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# GOTO AARHUS 2021

#GOTOaar

# Operations as a Service for Kubernetes

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who we are



**Claus Albøge**  
Solutions Architect



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Platform Development Specialist



**Allan Højgaard Jensen**  
Platform Development Specialist



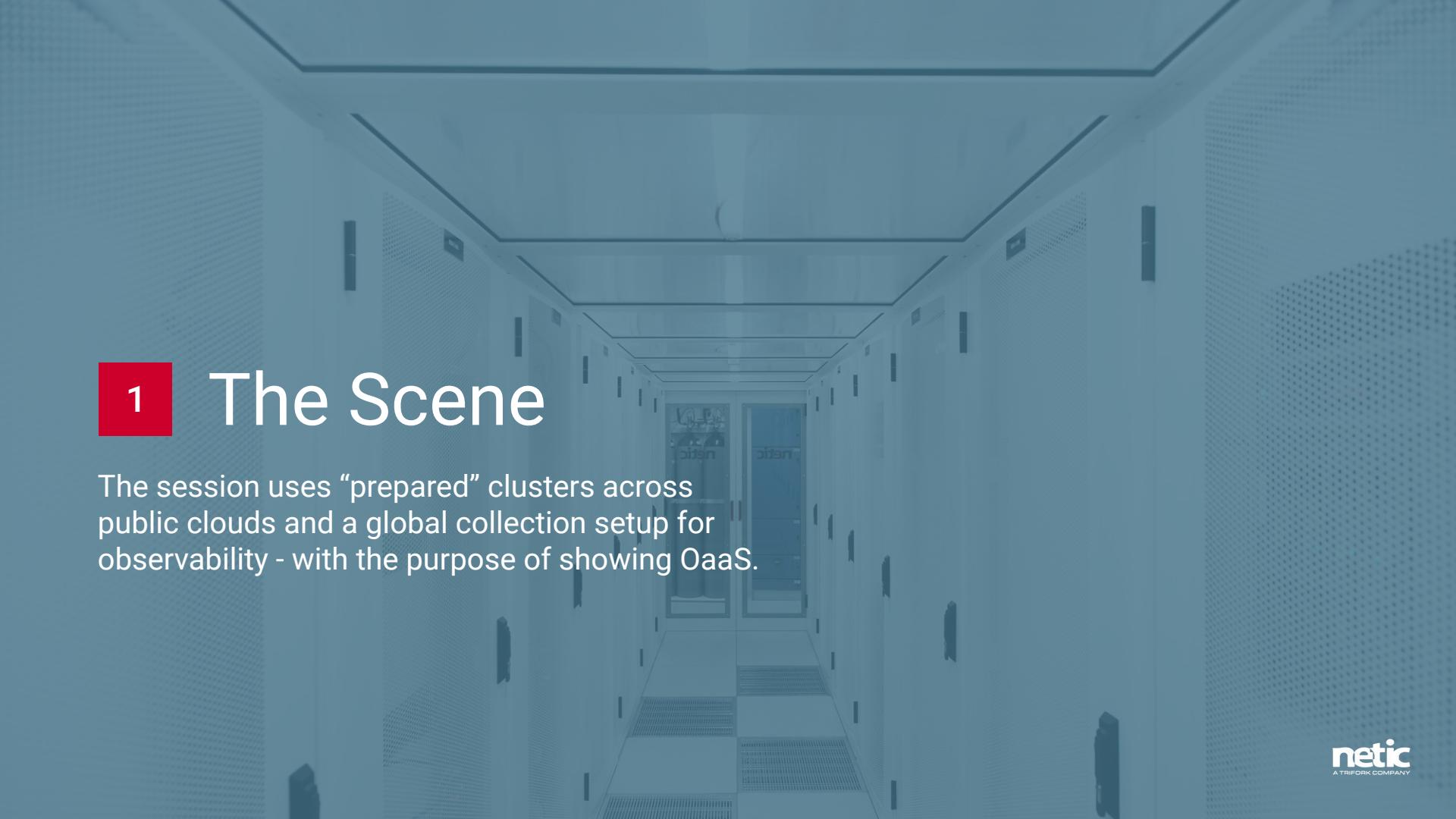
# whois ...

Netic is an operations company running:

- nationally critical health systems,
  - large e-commerce systems,
  - financial solutions,
- and more.

A growing portion of these systems are running on Kubernetes.

Netic masters DevOps based and agile operations services  
... as well as the ITIL way of doing operations.

The background of the slide is a blurred photograph of a server room. The room is filled with tall, grey server racks that reach from floor to ceiling. The racks have various ports and labels visible. The lighting is bright, coming from recessed lights in the ceiling. The perspective is looking down a long aisle between the racks.

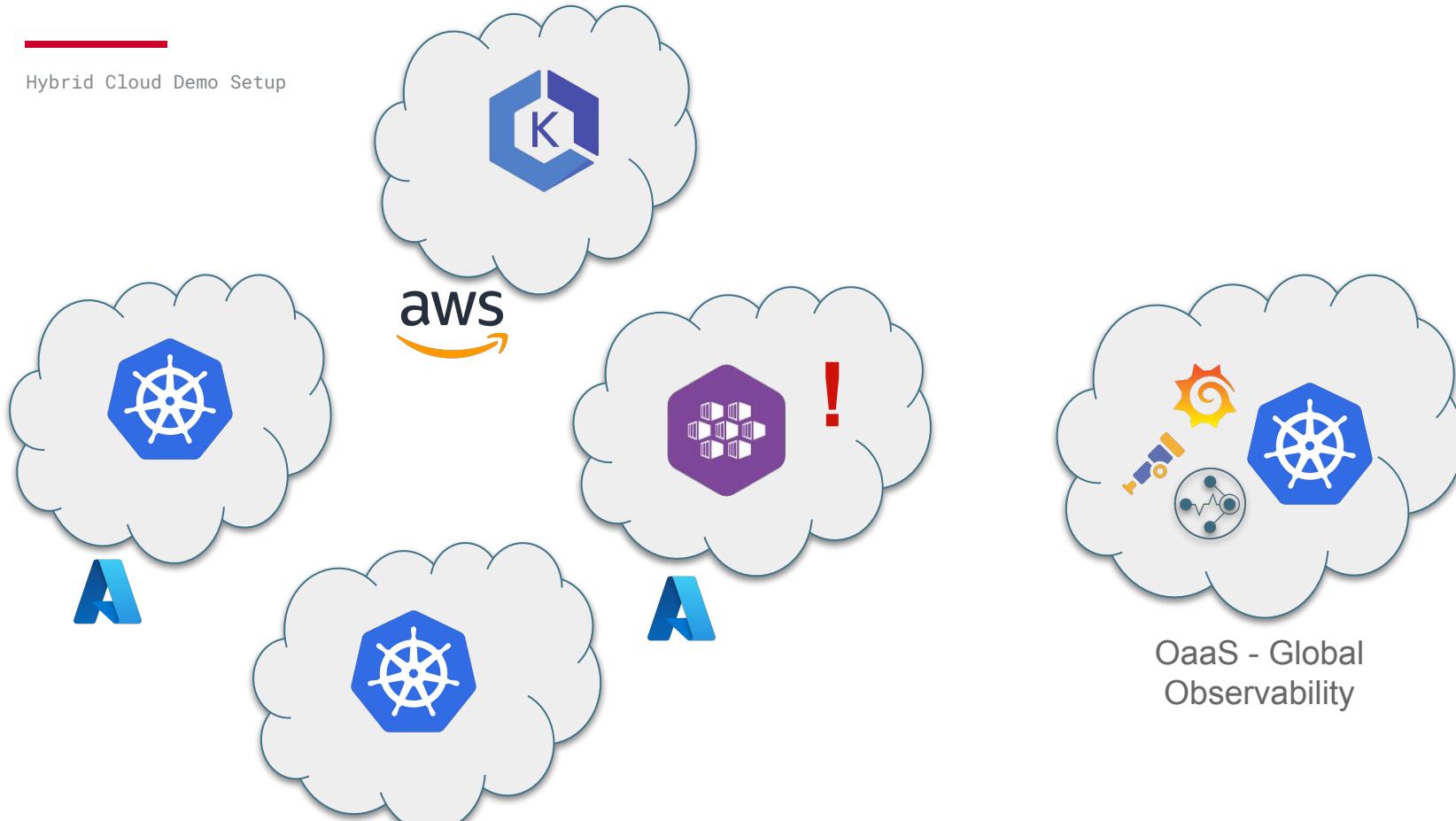
1

# The Scene

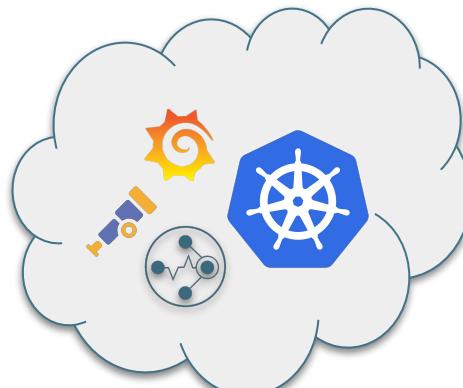
The session uses “prepared” clusters across public clouds and a global collection setup for observability - with the purpose of showing OaaS.

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## Hybrid Cloud Demo Setup



**nctic**

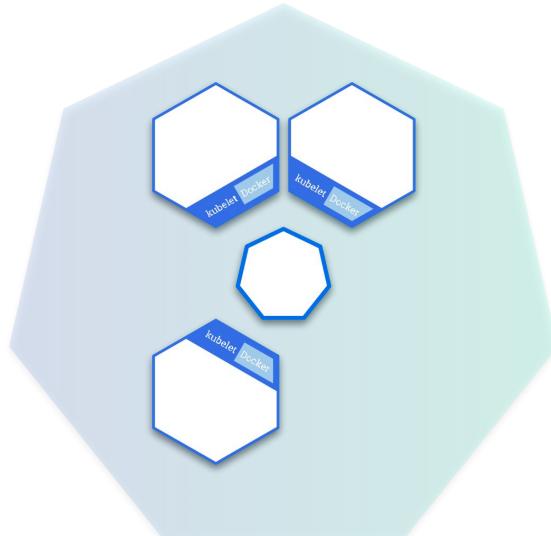


OaaS - Global  
Observability

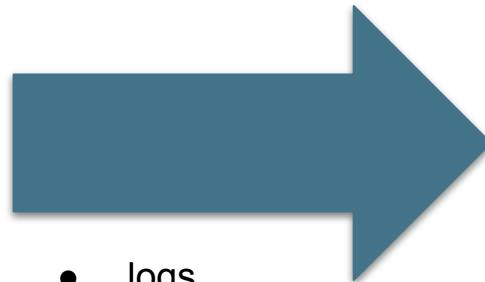
**nctic**  
A TRIFORK COMPANY

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## Cross Cluster Collection



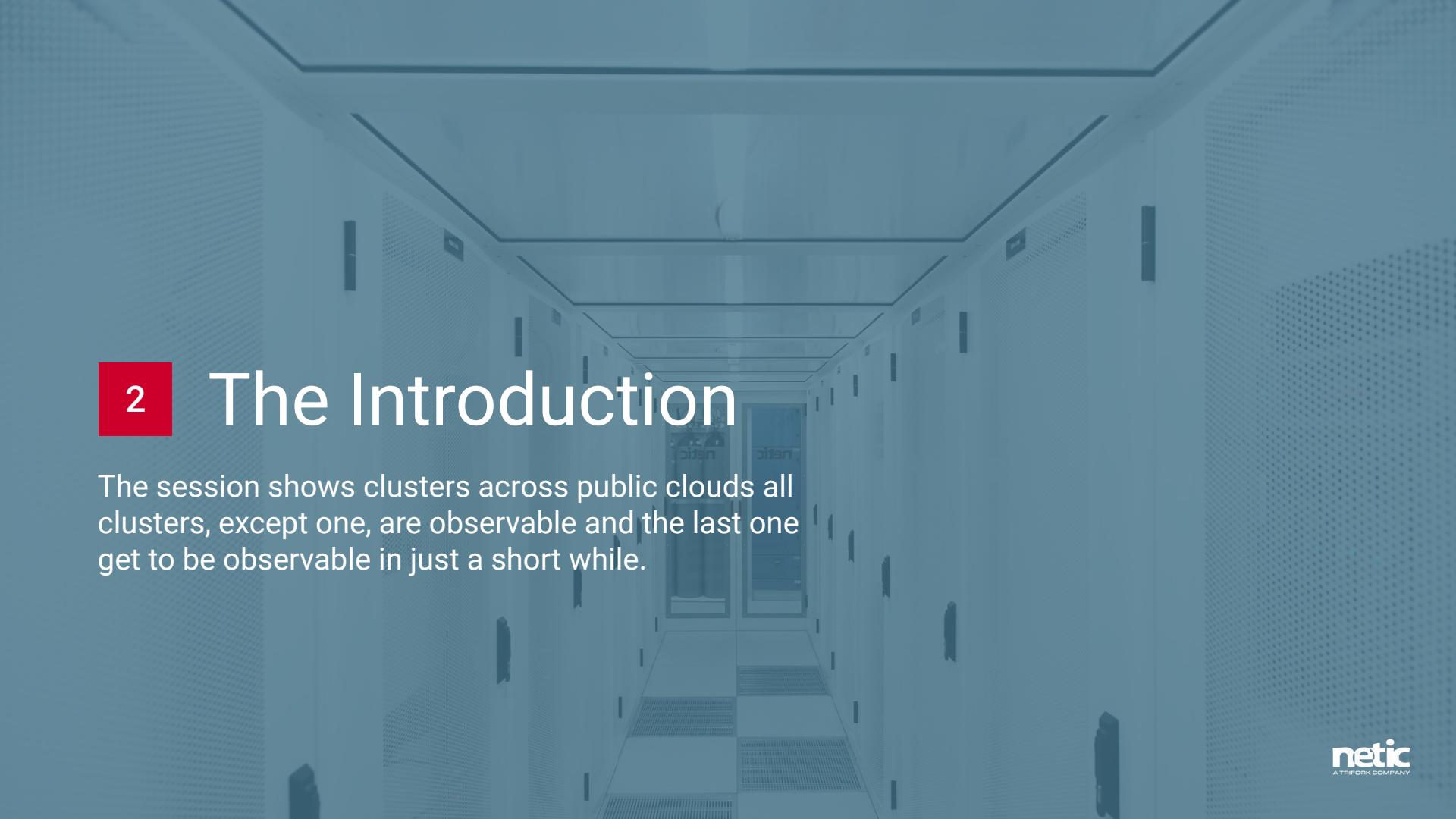
Any Kubernetes Cluster



- logs
- metrics
- traces



OaaS

The background of the slide is a blurred photograph of a server room. The room is filled with tall, grey server racks that extend from the foreground into the distance. The ceiling is white with some recessed lighting and ventilation ducts. The overall atmosphere is technical and industrial.

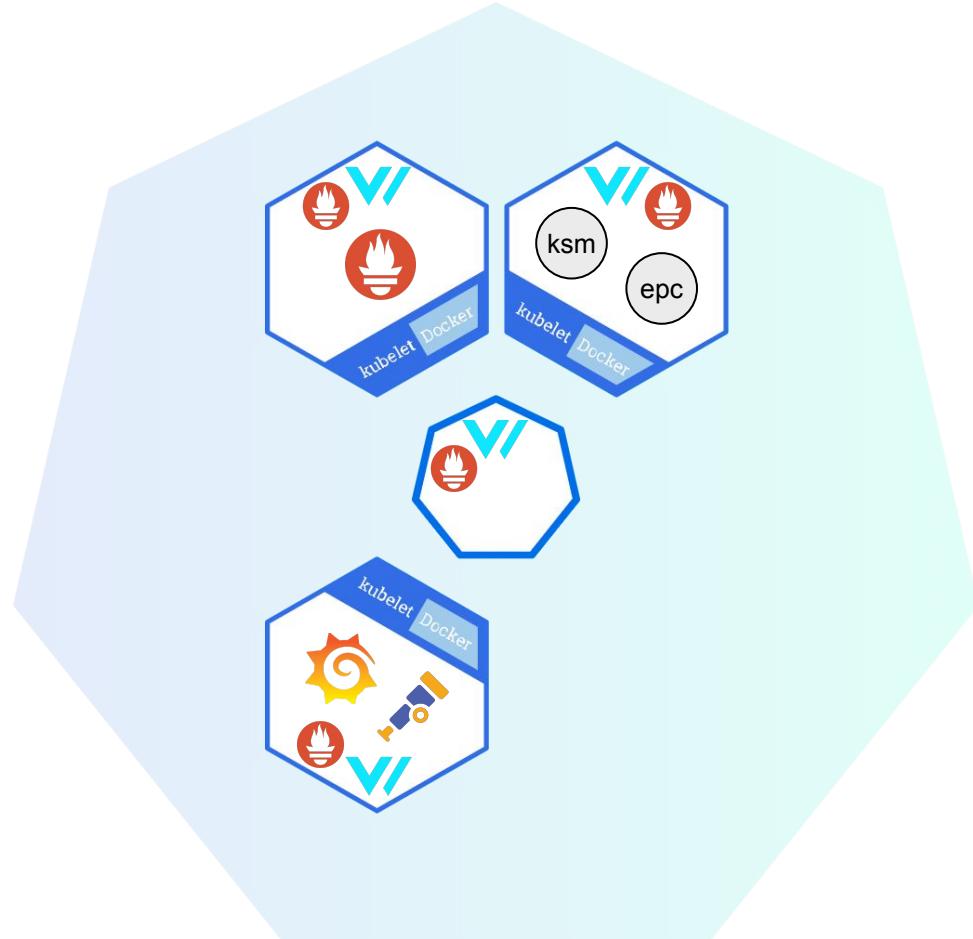
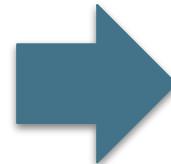
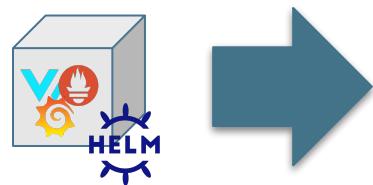
2

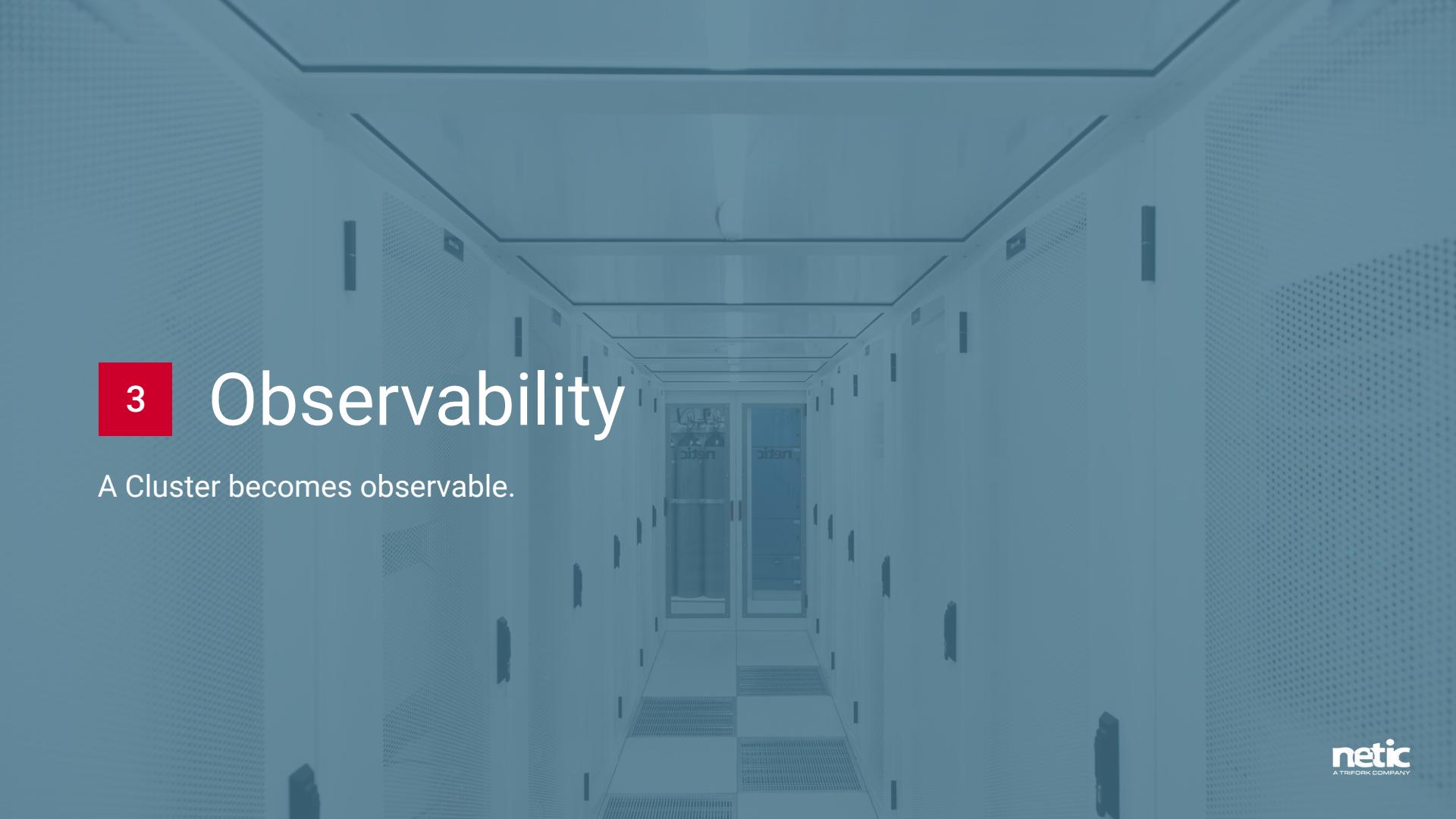
## The Introduction

The session shows clusters across public clouds all clusters, except one, are observable and the last one get to be observable in just a short while.

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## Netic OaaS Observability Package



The background of the slide is a photograph of a server room. A long, brightly lit corridor runs through the center, flanked by tall, grey server racks. The racks have ventilation grilles and some labels. The ceiling is white with linear lighting fixtures. In the distance, a blue door is visible.

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# Observability

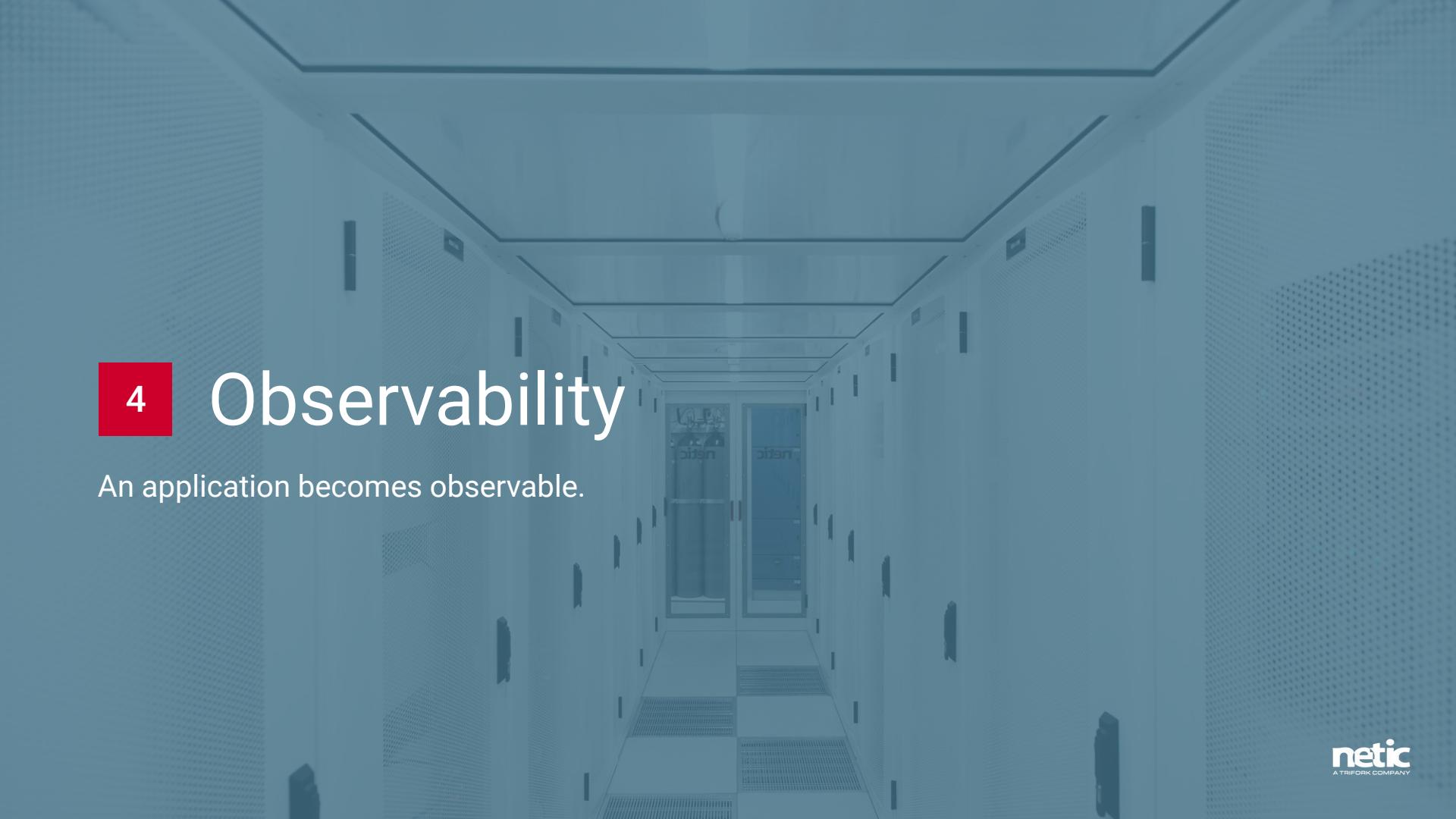
A Cluster becomes observable.

Metrics



Logs



The background of the slide is a photograph of a server room. A long, brightly lit corridor runs through the center, flanked by tall, grey server racks. The racks have ventilation grilles and some labels. The ceiling is white with linear lighting fixtures. In the distance, a blue door is visible.

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# Observability

An application becomes observable.

# OaaS Secure Cluster

- Secure Namespaces
  - Flux/GitOps Toolkit
- 
- Secure by default
  - Decoupled CI/Cd and CD
  - Separation of duties
  - Prepared for day 1 and 2 operations
- 
- Infrastructure as Code & reconciliation based
  - Same solution used for public cloud,  
Netic Cloud, or on-prem

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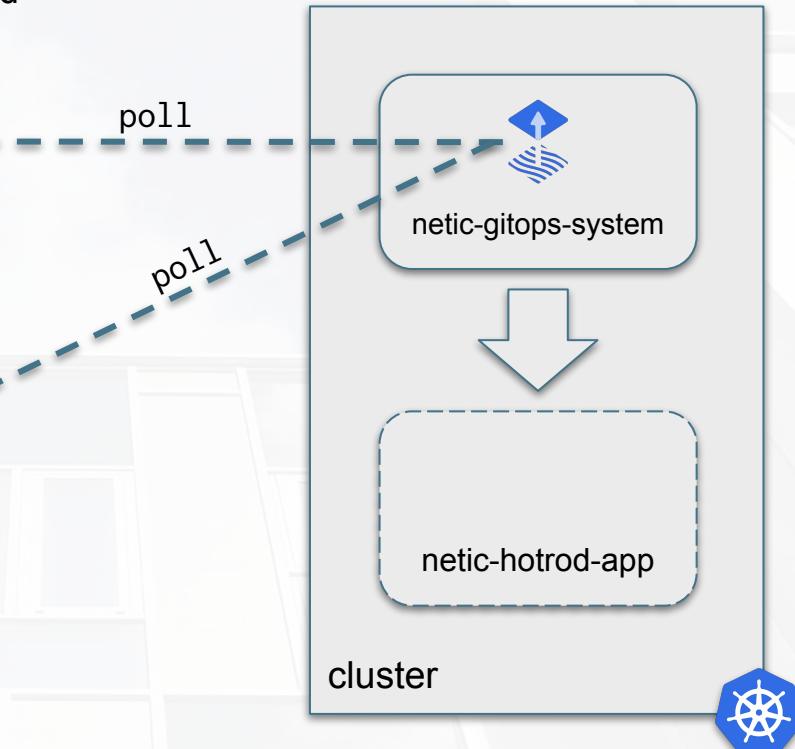
# GitOps

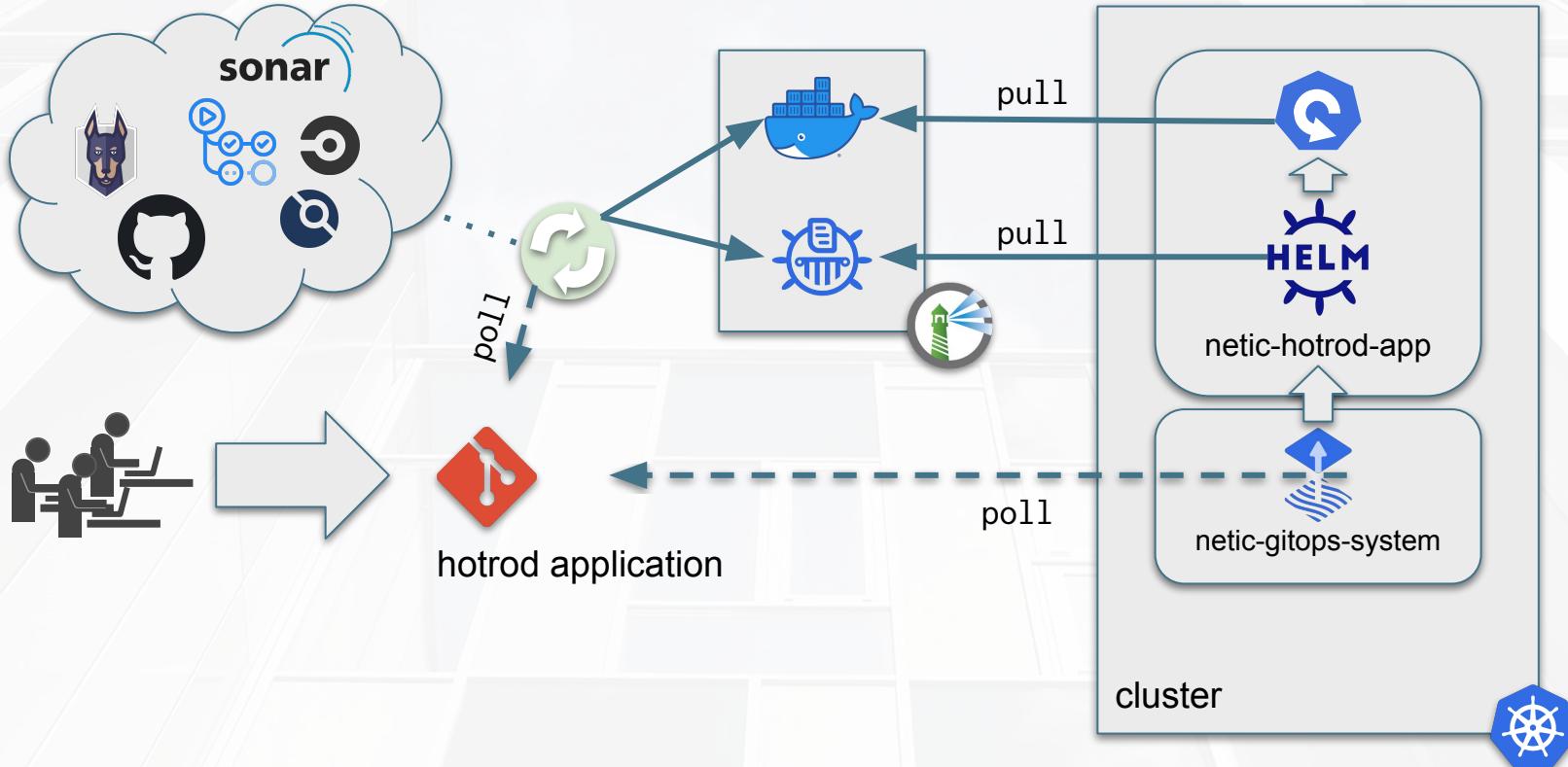
A cluster is provisioned with GitOps - let's have a look.

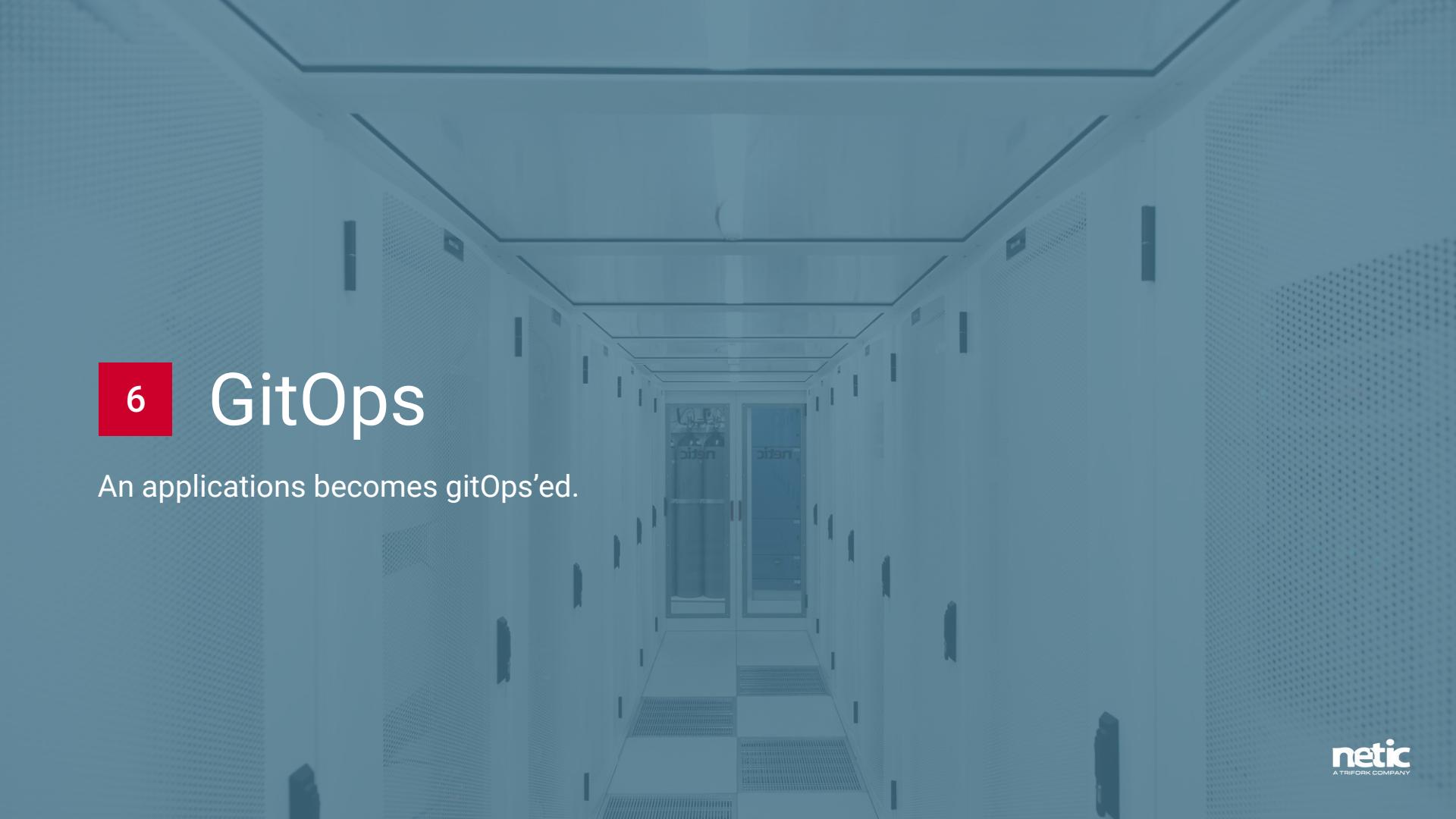
**1** New namespace definition is created in Netic IaC repository, validated, and merged to master.



**2** Flux creates a new secure namespace in cluster set up to deploy from Hotrod repository.



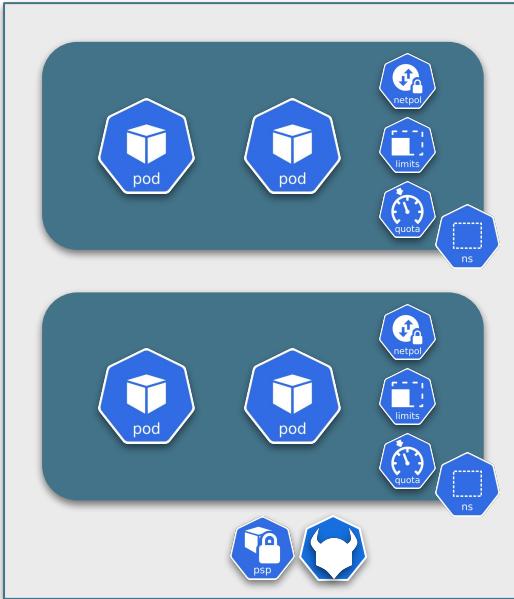


The background of the slide is a photograph of a server room. A long, brightly lit corridor runs through the center, flanked by tall, grey server racks. The racks have ventilation grilles and small status indicator lights. The ceiling is white with integrated linear lighting fixtures. In the distance, a set of double doors is visible.

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# GitOps

An application becomes gitOps'ed.



## Secure Kubernetes Namespace Provisioning:

- Network Policies
- Pod Security Policies (migrating to OPA)
- Quality of Service
  - Default resource requests and limits
  - Namespace Quotas
- RBAC enforced
- Secure by default
- Prepared for day 1 and 2 operations.

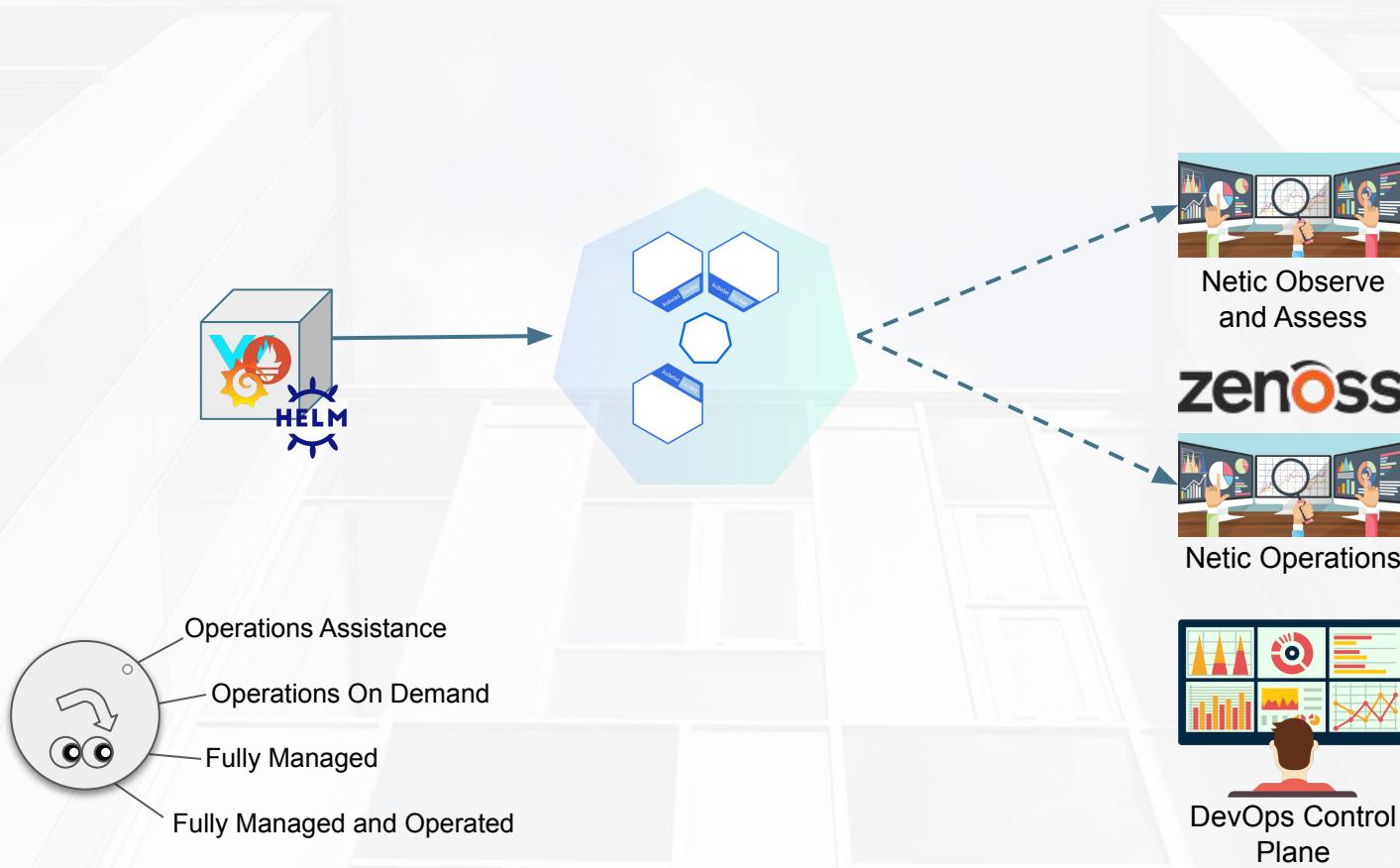
A blurred background image of a server room, showing rows of server racks and a ceiling with recessed lighting.

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# The “BIG Picture”

Observability, Assisted operation, Operation on Demand

# Observability is at the Core



The background of the slide is a photograph of a server room. The perspective is looking down a long hallway between two rows of tall server racks. The racks are light-colored and have ventilation grilles. The ceiling is white with recessed lighting. In the distance, there are doors at the end of the hallway.

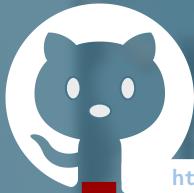
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# The “End”

Where could I go from here...



# Thank you!



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