



Red Hat
Summit

Connect





Red Hat
Summit

Connect

Andrea Della Chiesa Marco Romani

Senior Consultant
Open Reply



Red Hat
Summit

Connect

A journey into OpenShift GitOps



Today's agenda

- OpenShift
- Git
- OpenShift GitOps
- Real use case
- Conclusion
- Q&A

Red Hat
Summit

Connect

OpenShift



OpenShift

- Handles the **lifecycle** of a **container-based architecture**
- **Declarative configuration** based on manifests (yaml, json)
- Many **cloud provider** specific **integration**

Red Hat
Summit

Connect

Git

 **REPLY**
OPEN

Git

- De facto standard for **SCM (Source Code Management)**
- Version Control functionalities (Changes, history, rollbacks, branches...)
- **Sharing** and collaboration

Red Hat
Summit

Connect

OpenShift GitOps



OpenShift GitOps

- **Out of the box** operator provided by OCP
- Infrastructure management based on **Git**
- **Declarative** manifests
- Possibility to *copy, move, rollback* and *branch* applications
- Based on **Argo CD**

OpenShift GitOps

GitOps engine

DRIFT PHASE

Compares Git manifests and live manifests looking for differences



SYNC PHASE

Applies Git manifests to live environment

Argo CD

Application

Aggregation of
OpenShift **manifests**
with granularity
chosen by the user

The screenshot displays the Argo CD web interface. On the left is a dark sidebar with navigation options: Applications, Settings, User Info, and Documentation. Below these are filter sections for 'FILTERS' (Favorites Only), 'SYNC STATUS' (Unknown: 0, Synced: 32, OutOfSync: 0), and 'HEALTH STATUS' (Unknown: 0, Progressing: 2, Suspended: 0). The main content area, titled 'Applications', features buttons for '+ NEW APP', 'SYNC APPS', and 'REFRESH APPS', along with a search bar. A pagination bar shows 'Previous 1 2 3 4 Next'. The application list includes:

- int-address**: Project: gitops-backend-hub, Status: Healthy Synced, Repository: https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/..., Path: teleport-int/address, Created At: 11/22/2022 16:30:30 (6 months ago). Actions: SYNC, REFRESH, DELETE.
- int-apigw**: Project: gitops-backend-hub, Status: Healthy Synced, Repository: https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/..., Path: teleport-int/apigw, Created At: 11/22/2022 16:30:30. Actions: SYNC, REFRESH.
- int-auth-registry**: Project: gitops-backend-hub, Status: Healthy Synced, Repository: https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/..., Path: teleport-int/auth-registry.
- int-auth-server**: Project: gitops-backend-hub, Status: Healthy Synced, Repository: https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/..., Path: teleport-int/auth-server.

Red Hat
Summit

Connect

Real use case



Real use case

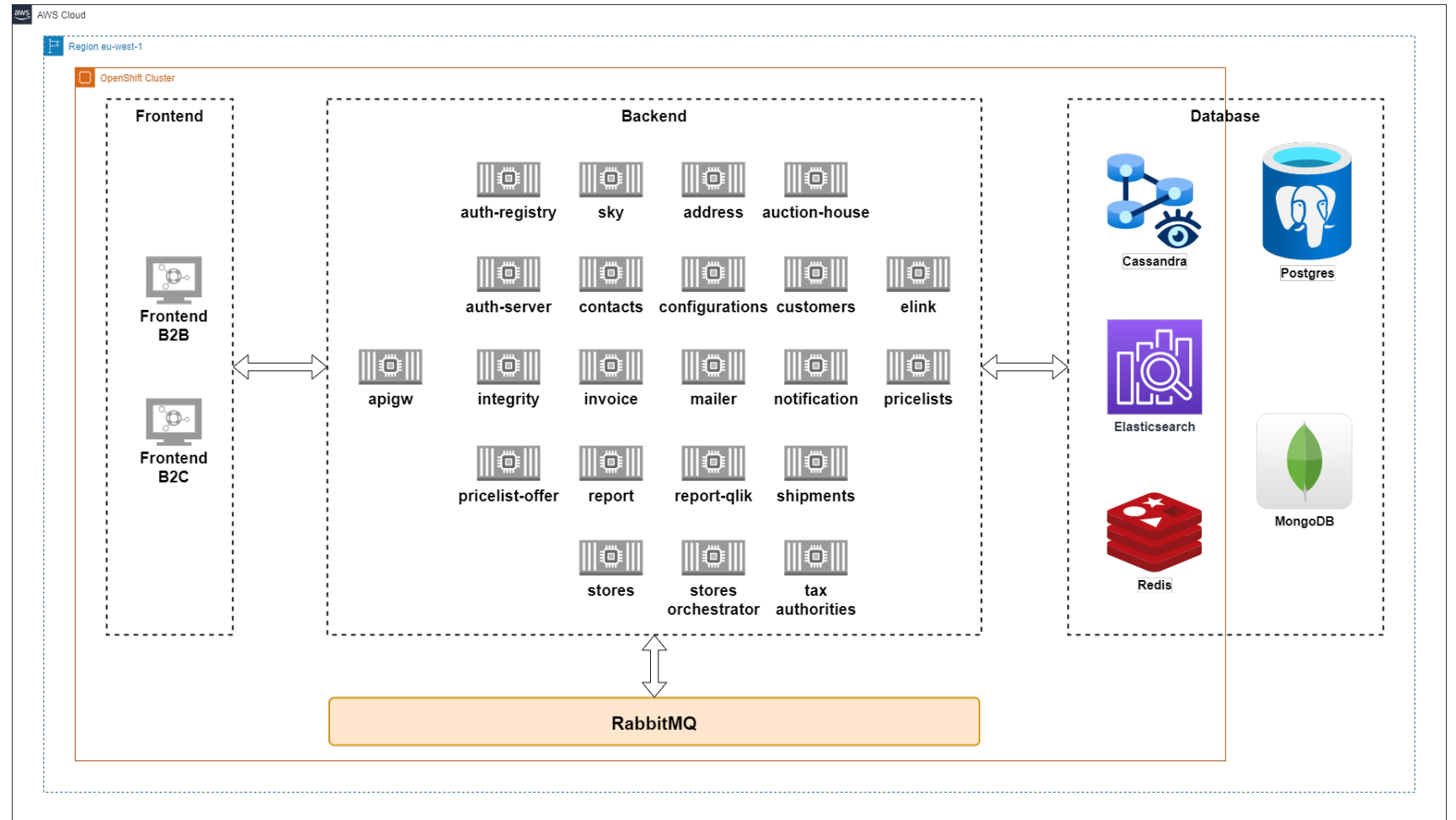
Customer

- **Retail**
- More than **2500 stores** worldwide
- More than **100 IT workers**

Real use case

Architecture

- **Multi-cluster** deployment
- More than **35 microservices**



Real use case

Dynamic environments

- “*Environment-as-a-Service*”
- **Upscale** from **3 to 10** live environments
- Only **2 steps**:
 1. *git branch* of **source code**
 2. *git branch* of infrastructure **manifests**

Red Hat
Summit

Connect

Conclusion

 **REPLY**
OPEN

Conclusion

- **OpenShift GitOps** key concepts
- How to **clone applications** across **multiple OpenShift clusters**
- Exploit OpenShift GitOps for **application development**
- Real **use case**

Red Hat
Summit

Connect

Q&A?

 **REPLY**
OPEN

Red Hat
Summit

Connect

Thank you

 **REPLY**
OPEN