



Observability in OpenStack - *Learnings and building blocks from the SIG* *Monitoring at SCS*

OpenInfra Summit 2022

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Federal Ministry
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by the German Bundestag

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



Who?

```
$ whoami  
matfechner
```

```
$ finger matfechner  
Login: matfechner  
Job: Senior Cloud Engineer  
E-Mail: fechner@osism.tech
```

Name: Mathias Fechner
Where: osism GmbH



```
$ whoami  
fkr
```

```
$ finger fkr  
Login: fkr  
Job: PO IaaS & Ops  
E-Mail: fkr@osb-alliance.com
```

Name: Felix Kronlage-Dammers
Where: OSB Alliance / SCS Project
Twitter: @felixkronlage



The logo for Sovereign Cloud Stack, featuring a stylized 'S' icon composed of blue and green lines, followed by the text 'Sovereign' in green and 'Cloud Stack' in blue, both in a bold, sans-serif font.

The Vision

Sovereign Cloud Stack (SCS) is federated cloud technology built entirely with Open Source Software – putting users and providers in control.

– <https://scs.community>

The Mission

Only Open Source guarantees digital sovereignty by interoperability, transparency and independence from unlawful claims of third parties and thus from any unauthorised interference.

– <https://scs.community>

Goals

- Standardization
- Certification
- Transparency
- Sustainability
- Federation



Who is behind the project?

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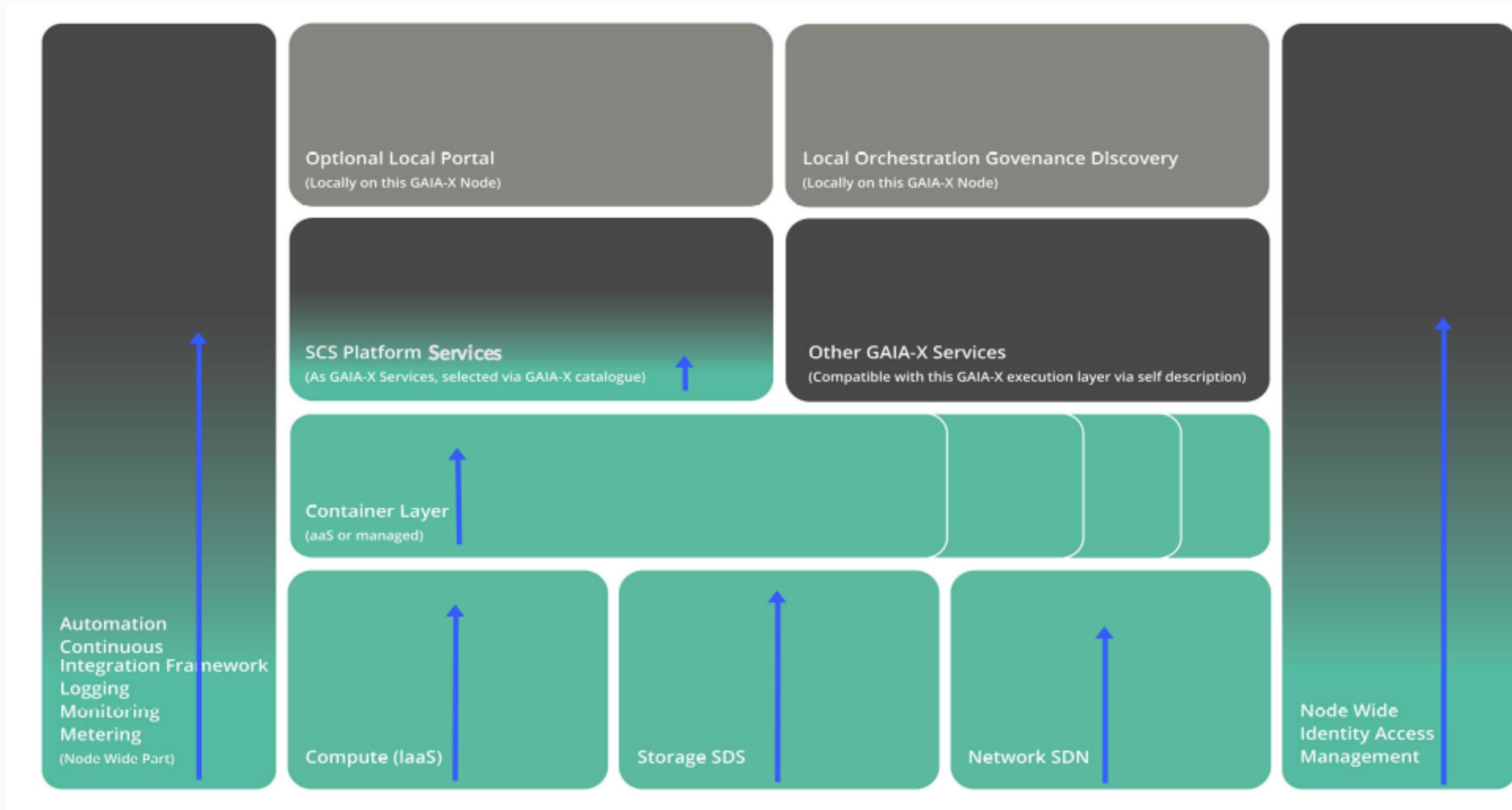
SPRIN-D

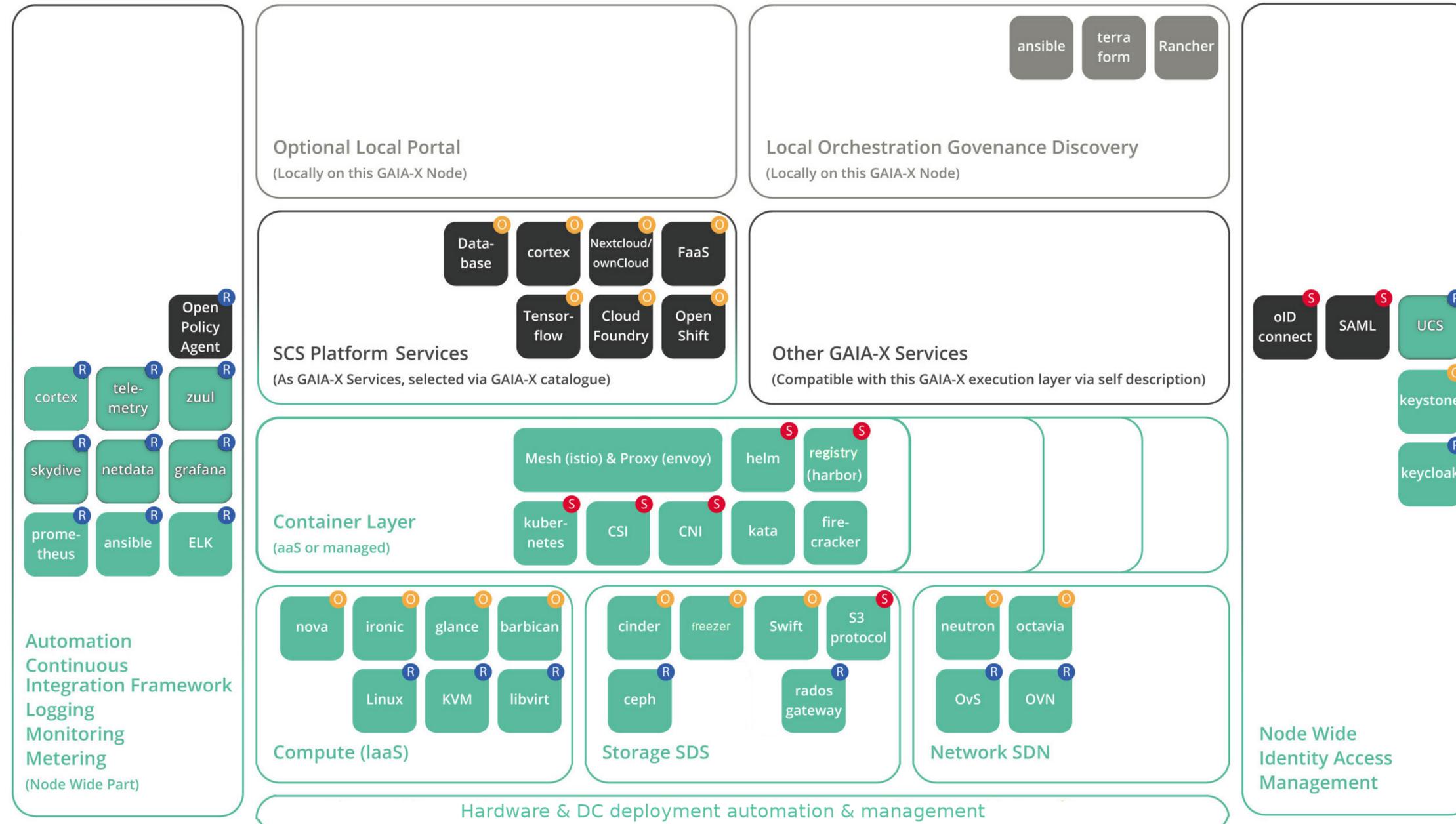
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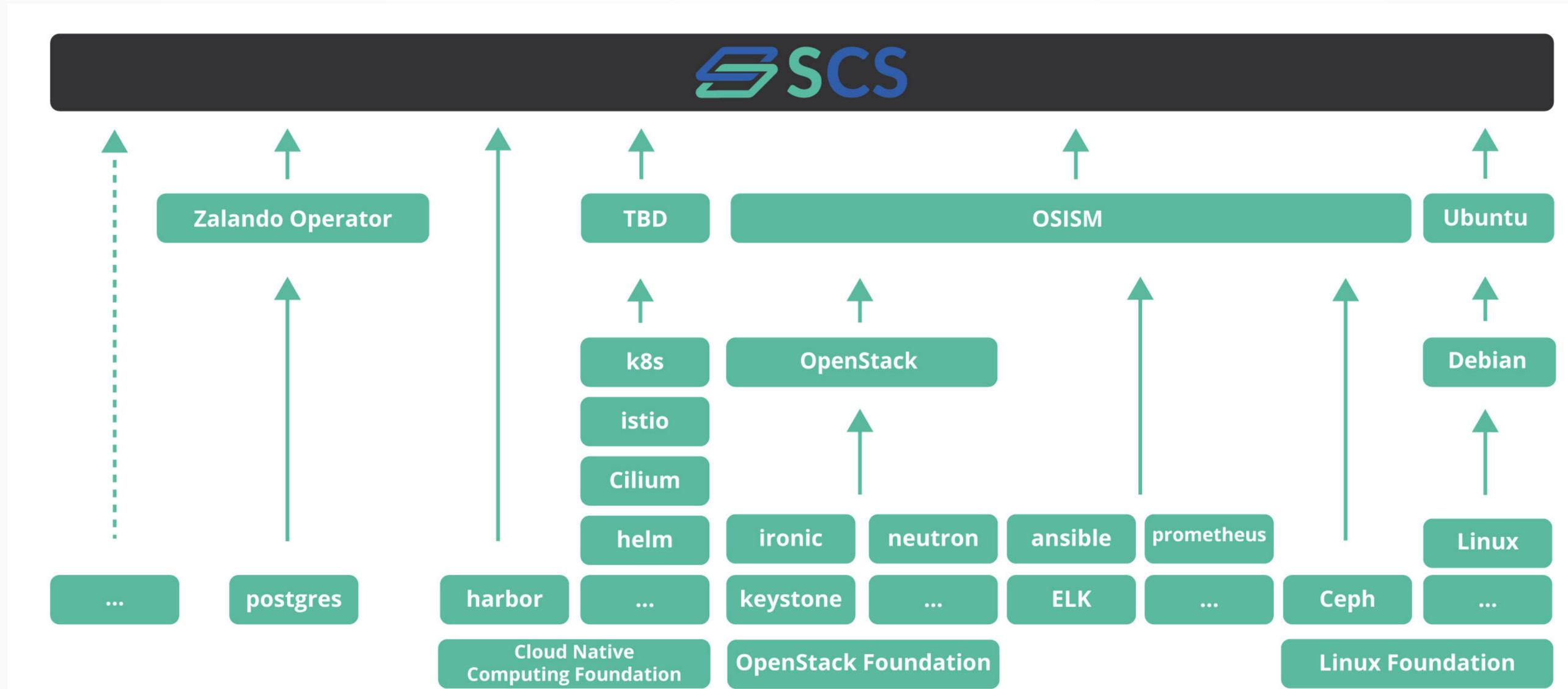
Open Source Business Alliance

- Non-profit Organisation to strengthen Open Source
- Striving for Digital Sovereignty
- More than 190 companies as members
- Funded in 2011, merger of LISOG and LIVE





S SCS Standard
 O Optional Standard
 R Reference Implementation Detail



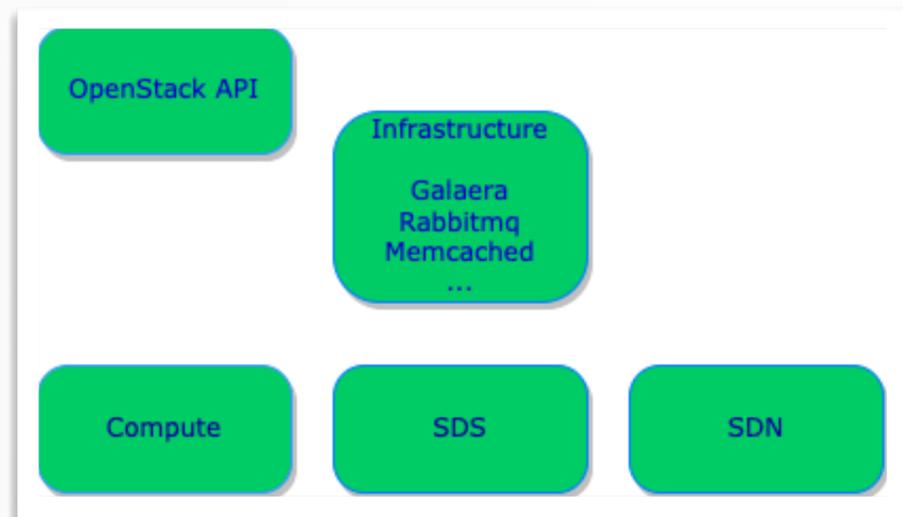
Observability

Why observing Cloud Infrastructure is different



Why is monitoring OpenStack so hard?

- Outline difficulties



- Node not in scheduler
- Behaviour based Monitoring

The Past

Let's steal the fire of the Stack

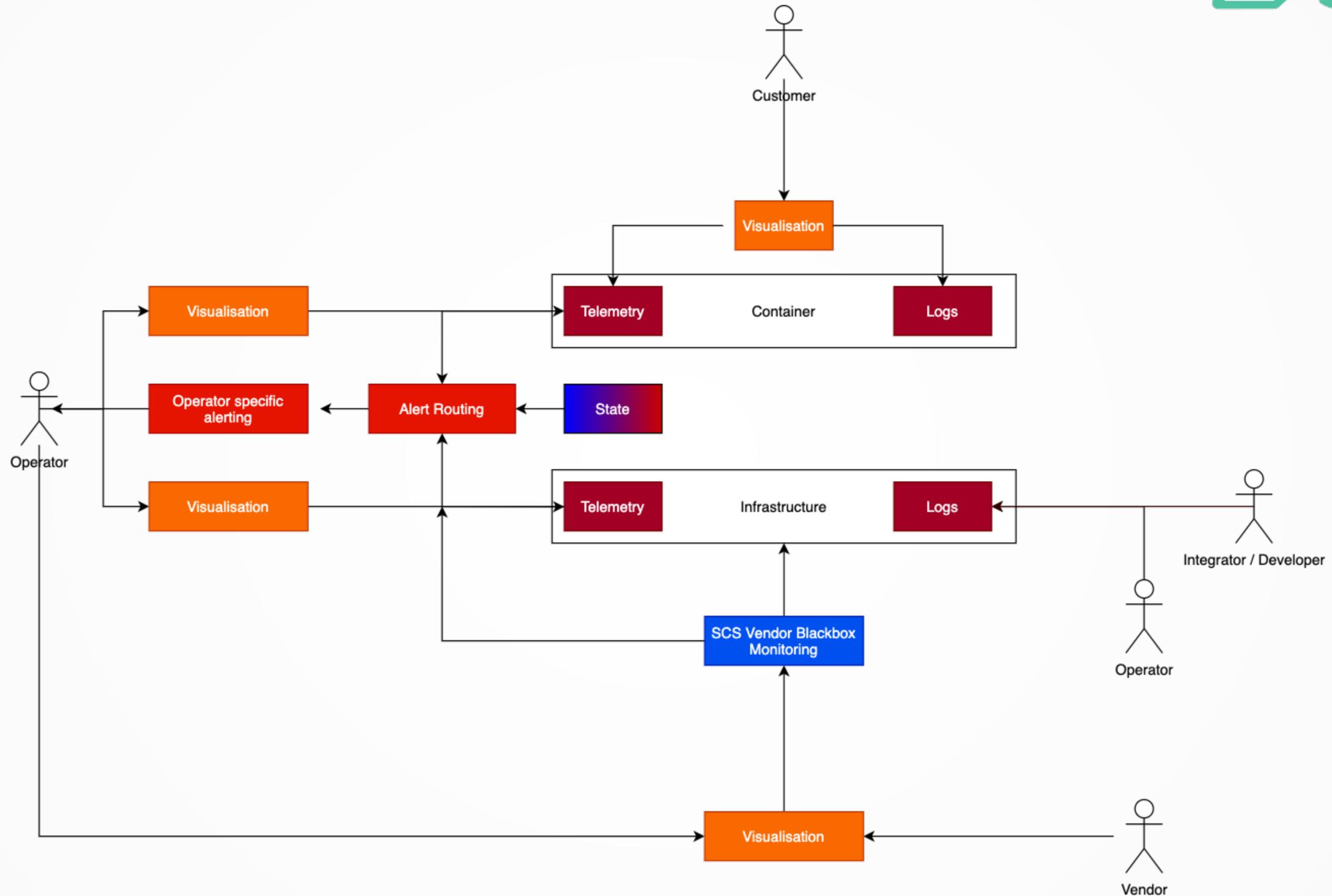
Let's use metrics



The Past

Legacy Monitoring

- Limits
- Just states
 - 0, 1, 2 - ok, warning, critical



The Past

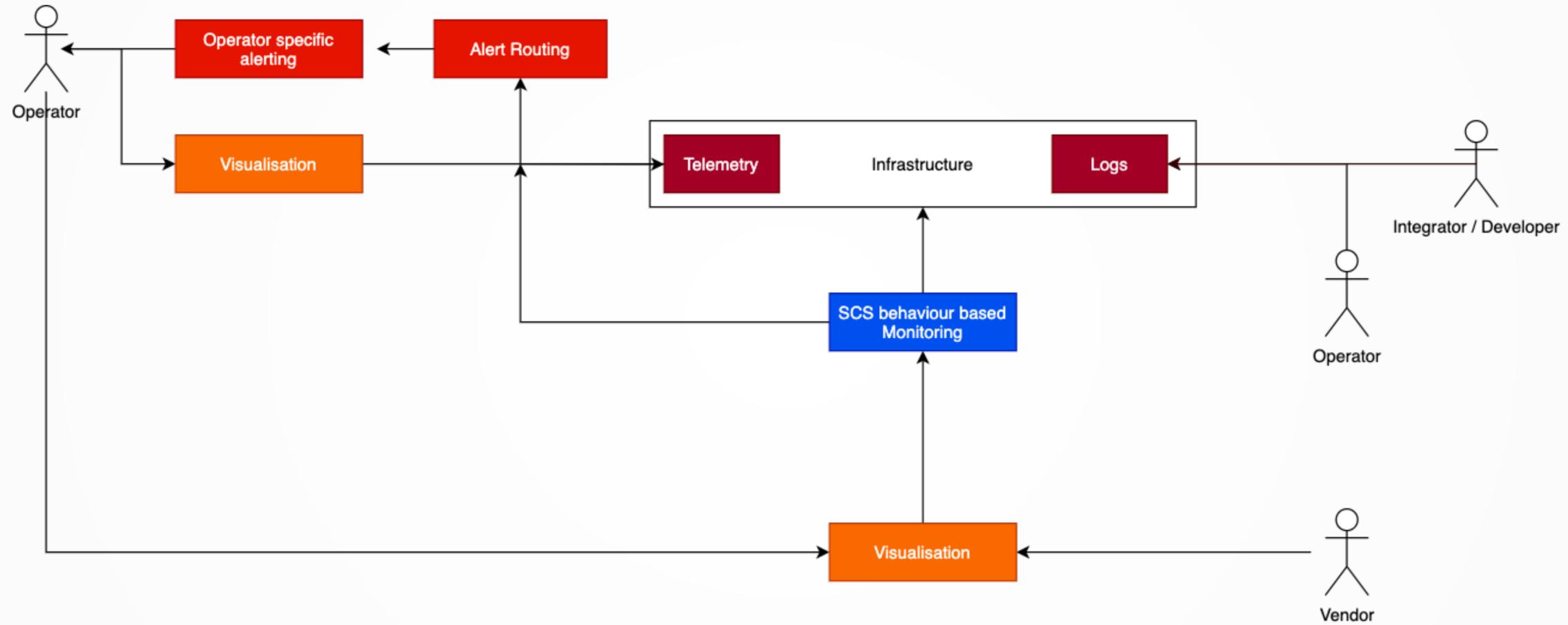
Stack observability inside

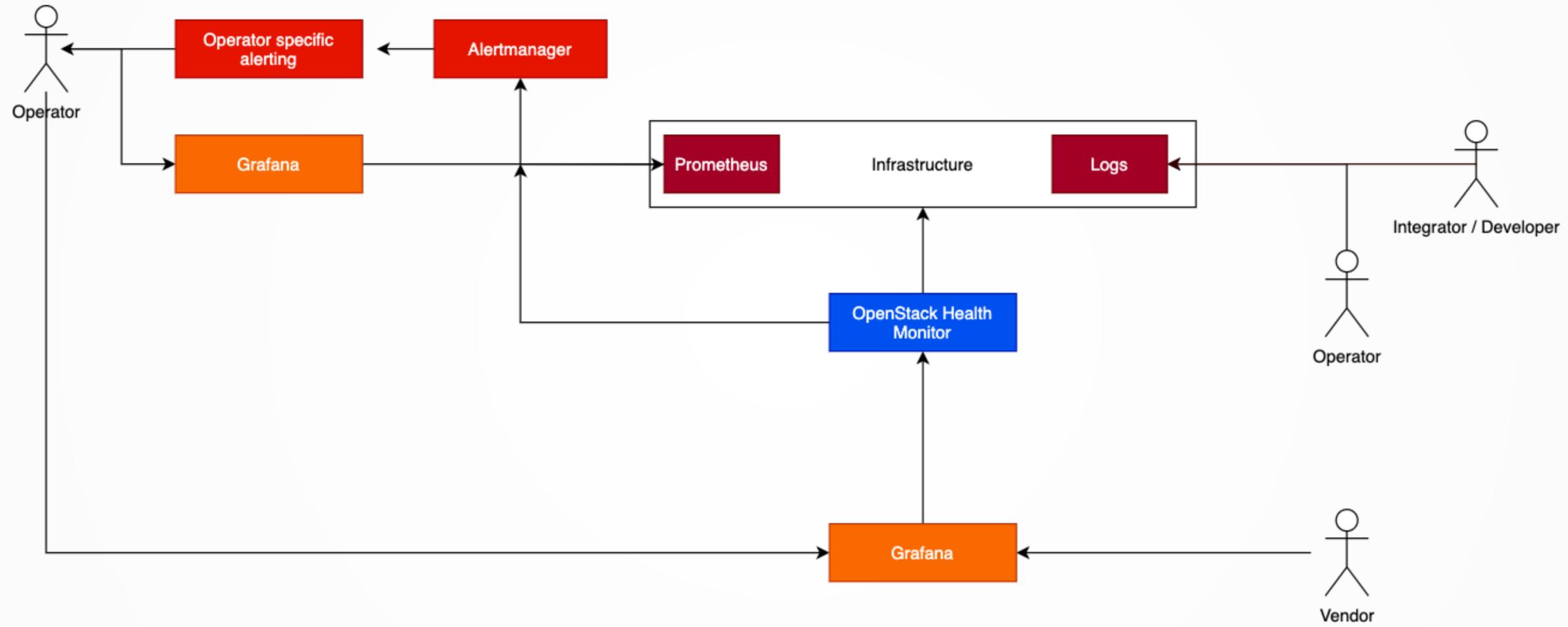
- API
- Infrastructure
- Core Services

The Past

Behaviour based observability

- API is responsive for users
- Test user interaction are constant





The Present

Standard...

- Ruleset
- Dashboards
- Alerts

OpenStack Health Monitor

- Behaviour-based Monitoring
- API Calls
- Availability as well as...
- ...clear view of performance delivered to the end customer
- currently a 4k line shell script
- <https://github.com/SovereignCloudStack/openstack-health-monitor>

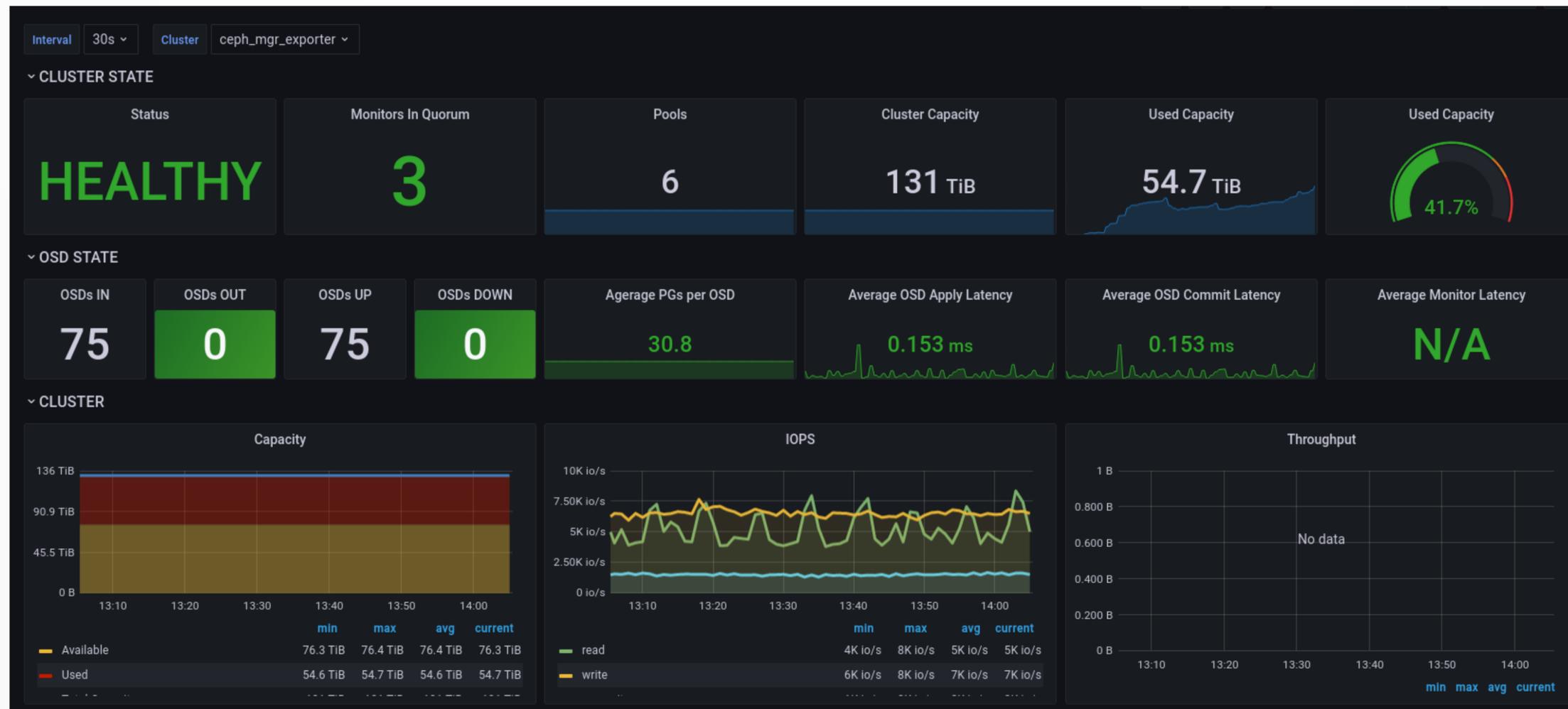
Measure what you manage



Grafana dashboards rule our world



Grafana dashboards rule our world



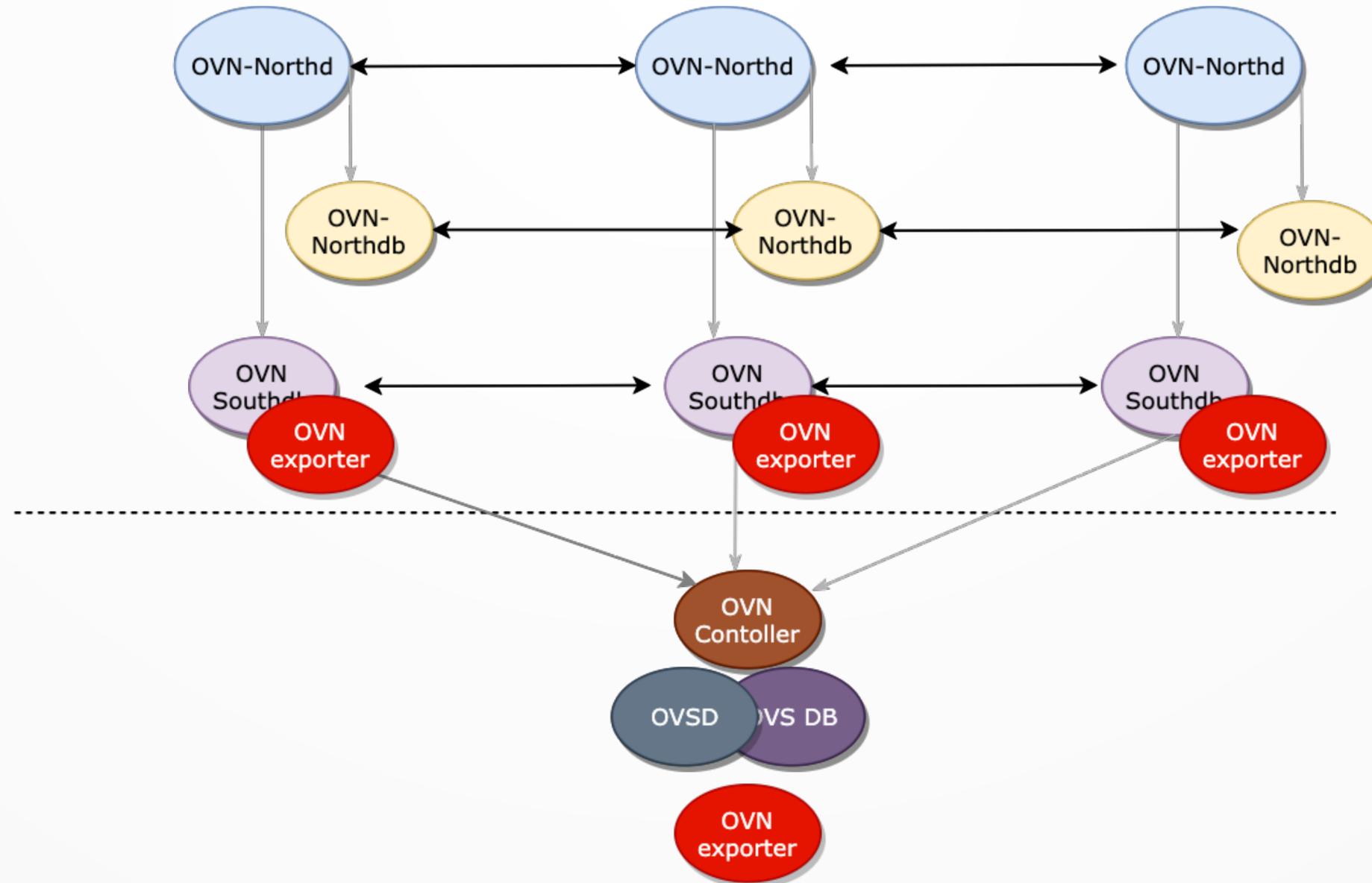
The Present

- Rules shared on github
- Present in OSISM
 - <https://github.com/osism/kolla-operations>
 - <https://awesome-prometheus-alerts.grep.to>

The Future

- Observability is more than metrics
- Capacity management
- Aggregate Accounting

Observing OVN



Behaviour-based monitoring continued

- Moving from the shell script
 - rally? tempest?
 - or something else that is much more progressed?
- Lots of work done @ OTC
- Future collaboration needed

apimon / cloudmon



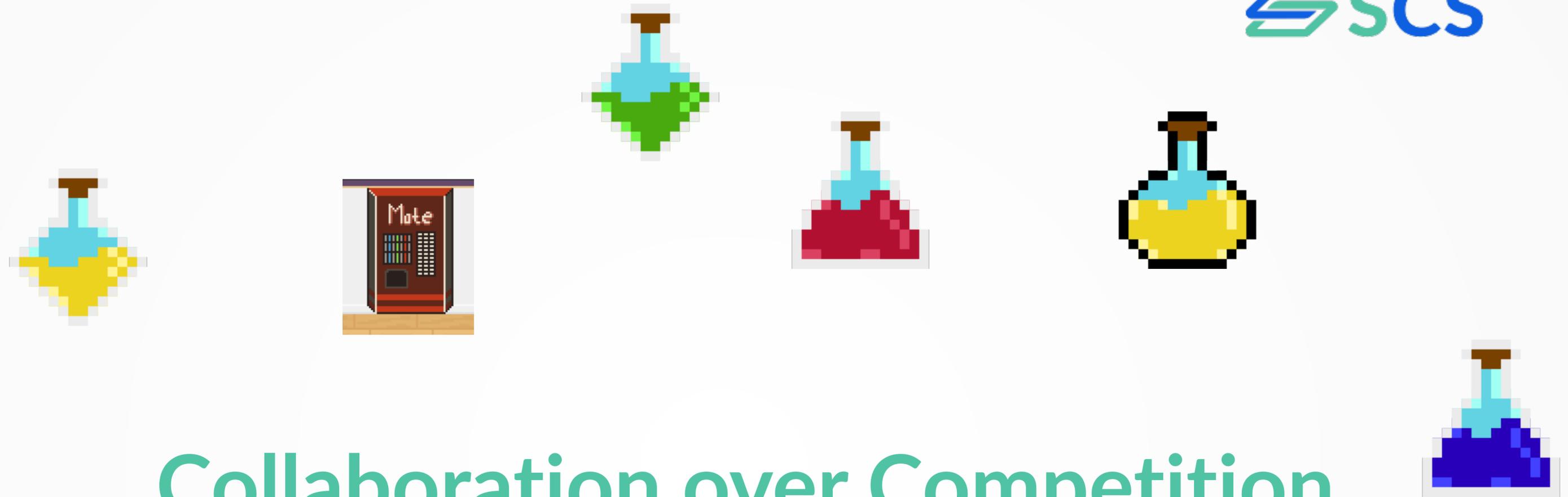
All your logs are belong to us

- Where do we go with log analysis?
- Differentiate use-cases
 - Debugging
 - Alerting -> predictive maintenance
 - Legal aspects
- Who doesn't have a log-aggregation in place?



"By sharing and documenting best practices for operating such cloud stacks, the difficulty to provide high quality cloud services internally or publicly is vastly reduced."

– <https://scs.community>



Collaboration over Competition



Resources

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

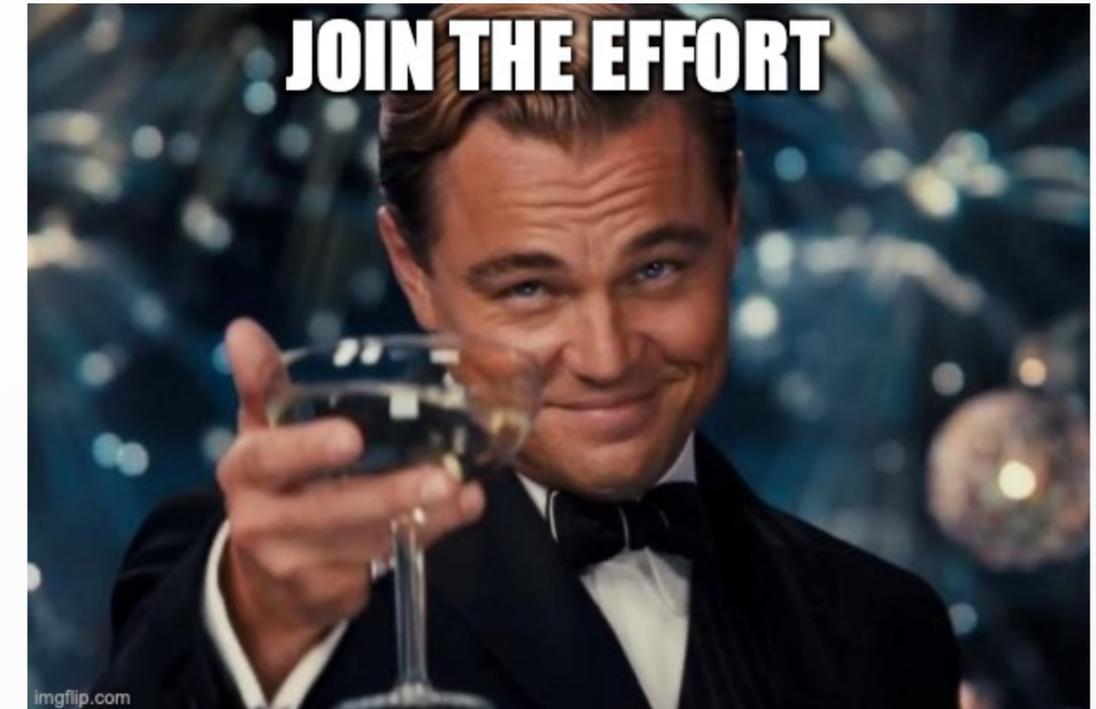


- <https://github.com/osism/>



Join the effort!

- E-Mail: project@scs.sovereign.it
- Matrix:
<https://matrix.to/#/#scs-general:matrix.org>
- Every Friday, 12:05 CEST - SIG Monitoring!
<https://conf.scs.koeln:8443/SCS-Tech>





Contacts

<https://scs.community/>

https://twitter.com/scs_osballiance

<https://www.linkedin.com/showcase/sovereigncloudstack/>

Possible questions

- Alerta?
- How is HA handled in monitoring
- Long-term storage of metrics
-

Possible questions

- Questions