)

- [Introduction](#)
- [Certification](#)
- [Scopes and Versions](#)
- [SCS Compatible IaaS](#)
- [SCS Compatible KaaS](#)
- [Standards](#)
- [Global](#)
- [scs-0001](#)
- [scs-0002](#)
- [scs-0003](#)
- [scs-0004](#)
- [scs-0112](#)
- [IaaS](#)
- [scs-0100](#)
- [scs-0101](#)
- [scs-0102](#)
- [scs-0103](#)
- [scs-0104](#)
- [scs-0110](#)
- [scs-0111](#)
- [KaaS](#)
- [scs-0200](#)
- [scs-0210](#)
- [scs-0211](#)
- [scs-0212](#)
- [scs-0213](#)

Home > Standards

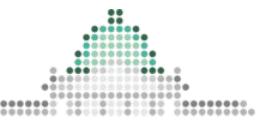
Overview

Standards are the core deliverable of SCS. By standardizing the open source software components of a cloud computing stack, their versions, how they are to be configured, deployed and utilized, SCS guarantees the reproducibility of a certain behavior of this technology.

SCS standards are discussed, developed and maintained in the community by the corresponding teams (see Track in the table below), which naturally include existing users of SCS.

*Legend to the column headings: Draft, Stable (but not effective), Effective, Deprecated (and no longer effective).

Standard	Track	Description	Draft	Stable*	Effective	Deprecated*
scs-0001	Global	Sovereign Cloud Standards	-	-	v1	-
scs-0002	Global	Standards, Docs and Organisation	v2	-	v1	-
scs-0003	Global	Sovereign Cloud Standards YAML	v1	-	-	-
scs-0004	Global	Regulations for achieving SCS-compatible certification	v1	-	-	-
scs-0112	Global	SONiC Support in SCS	v1	-	-	-
scs-0100	IaaS	SCS Flavor Naming Standard	-	-	v3	v1, v2
		Supplement: Implementation and Testing Notes	w1	-	-	-
scs-0101	IaaS	SCS Entropy	-	-	v1	-
		Supplement: Implementation and Testing Notes	w1	-	-	-
scs-0102	IaaS	SCS Image Metadata Standard	-	-	v1	-
scs-0103	IaaS	SCS Standard Flavors and Properties	-	-	v1	-



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Existing public providers



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← → ⌂ ⌂ https://docs.scs.community/standards/certification/overview 67% ⭐ GitHub ☀ Search

Daily updated standards conformity result (here: IaaS SCS-compatible)

Becoming certified Compliant cloud environments

Health Monitor dashboard: Public real-time monitoring of errors and performance

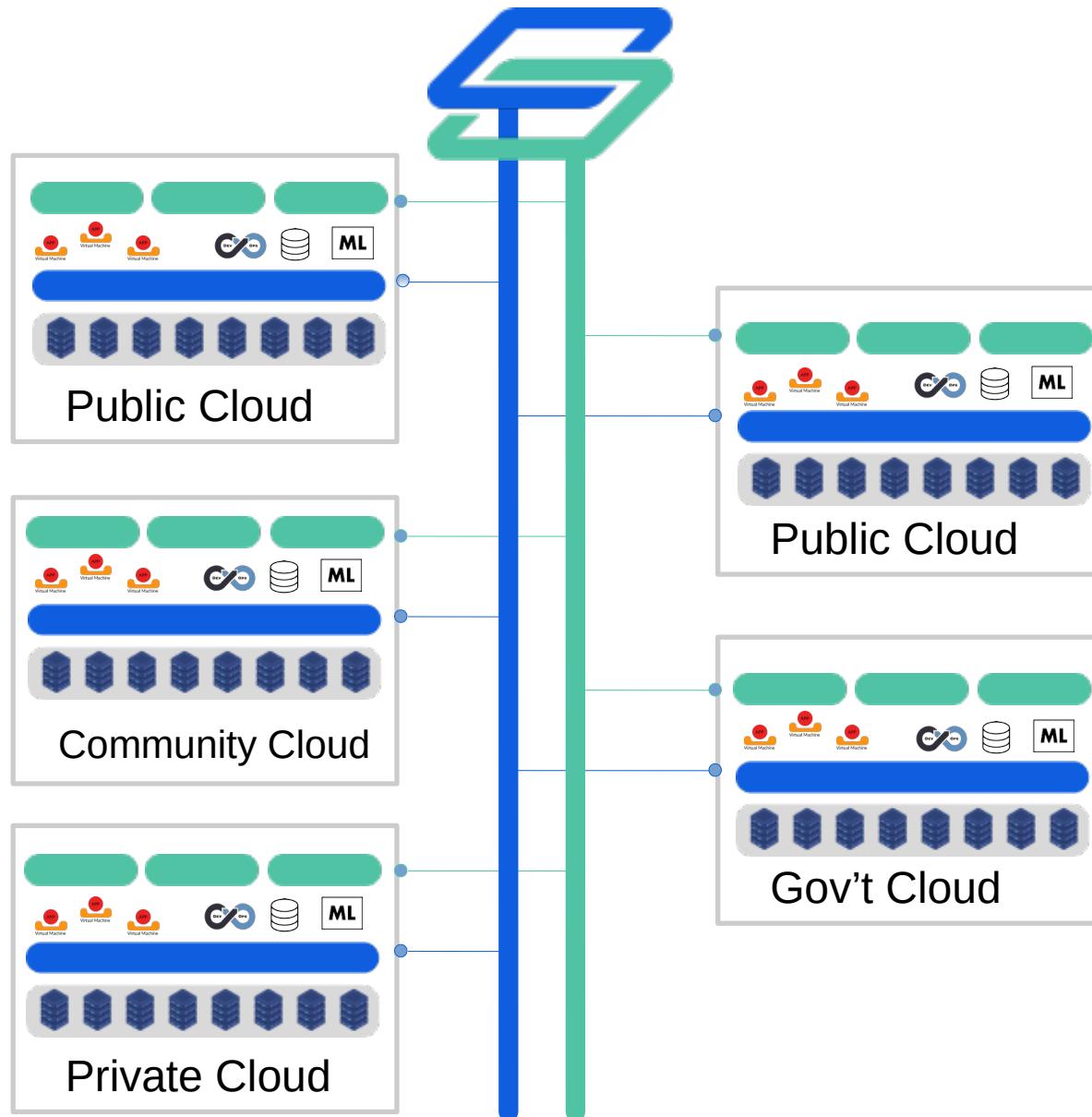
SCS-compliant IaaS

HealthMon

Name	Description	Operator	SCS-compliant IaaS	HealthMon
gx-scs	Dev environment provided for SCS & GAIA-X context	plusserver GmbH	✓ v4	HM
aov.cloud	Community cloud for customers	aov IT.Services GmbH	✗ -	HM
CNDS	Public cloud for customers	artcodix GmbH	✓ v4	HM
pluscloud open (4 regions)	Public cloud for customers	plusserver GmbH	prod1: ✓ v4, v5 prod2: ✓ v4, v5 prod3: ✓ v4, v5 prod4: ✓ v4, v5	HM1 HM2 HM3 HM4
PoC KDO	Cloud PoC for FITKO	KDO Service GmbH / OSISM GmbH	✓ v4, v5	(soon)
PoC WG-Cloud OSBA	Cloud PoC for FITKO	Cloud&Heat Technologies GmbH	✓ v4	HM
REGIO.cloud	Public cloud for customers	OSISM GmbH	✓ v4, v5	HM
ScaleUp Open Cloud	Public cloud for customers	ScaleUp Technologies GmbH & Co. KG	✓ v4, v5	HM
syseleven (2 SCS regions)	Public OpenStack Cloud	SysEleven GmbH	dus2: ✗ v3†† ham1: ✗ v3††	(soon) (soon)
Wavestack	Public cloud for customers	noris network AG/Wavecon GmbH	✓ v4, v5	HM



Federated Infrastructure



Built on Common standards

... for users of cloud services to enable mobility of workloads

... for cloud service providers to offer standardized lock-in-less services

... for the ecosystem to build knowledge and skills on a common technical and organizational foundation

... for solution providers that want to build on a common platform



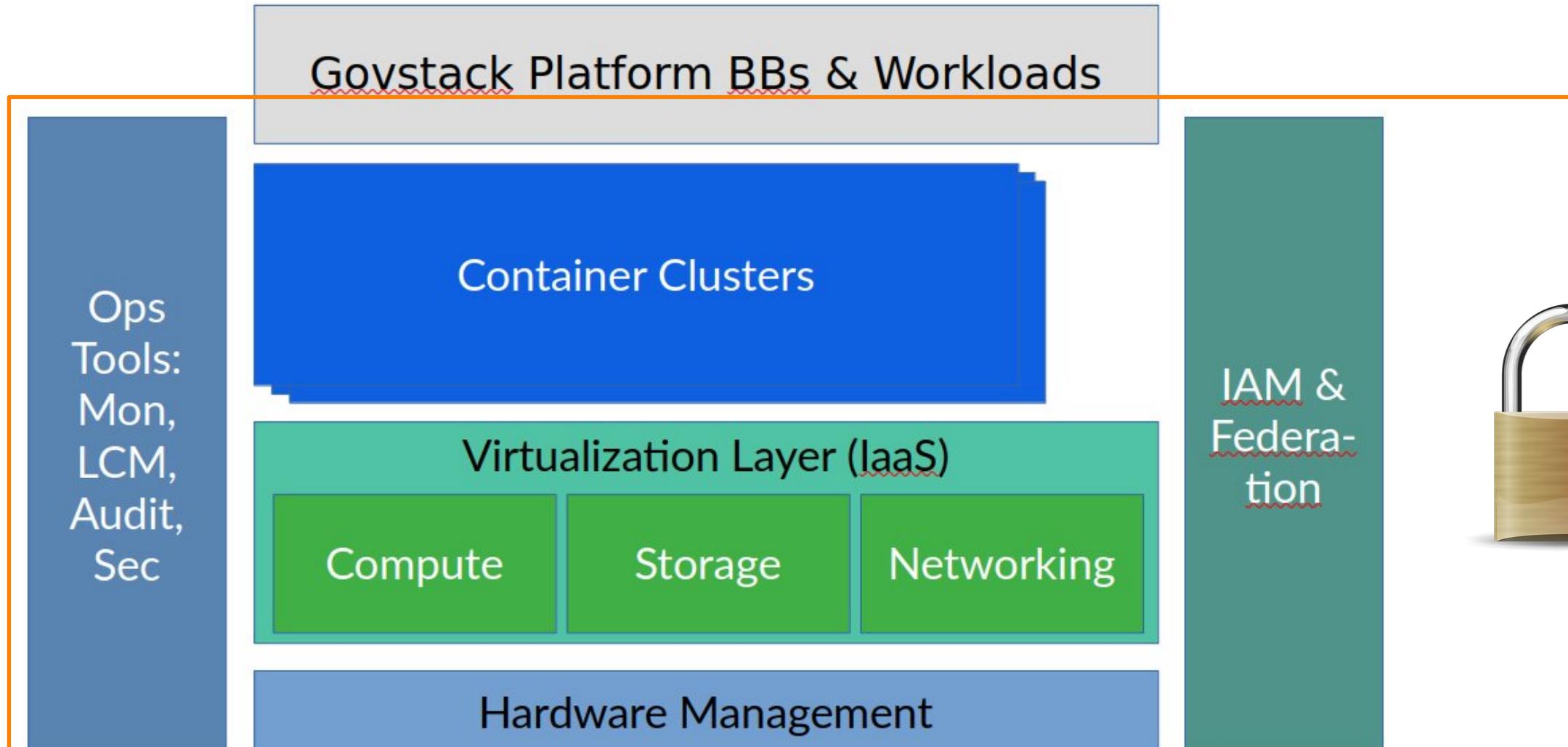
Parldigi



SCS Software (Reference Implementation)

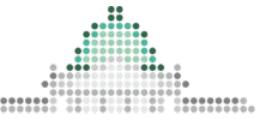
SCS Architecture (Reference Architecture)

building it up from the ground



gaia-x





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Really open

Open has become a marketing term :-(

SCS Open Source Health Check

- Four Opens: Fully Open Source, Open Development, Open diverse Community, Open Design
- Maturity, Security & Maintenance
- Activity & Adoption

Github issues, PRs, project board, minutes, ...

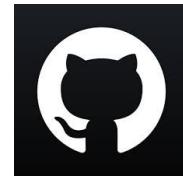
Meets (Jitsi), Matrix, MLs,

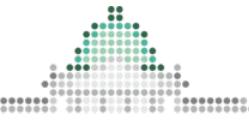
Open Operations

Joint knowledge building for excellent operations

Upstream first!

Healthy community with tender contractors, CSP
employees, volunteers





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SCS Knowledge

Open Knowledge

The screenshot shows the homepage of the SCS Documentation website. At the top, there's a navigation bar with icons for back, forward, search, and GitHub. The URL is https://docs.scs.community. Below the nav is a main menu with links to Standards, For Operators, For Contributors, For Users, Community, and FAQ. To the right is a search bar and a GitHub link. The main content area has a title "Welcome to the SCS Documentation" and a sub-section "Find user guides, code samples, deployment examples, reference, community pages and more." Below this are four boxes: "Introduction to SCS" (Get to know SCS better and learn about the background), "Releases" (SCS is currently in Release 7. Check out the latest Release Notes), "Frequently Asked Questions" (You are curious what SCS is all about, what it can do and what it can't?), and "Existing Public Clouds" (There are SCS compliant public clouds in production). Each box has a "Get Started", "Learn More", or "Get Answers" button.

Welcome to the SCS Documentation

Find user guides, code samples, deployment examples, reference, community pages and more.

Introduction to SCS

Get to know SCS better and learn about the background.

[Get Started](#)

Releases

SCS is currently in Release 7. Check out the latest Release Notes.

[Learn More](#)

Frequently Asked Questions

You are curious what SCS is all about, what it can do and what it can't?

[Get Answers](#)

Existing Public Clouds

There are SCS compliant public clouds in production.

[Test Them](#)

Architectural Layers

Ops Layer

Tooling and infrastructure design for easy, efficient and transparent ways to operate an SCS Cloud.

[Learn More](#)

Container Layer

SCS offers a robust solution for managing container workloads on a Kubernetes infrastructure.

[Learn More](#)

IaaS Layer

SCS offers OpenStack infrastructure solutions based on KVM virtualization to deploy VM workloads and enabling the container layer optionally.

[Learn More](#)

IAM Layer

Working on Keycloak federated identity provider within our Team IAM.

[Learn More](#)

Additional Resources

<h3>Get in touch</h3> <p>Come into our Matrix Chat in the SCS Tech Room.</p> <p>Join Now</p>	<h3>Come to our Meet-Ups</h3> <p>Our working groups and special interest groups meet weekly or biweekly. When? Find out within our public community calendar.</p>	<h3>Standardization in progress</h3> <p>Get to know our current Decision Records and Standards.</p> <p>Start Now</p>	<h3>Deployment Examples</h3> <p>Get to know different ways to deploy SCS with cloud resources or on bare metal.</p> <p>Explore Cases</p>
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We build a community of practice

Open Operations builds a community of practice to keep the barrier to entry low and create a thriving environment for comfortable exchange.

We share knowledge

The availability of knowledge and skilled engineers is the limiting factor for many organizations to adopt, leverage, and successfully operate complex technology.

We're transparent about our incidents

We firmly believe that failures make us experts. The way we handle mistakes is how we become better.

We're transparent about our operational processes

We share our internal processes for the sake of transparency. We firmly believe that transparency leads to better and more reliable processes.



SCS Adoption

SCS Summit 2024



Supporting companies and organizations

23| Technologies



SPRIN-D



{C} CLOUDICAL



GONICUS
PIONEERS OF OPEN SOURCE

JH-COMPUTERS
perfect fitting IT

OSB Open Source Business
ALLIANCE
Bundesverband für digitale Souveränität e.V.

PROVENTA



stackXperts



Existing CSP

Future CSP



cleura

dataport

noris network



Stackable

univention
be open



CLOUD
& HEAT



plusserver

StackHPC

WAVECON



Upcoming:

+BASF

+TLRZ

+sys
eleven

+LinuxHotel

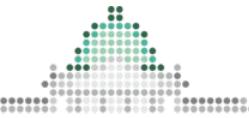
gaia-x

OpenDesk on Sovereign Cloud Stack



Flexible, secure,
digitally sovereign
office collaboration
solution

Standardized, secure,
digitally sovereign
infrastructure



Parldigi

SCS Future

GovStack Specs for Cloud Computing

File Edit View History Bookmarks Tools Help

2 Description | Cloud Infra X +

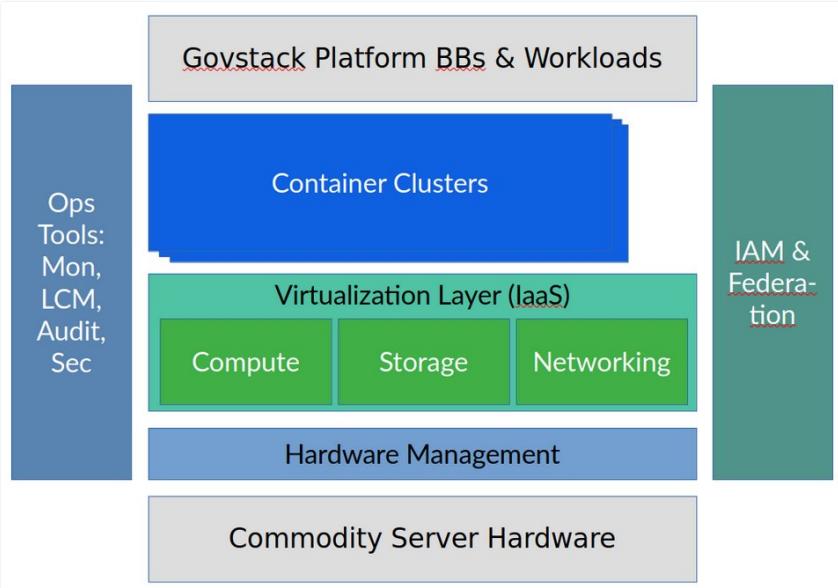
GovStack 24Q3 v

Cloud Infrastructure
1 Version History
2 Description
3 Terminology
4 Key Digital Functionalities
5 Cross-Cutting Requirements
6 Functional Requirements
7 Data Structures
8 Service APIs
9 Internal Workflows
10 Other Resources

Give Feedback GovStack Home Ask or Search Ctrl + K

These workloads are called cloud-native. While the first wave of these were based on virtual machines (VMs), we see a second, larger wave of these that leverage container technologies. In many cases, these containers run on top of virtual machines, thus allowing to balance good developer abstractions and fast scalability (where container technologies excel) with flexibility and isolation requirements (the strength of virtualization technology). In dedicated environments however, it can be beneficial to cut out the complexity of a virtualization layer and to run containers on bare-metal.

In all cases, users of the technology should consider the dependencies on providers of technology and infrastructure and take deliberate decisions on all components of the technology stack required to develop and run their workloads.



Architecture of the Cloud and Container Building Block. The Hardware and the Platform Building Blocks and Workloads are not part of this BB but were included for completeness. The architecture assumes many container clusters rather than just one for isolation reasons. Platform BBs and Workloads can directly access the IaaS/Virtualization Layer, but most modern ones will be implemented using container technology.

Powered by GitBook



[https://govstack.gitbook.io/bb-cloud-infrastructure](https://govstack.gitbook.io/bb-cloud-infrastructure/2-description)

Sovereign Cloud Stack

Sovereign Cloud Stack

Building Block
Cloud Infrastructure (Level 2)

Full Report

ministerium für
schaft und
schutz

aufgrund einer Beschlüsse
des Deutschen Bundestages

Protection&Control: Sustainable future of the SCS idea: Two entities, idea & brand are in the non-profit organisation

Forum SCS-Standards @ OSBA e.V.

Holds the IP rights on the **SCS** brand (and is thus unique), sets the rules for the brand usage

Charitable / Non-profit (OSBA)

Cares for and orchestrates a fair and transparent ecosystem as „neutralizer“.

Further development of **Standards** und **Certifications**, employs staff for this

Membership and usage fees from Operators and Partners (prerequisite for brand usage)

Creates visibility and trust in the market and the whole ecosystem

Collaborates with upstream communities

Partner for „certification-only partners“

OSS Technology companies

Partner for users of the SCS Software (**Reference Implementation**)

Brand usage only possible within the limits set by Forum SCS @ OSBA e.V.

Further development, warranty, maintenance and backend support for SCS Software, subscriptions (for maintenance & support, CRA, ...)

Several such commercial entities exist:
OSISM, sysself, dNation, Cloud&Heat, ...

Central entity that creates a turnkey product (with coordinated policies, roadmap, maintenance, support) and orchestrates cross-stack common dev needs: S7n Cloud Services GmbH

Implementation partner ecosystem

14 SCS initial partners found the Forum SCS-Standards in the OSB Alliance e.V.

The Forum SCS-Standards ensures that the continuous development of the SCS Standards and the certification rules and measures is guaranteed and takes place in an open, transparent process.

The Forum SCS-Standards sees itself as a committee in which the rules of the SCS community are jointly discussed and decided.



SCS Questions?

<https://scs.community/>

<https://docs.scs.community/>

<https://github.com/SovereignCloudStack/>

