LET US BUILD YOUR OPEN SOURCE INFRASTRUCTURE
Designing OpenShift for Day 2 operations: best practices, straight from the battlefield

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ABOUT US

BELGIUM’S TOP LINUX AND OPEN SOURCE SERVICE PROVIDER

20 YEARS OF EXPERIENCE IN OPEN SOURCE

VENDOR INDEPENDENT

BROAD SET OF PARTNERS
ABOUT US
INTRODUCTION

Day 2 operations?

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INTRODUCTION

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ETCD design
INTRODUCTION

Day 2 operations?

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Prometheus Federated Monitoring
INTRODUCTION

Day 2 operations?

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Centralized logging with Elastic
Day 2 operations?

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Persistent storage for your applications
Day 2 operations?

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Container registry considerations
INTRODUCTION

Day 2 operations?

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Backup
INTRODUCTION

Day 2 operations?

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Application deploys and secrets storage
INTRODUCTION

Day 2 operations?

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Yes, We work Weekends too ;)

ETCD DESIGN

What is etcd?

- Persistence
- Leadership Election

Availability

- Clustering with 5 instances (N-1/2)
- Snapshots & Recovery in etcd v3
Monitoring

Prometheus

- Openshift has Prometheus built in for monitoring
- Multiple clusters?
- Offsite storage
Monitoring

Prometheus Federation

Pro:
• Easy Setup
• Central place for configuring alerts
• No persistent storage needed in cluster

Con:
• Not horizontally scalable
• Introduces Lag
Monitoring

Prometheus Thanos

Pro:
• Global Query View
• Unlimited Retention
• Scalable

Con:
• Need persistent storage inside cluster
• Need to configure alerts in every cluster
Logging

- How to keep logs when container disappears
- How to search logs across multiple instances
- How to aggregate openshift infra, supporting infra and application logs

⇒ Elastic Stack
Persistent Storage

- Databases: PostgreSQL, MariaDB, MongoDB
- Minio
- Red Hat OpenShift Container storage
- Rook.io
Registry & scanning

Built in registry is OK for small scale deployments

• What if you have multiple clusters?
• Need LDAP auth?
• High Availability / Performance
• Security Scans?

• Quay
Backup

- Minio + std backup tool
- Velero + minio
App Deploys

Cluster up and running – now how do I deploy?

• Gitops ! Ansible or Helm
• Store your application details in Git
• Automate with CI/CD
• Webhooks
Secrets storage

How do I keep my secrets encrypted / out of SCM history?

- Hashicorp Vault!
I just wrote a Kubernetes blog.

AAAAND IT'S OUT OF DATE

Q & A