

Mercedes FOSS Convention 2022-11-17

Developing the Open Source Sovereign Cloud Stack

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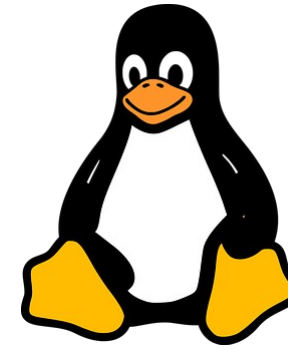
<https://scs.community/>

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



Kurt Garloff

 **Sovereign
Cloud Stack**
— An OSB ALLIANCE project —



openstack.

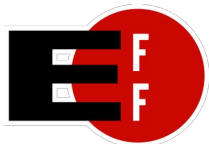


Supported by:



on the basis of a decision
by the German Bundestag

SPRIN-D



Open Source
connections ...

Scuba diving?
subsurface

Caves!



Von macmorning - Eigenes Werk, CC BY-SA 3.0,
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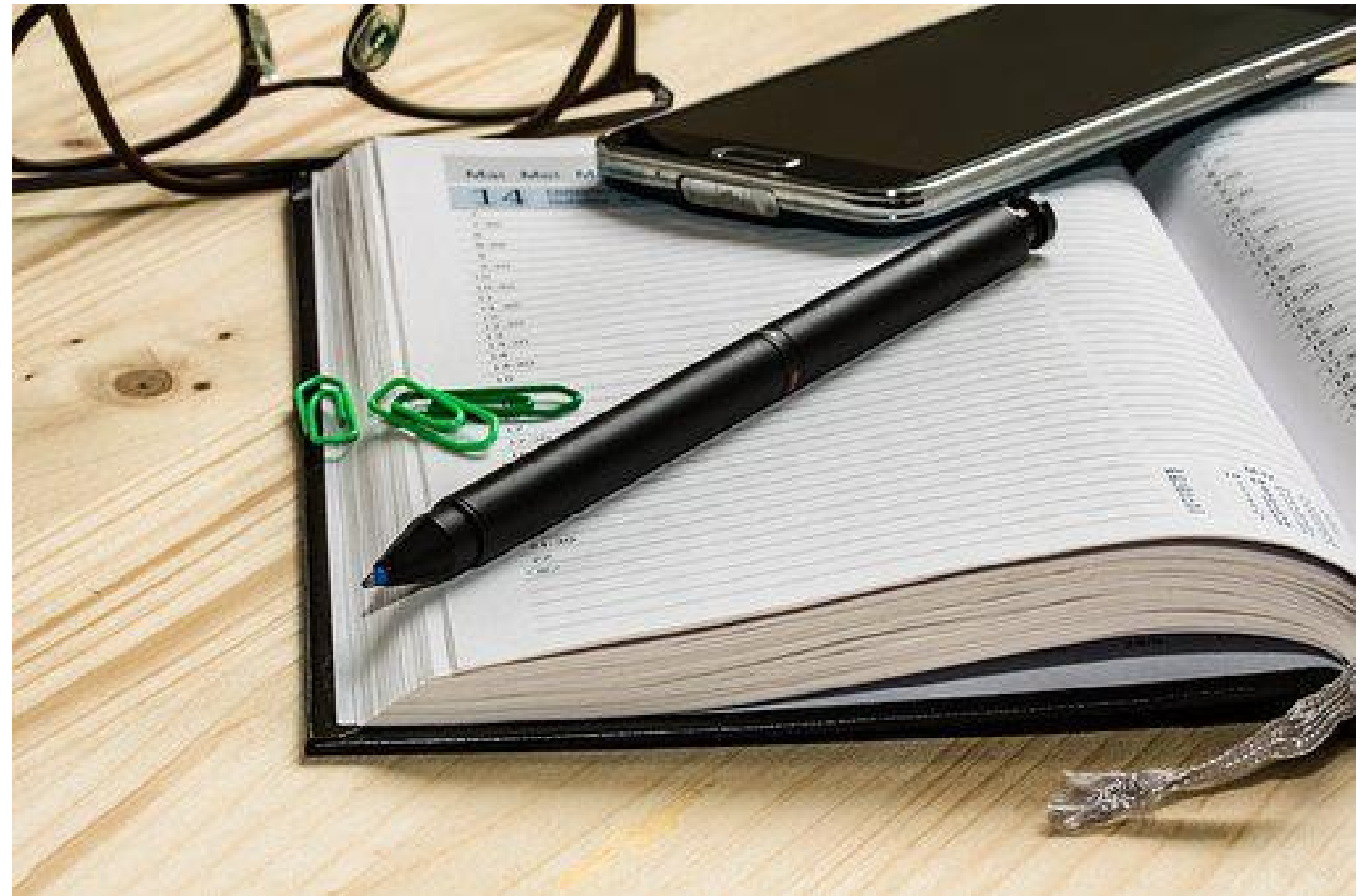
Agenda

About our project - SCS

Building it:

- Working with communities
- OSS best practices

The Operations challenge



Sovereign Cloud Stack vision

Create a world
where modern IT
infrastructure is
decentralized and
under the control
of its users.



Sovereign Cloud Stack mission



Substantially simplify using, building and operating standardized and federated cloud & container platforms to enable innovation on sovereign infrastructure, reducing the technical, economical, strategic, legal dependencies on infrastructure outside of your control.

Sovereign Cloud Stack mission

Open, federated infrastructure for
industry, science, government

Easy to use

Easy to operate

Modern, state-of-
the art on-demand

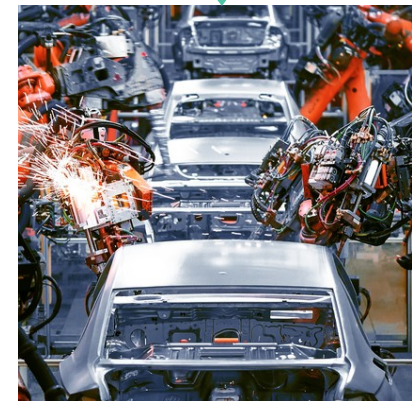
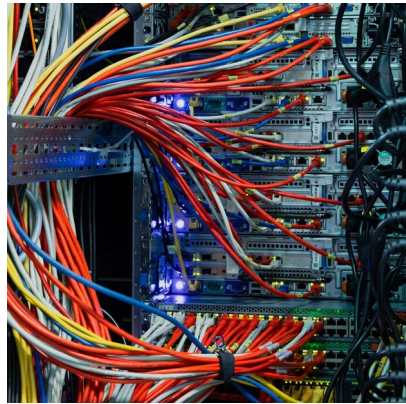
Secure by design

Federatable

Standardized

Modular

4x Open




Sovereign
Cloud Stack

Sovereign Cloud Stack Deliverables



Certifiable Standards



Modular Open Source
Reference Implementation



Operational Knowledge

Fact sheet & Timeline



Gefördert durch:



aufgrund eines Beschlusses
des Deutschen Bundestages



€€€



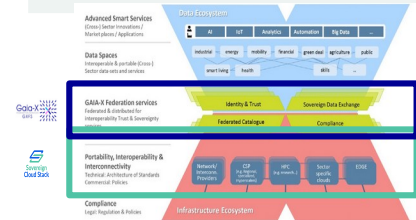
2019

2025

Cloud

Pub

Code



Vorhabenbeschreibung

(zur vertraulichen Behandlung)

Zum Projekt GAIA-X



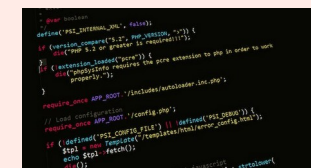
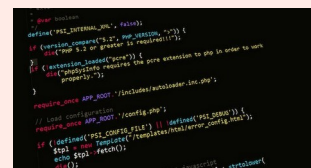
Vorhaben: Sovereign Cloud Stack
Akronym: SCS



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



R0 R1 R2 R3 ...



Gefördert durch:
Bundesministerium für Wirtschaft und Klimaschutz

aufgrund eines Beschlusses des Deutschen Bundestages

<https://scs.community/>

Public SCS
Clouds
in production

Cloud services based on Sovereign Cloud Stack



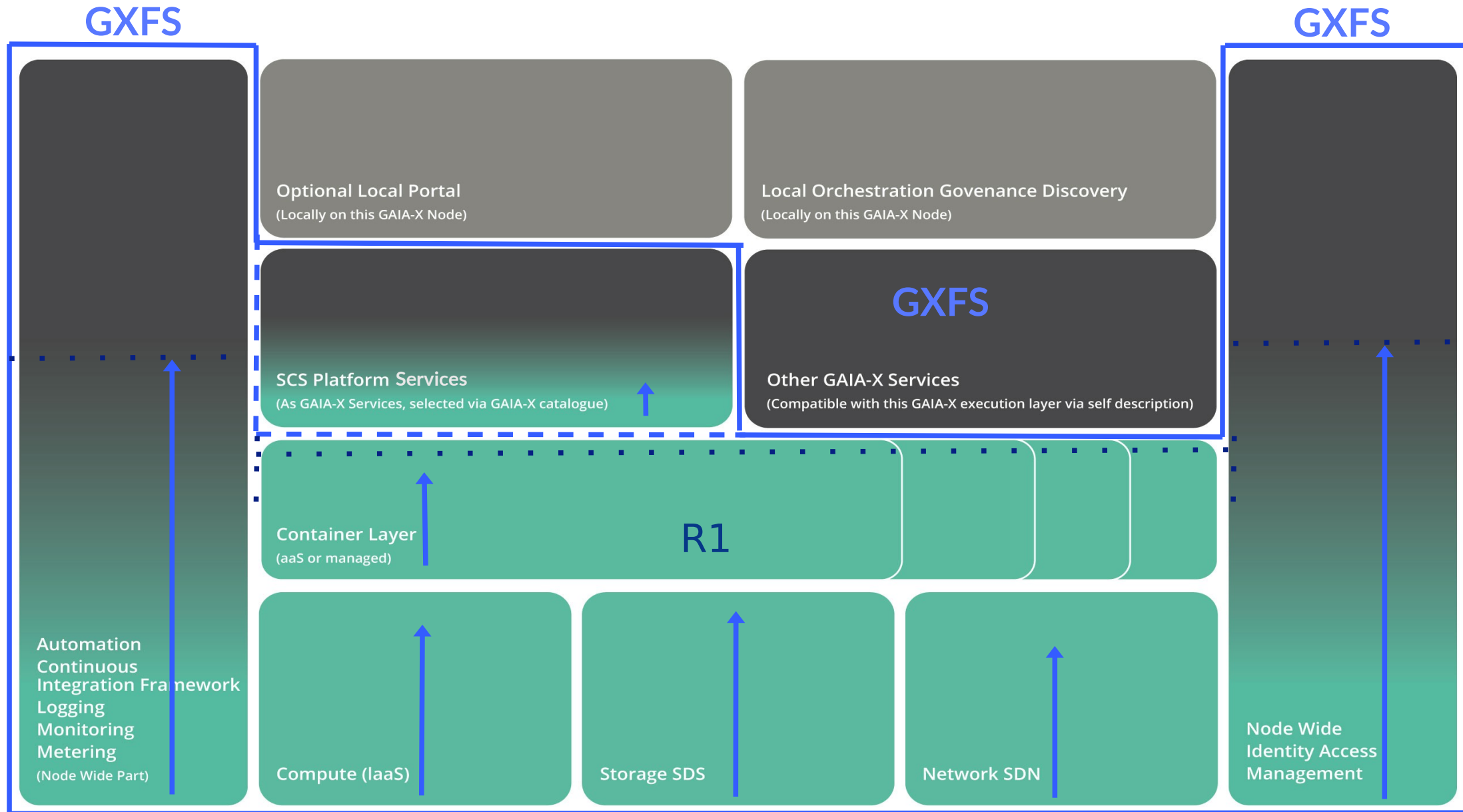
Supporting companies and organizations



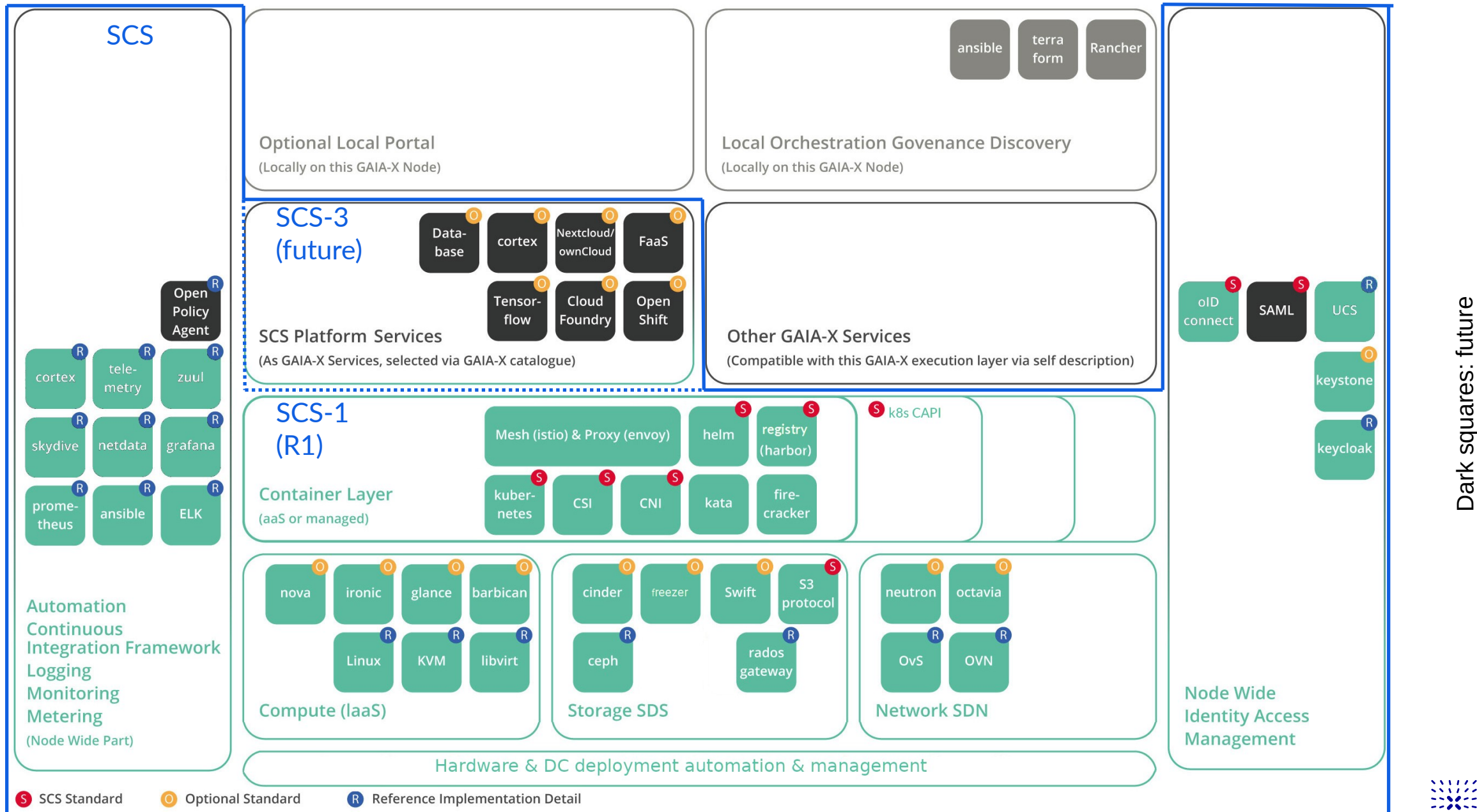
Supporters
(9/22)

And
you?

Building the SCS architecture bottom up



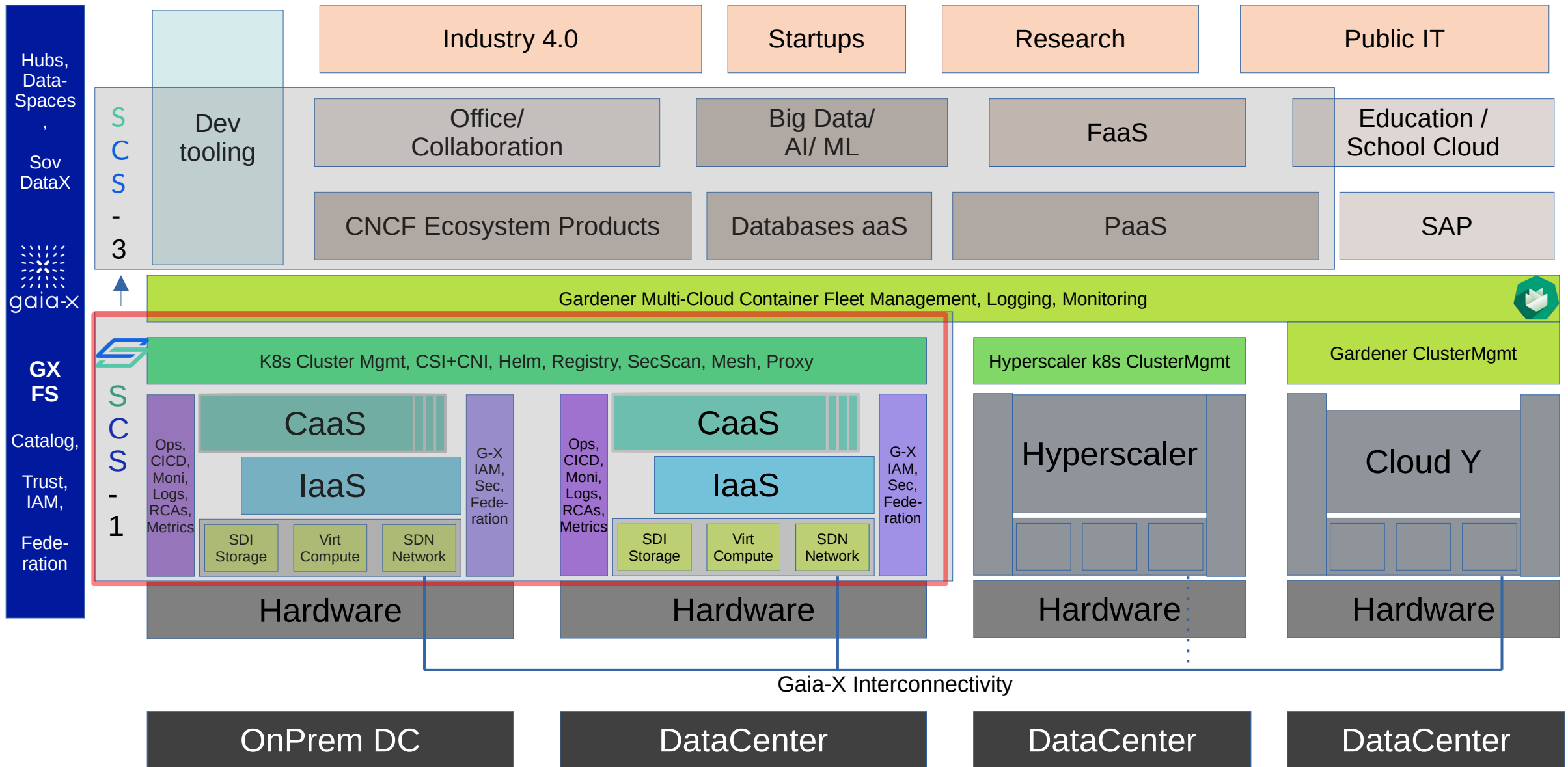
SCS Ref. Architecture (current status)



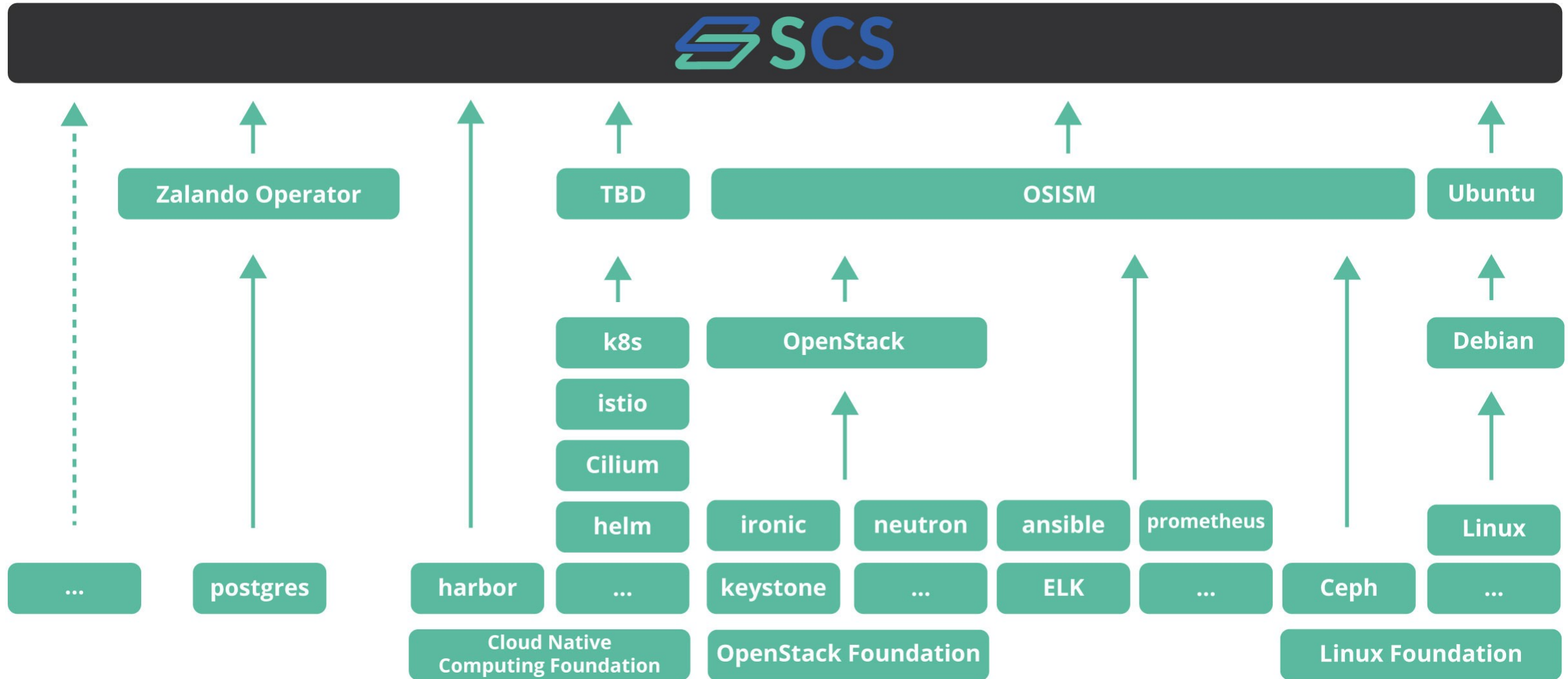
Dark squares: future

IT Ecosystem with GAIA-X

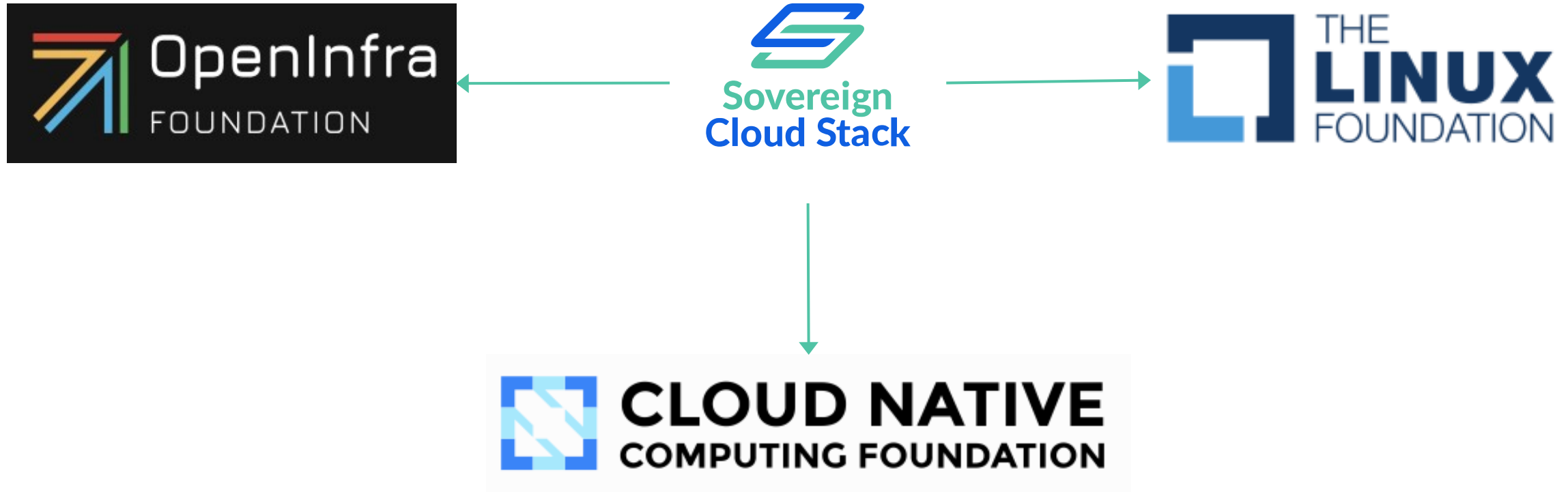
adapted from Acatech whitepaper



How is it built? (SCS developer perspective)



Upstream first!



SCS ecosystem

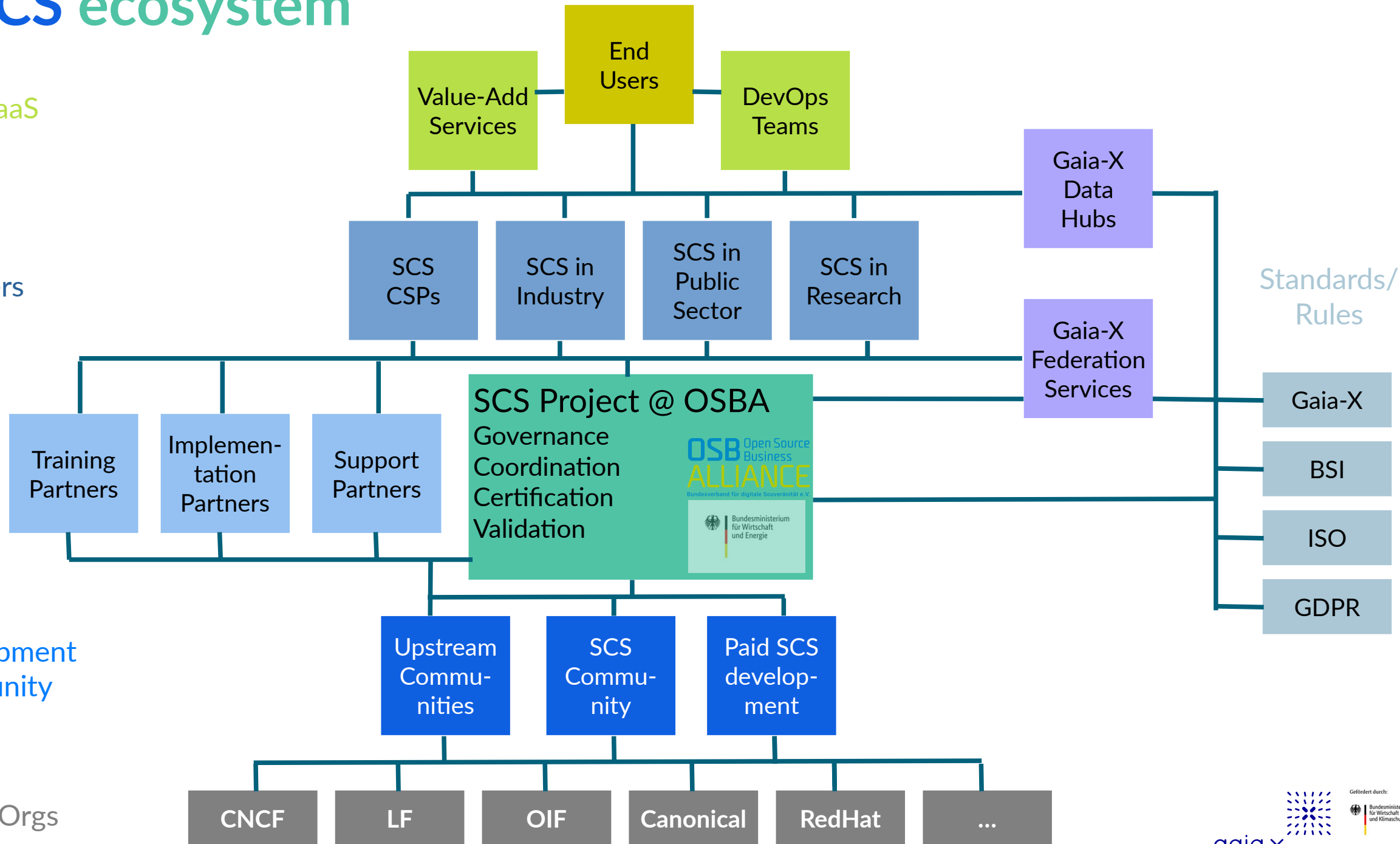
SaaS/PaaS

(Infra) Providers

Services

Development Community

Found/Orgs



IP management in SCS

Only accept OSI-approved open source licenses in implementation

Open Source health check

- 4 opens (open license, community, development, design)
- active&diverse communities
- maintenance, maturity, security

Use OSI licenses (ASL2, MIT, GPL, ...) of upstream projects

- contribute back as much as possible
- prefer copyleft for own independent code (weak copyleft for interface code)

Distributed copyright (like the Linux kernel)

- Intentionally prevents dual licensing, license changes

Use Digital Certificate of Origin (DCO, „signed-off-by“)

- documenting willful contributions under accepted license terms
- enforced by pre-merge checks

The Four Opens

Open Source

Open Design

Open Development

Open Community



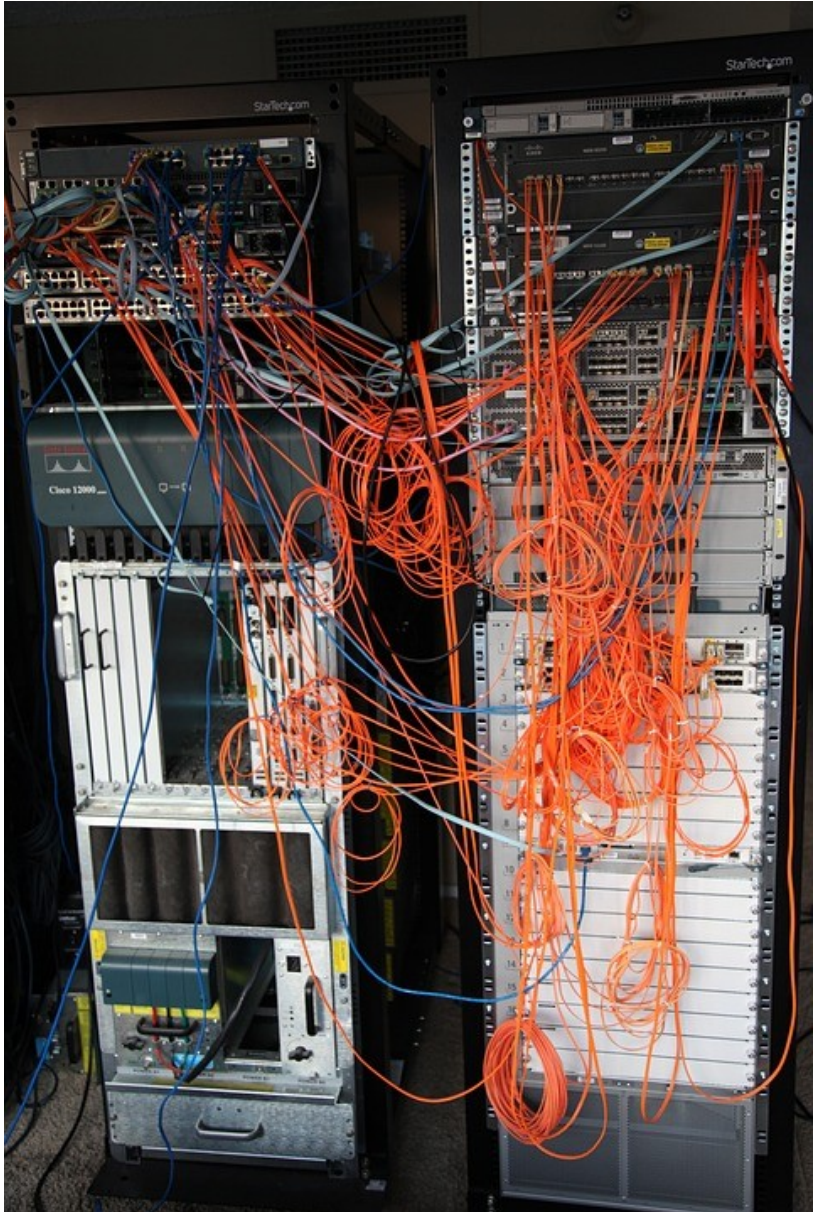
FANT  STIC

Open Source Health Check

<https://github.com/SovereignCloudStack/Docs/blob/main/Design-Docs/OSS-Health.md>

1. Really Open: Four Opens (Code, Devel, Design, Community)
2. Maturity: Quality, Reviews, CI, Maintenance, Standards
3. Security: Supply Chain, Sec Response, SecTesting / PenTest
4. Activity: Adoption, Community, Ecosystem
5. Risk Assessment: Likelihood to fail? Replace? Fork?

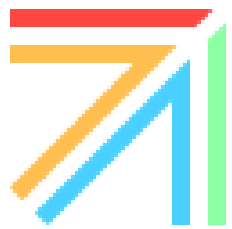
Operations is harder than development



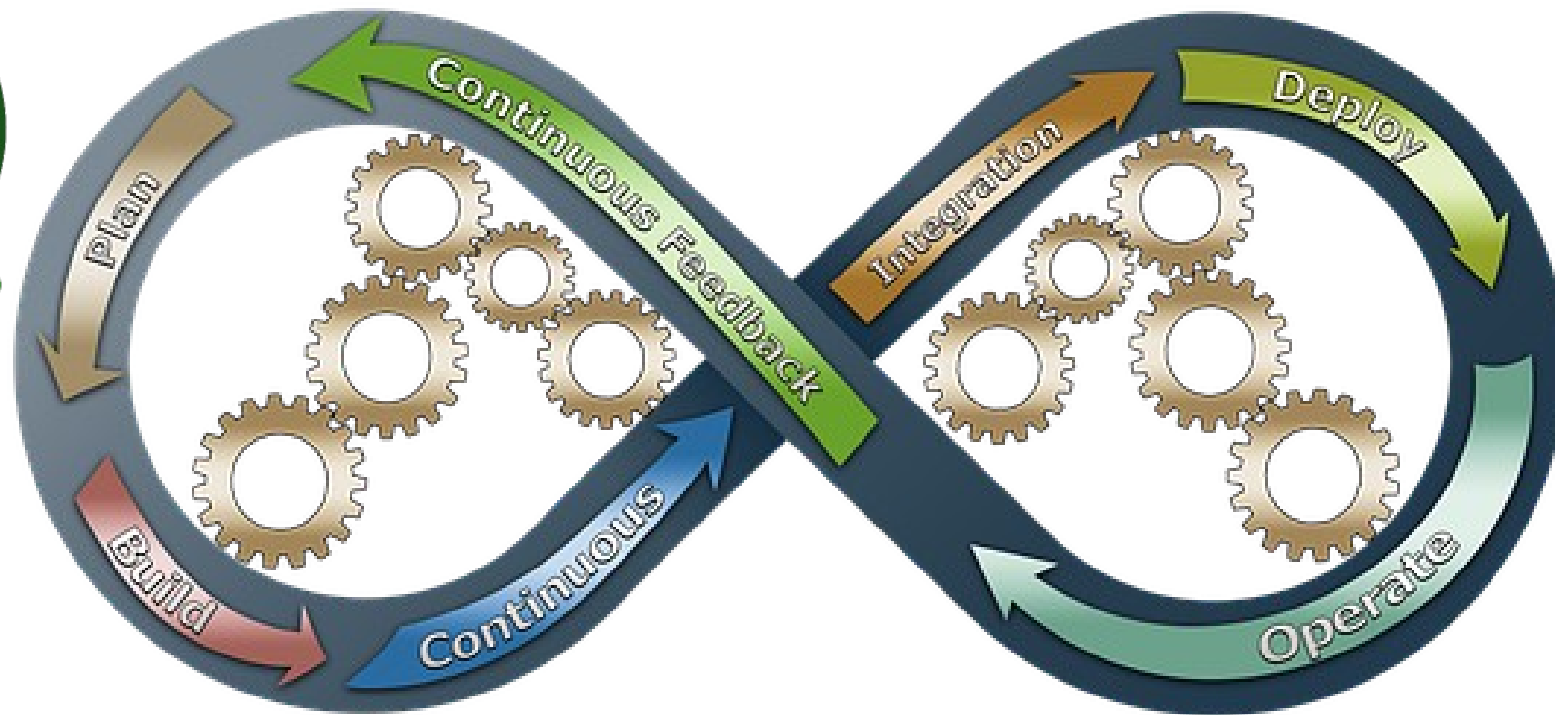
But even if I can participate in the community developing the software, how the heck am I supposed to operate this stack at scale?



DevOps allows to dev & op complex infra



4 x open



Need:
OpenOperations

A new hope^W movement ...



<https://openoperations.org/>

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.

Summary & Call to Action

A growing network of Operator builds standards, open source reference implementation and operational practices for sovereign cloud/container stacks in the SCS project

Join the growing network!

Open Source enables Europe to combine innovative technology with gaining control / sovereignty

Avoiding nationalistic / isolationist „European Technology“ silos!

Successful Open Source is much more than saying „open“!

Do it right: Fully Open Code, Dev, Design, Community. SBOM. Reviews. CI. Maturity.
Join the OSB Alliance!

Building & sharing operational skills – Open Operations manifesto

Join the movement!