

Gaia-X *celerate* SUMMIT 2023

Alicante, Spain

9 & 10 November

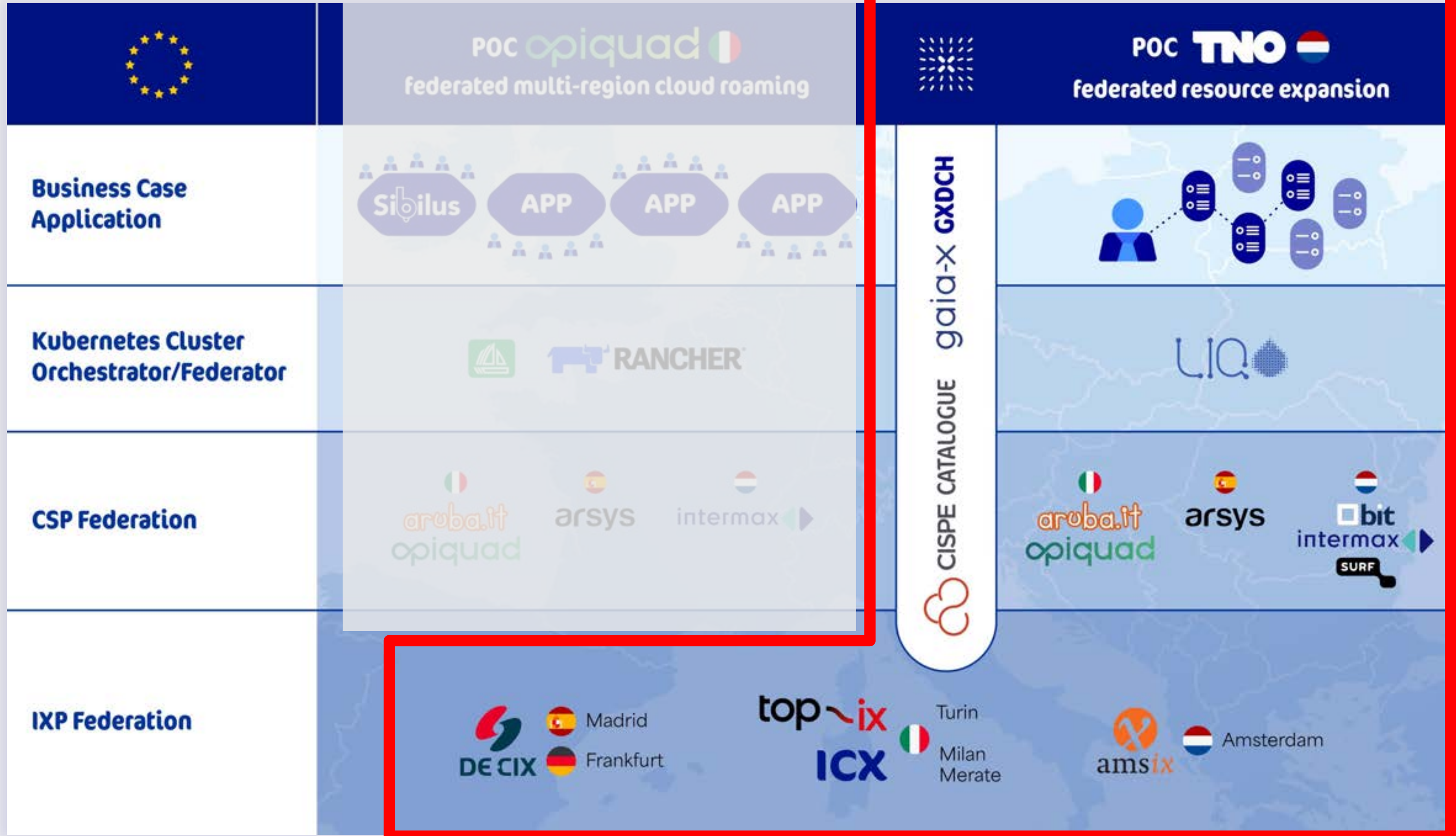
In partnership with gaia-x

 Hub Spain



#GaiaXSummit23

Structura-X



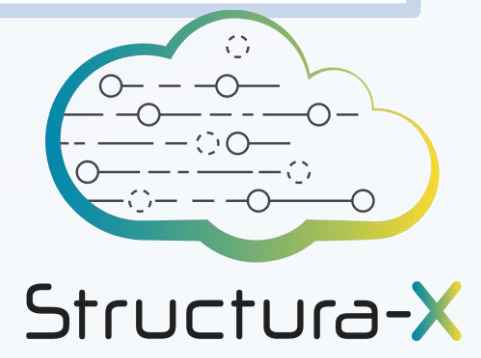
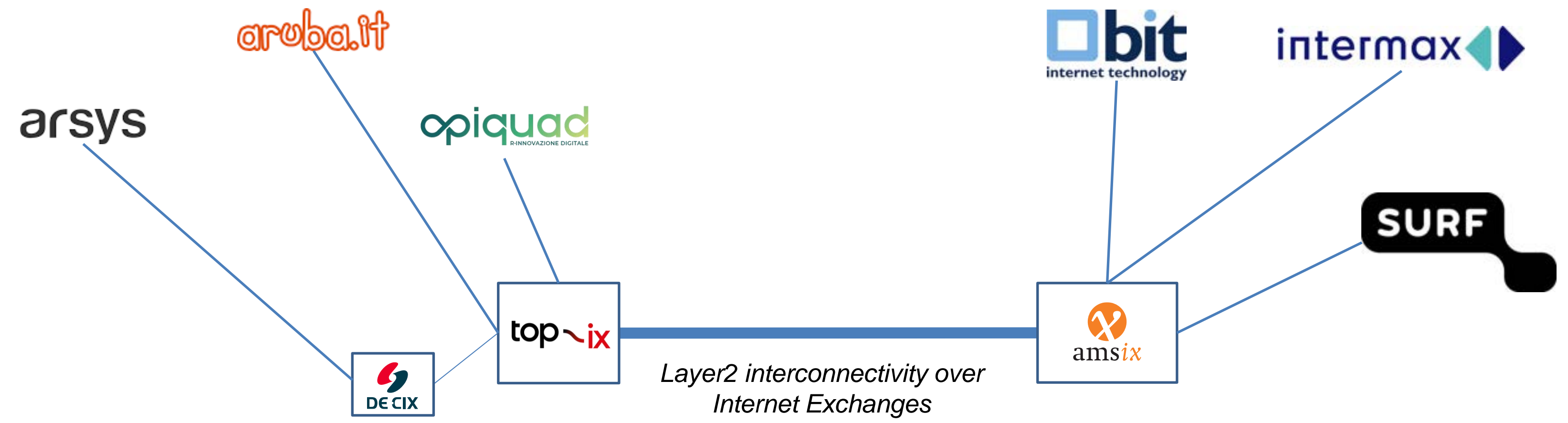
The demo in short

*We demonstrate the ability to **expand cloud compute resources by using third-party resources** in a trusted and transparent way by applying the Gaia-X Framework. This targets to eliminate **mitigates vendor lock-ins** for businesses acquiring cloud services and infrastructure resources*

Cross-border cloud federation with Ligo



Federated Cloud Resources with Ligo



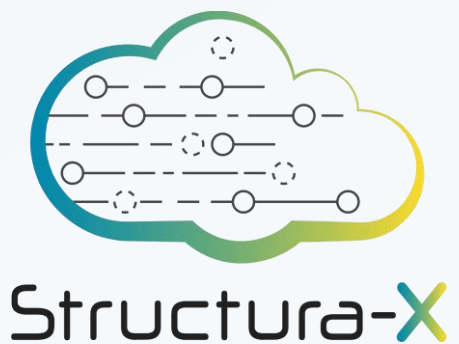
Expanding cloud resources based on advertised characteristics in catalogue



Different types of criteria can affect **federation choices** and **deployment strategies**

We distinguish three types of criteria:

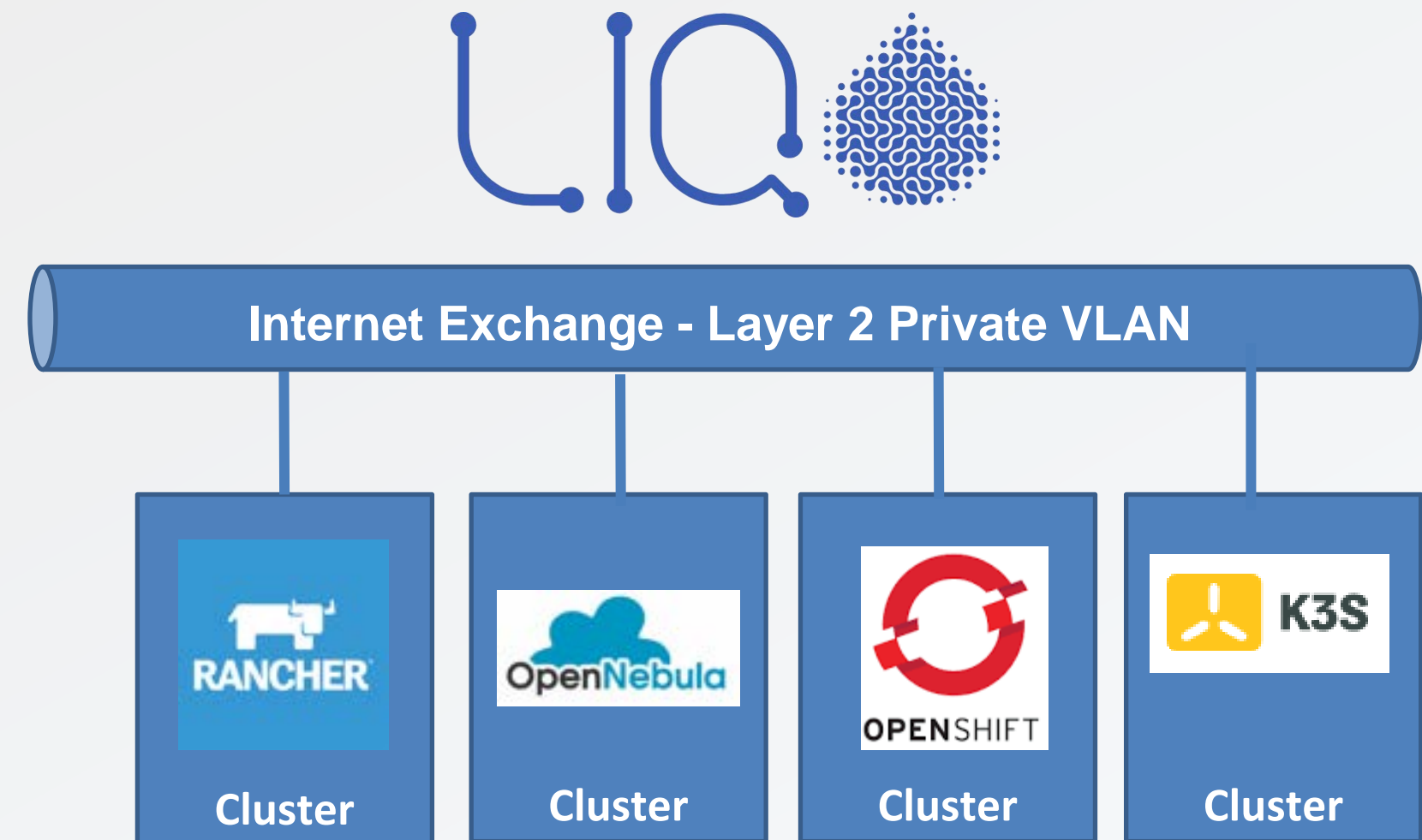
- 1) *Locality criteria* (e.g. geo-location, on-prem, edge, cloud etc)
- 2) *Technical criteria* (e.g. resource types, CPUs, GPUs, etc).
- 3) *Compliance criteria* (e.g. Gaia-X -, GDPR , NIS2 Compliance, etc)



The technical setup

The federation is based on independently managed K8S-clusters

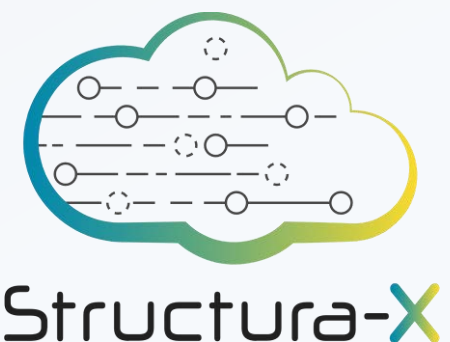
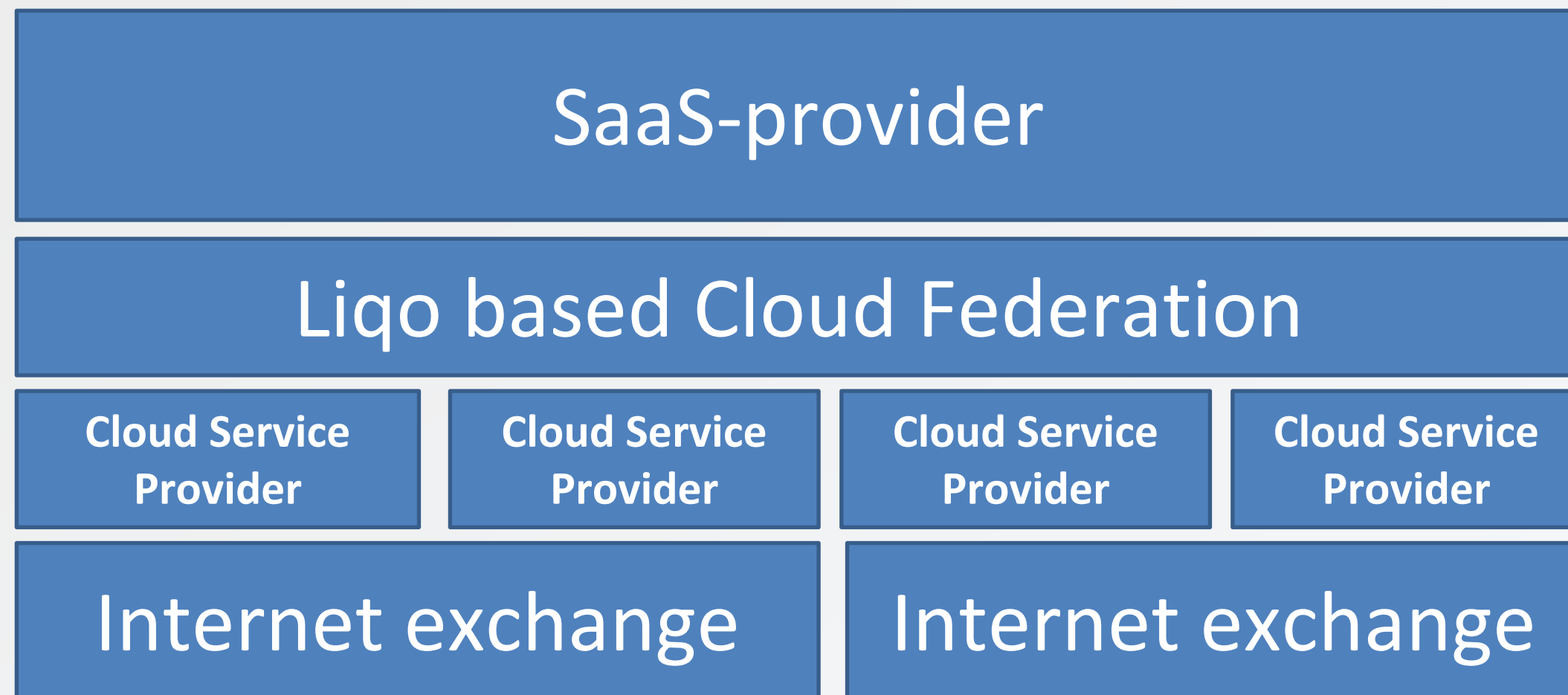
- Kubernetes based on OpenShift
- Kubernetes based on Rancher
- Kubernetes based on K3S
- Kubernetes based on OpenNebula (ONE)
- Layer 2 network connectivity over AMS-IX, TOP-IX and DE-CIX
- Liqo to federate the Kubernetes clusters



Demo perspective: SaaS-provider



The demo takes the perspective of a **SaaS (Software as a Service) provider** which is a consumer of cloud resources



Demo infographic



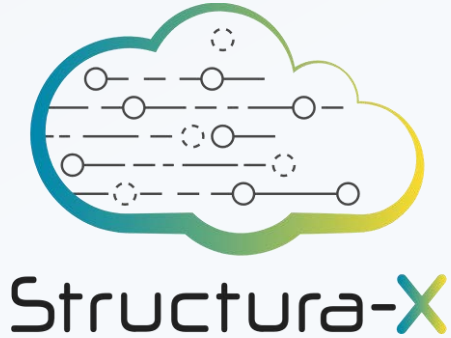
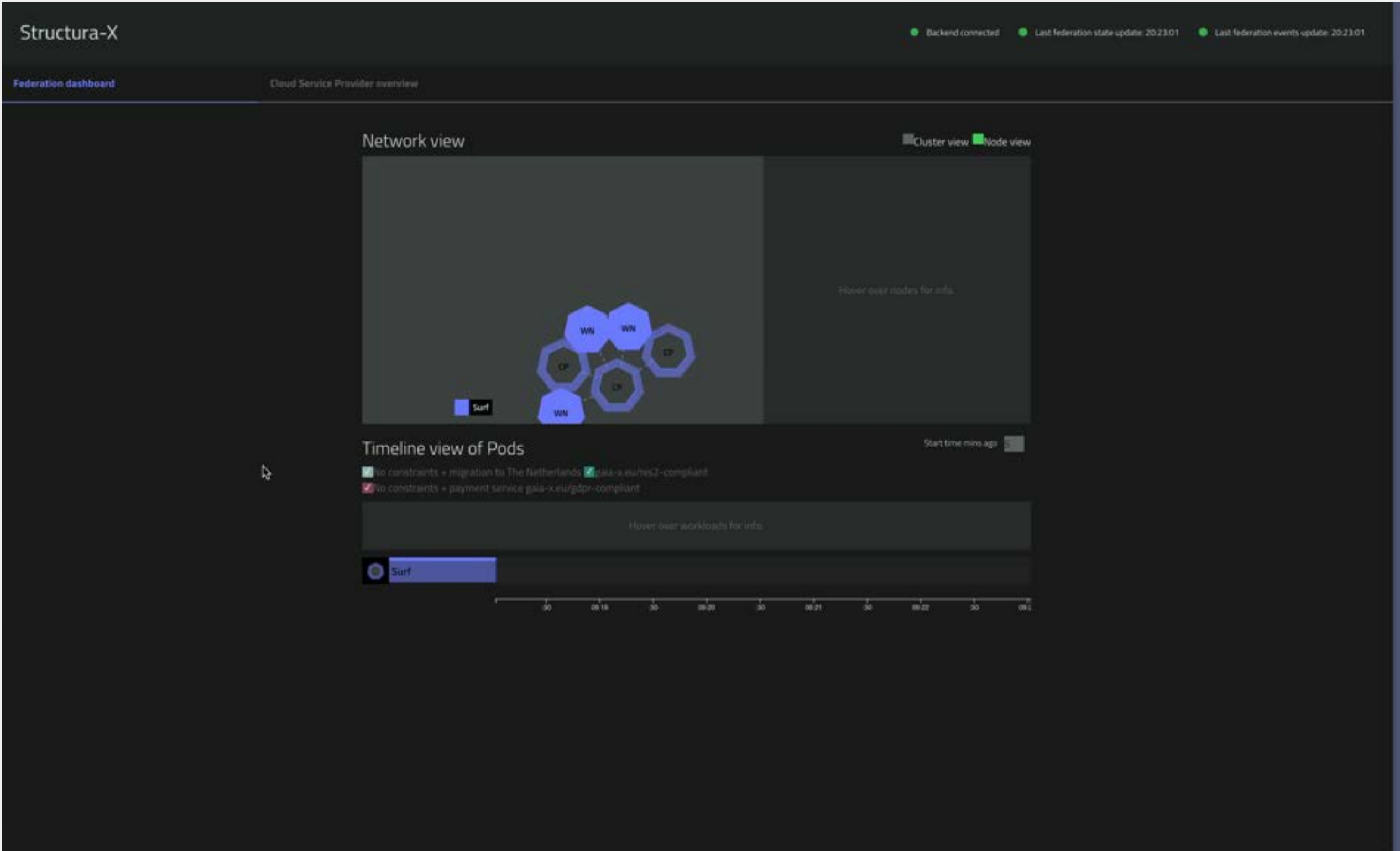
Available CPSs to federate over

CSP Overview cpu gaia-x.eu/gdpr-compliant

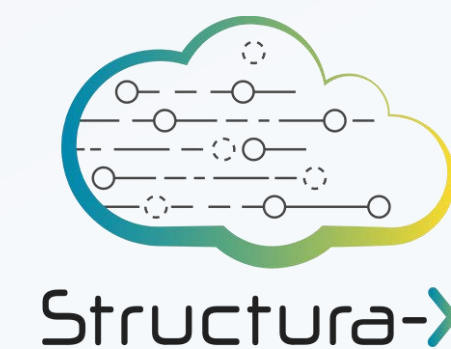
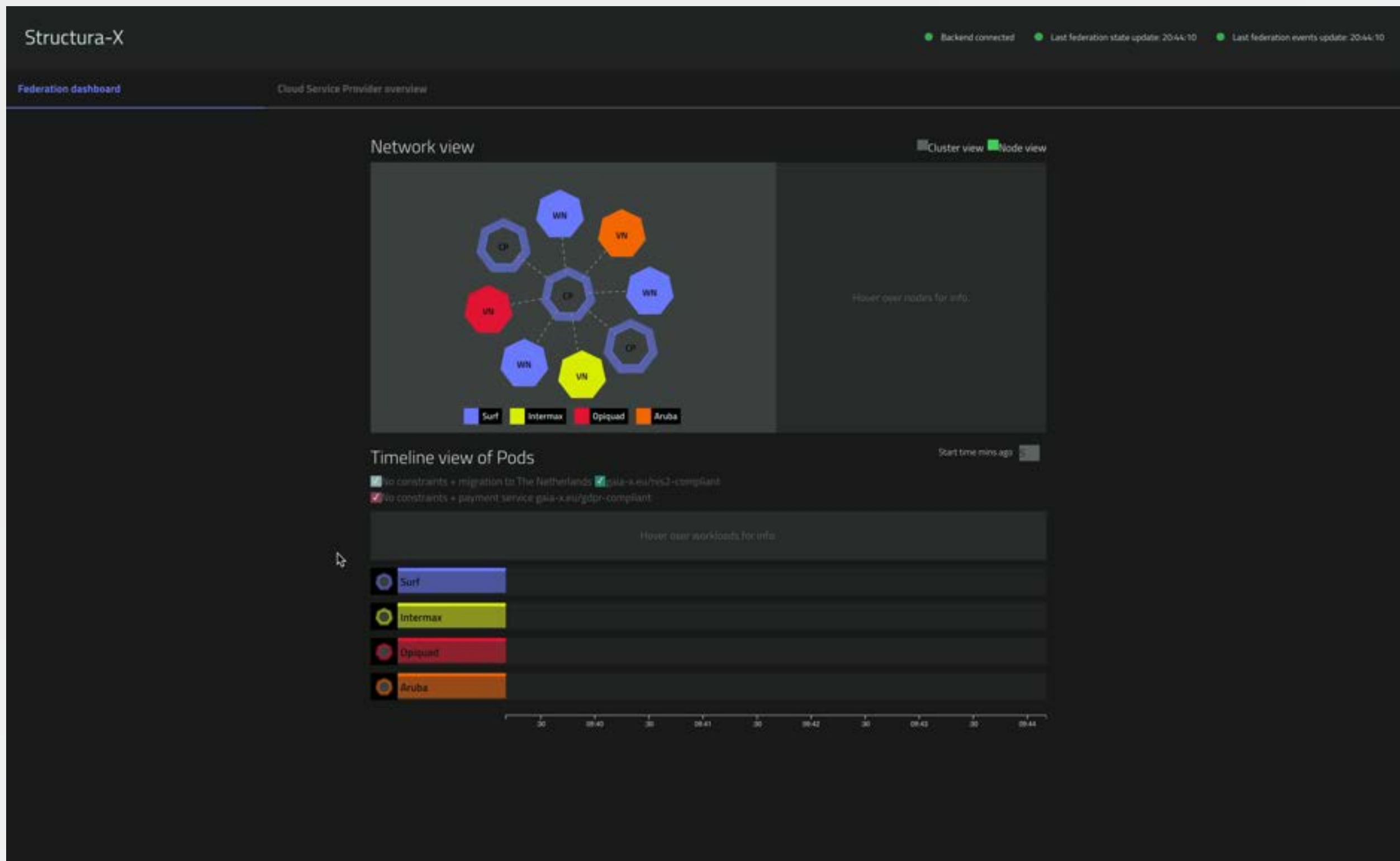
Name ↑↓	Locality ↑↓	Peering ↓ 1	cpu ↑↓	gaia-x.eu/gdpr-compliant ↑↓
Surf	The Netherlands	Self	24	true
Bit	The Netherlands	Discovered	12	true
Intermax	The Netherlands	Discovered	16	false
Opiquad	Italy	Discovered	8	true
Aruba	Italy	Discovered	8	true
Arsys	Spain	Discovered	12	true

	SURF	INTERMAX	ARUBA	OPIQUAD
topology.region				
gaia-x.eu/gdpr-compliant	True	False	True	True
gaia-x.eu/nis2-compliant	True	True	False	True
Deployment 1	No constraints			
Deployment 1 After migration	topology.region = The Netherlands			
Deployment 2	gaia-x.eu/nis2-compliant		gaia-x.eu/nis2-compliant	
Deployment 3 Mixed constraints	Other services no constraints			
	paymentservice gaia-x.eu/gdpr-compliant		paymentservice gaia-x.eu/gdpr-compliant	

CSPs are chosen to federate over



Multiple deployments on different CSPs



Workload migration from CSP to CSP

