Accelerate your journey to Kubernetes with the Konveyor Community

A community of people passionate about helping others modernize and migrate their applications to the hybrid cloud by **building tools and best practices on how to break down monoliths, adopt containers, and embrace Kubernetes.**

www.konveyor.io

Konveyor Forklift

October 2021

Agenda

9:00 ~9:45 ET (15:00 ~15:45 CET) - Forklift project intro [Miguel]
15 minute break
10:00 ~ 10:45 ET (16:00 ~16:45 CET) - Forklift documentation status and how to contribute [Avital]
15 minute break
11:00 ~ 11:45 ET (17:00 ~17:45 CET) - Forklift validation service and how to create custom rules [Peter]
15 minute break
12:00 ~ 12:45 ET (18:00 ~ 18:45 CET) - Forklift roadmap proposals review and feedback [Miguel]

Rehost virtual machines to KubeVirt

Rehost apps between Kubernetes clusters

Replatform applications to Kubernetes

Refactor applications for Kubernetes

Measure software delivery performance

Why moving VMs to KubeVirt + Kubernetes?


MAINFRAME
CLIENT-SERVER
VIRTUALIZATION
CLOUD SHIFT

CLOUD TRANSFORMATION

LINUX

CONTAINERS

KUBERNETES

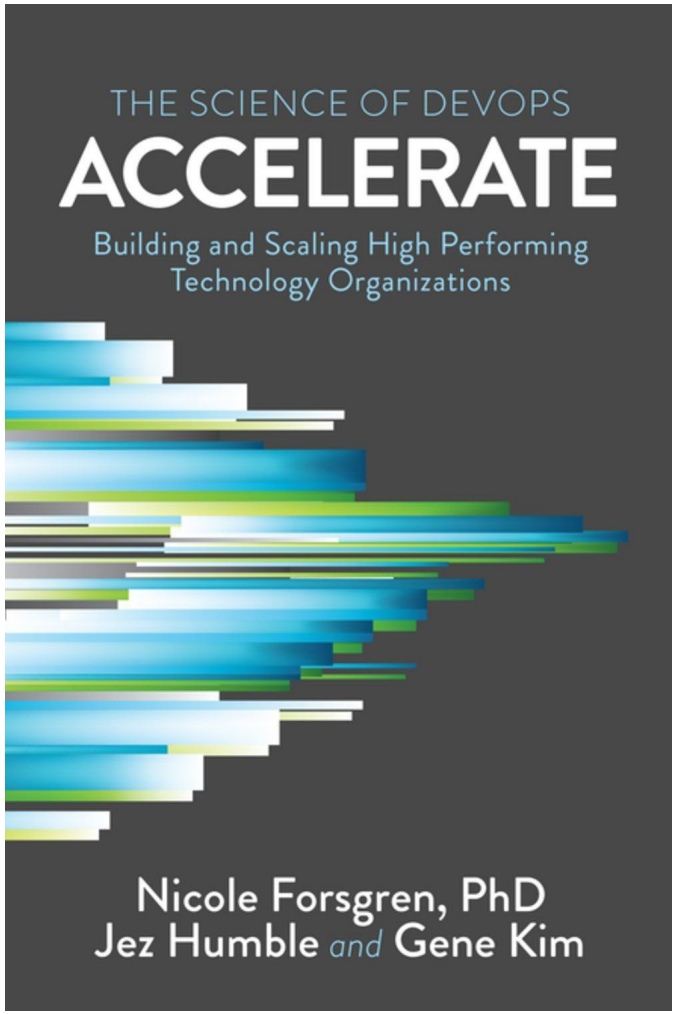
CLOUD NATIVE


COMPUTE
CLOUD
NATIVE
OS
APPLICATIONS
KUBEVIRT
VIRTUALIZATION

Why Transform?

The Metrics

	LEAD TIME FOR CHANGE	DEPLOYMENT FREQUENCY	MEAN TIME TO RECOVERY (MTTR)	CHANGE FAILURE RATE*
	Measures of **MARKET AGILITY**		Measures of **RELIABILITY**	
WHAT	Time from code committed to deployed to production	Proxy for batch size, how often does an app deploy to production	How long it takes systems to recover from failures in production	Percentage of deployments requiring rollback and/or fixes
WHY	Shorter is better. Enables faster feedback cycles and makes you better able to adjust to the marketplace	Indicator of batch size. Smaller batch size leads to more market agility	Critical to ensure that we aren't speeding up delivery at the expense of negative customer impacts	*Secondary indicator of stability



https://github.com/konveyor/pelorus

Technical? Join the Konveyor Community

CLOUD NATIVE COMPUTING FOUNDATION

Exploration in progress to obtain CNCF support for the Konveyor community projects

KONVEYOR

www.konveyor.io

A community of **people** passionate about **helping others modernize** and migrate their **applications** to Kubernetes by **building tools and discovering patterns** of how to **break down monoliths, adopt containers, and embrace Kubernetes**.

Red Hat

IBM

Additional community contributors being recruited

Projects

- KONVEYOR TACKLE
- KONVEYOR PELORUS
- KONVEYOR MOVE2KUBE
- KONVEYOR FORKLIFT
- KONVEYOR CRANE

Meetups

- How I strangled a monolith
- How I containerized my java app
- How I created an operator

Red Hat Supported Operators

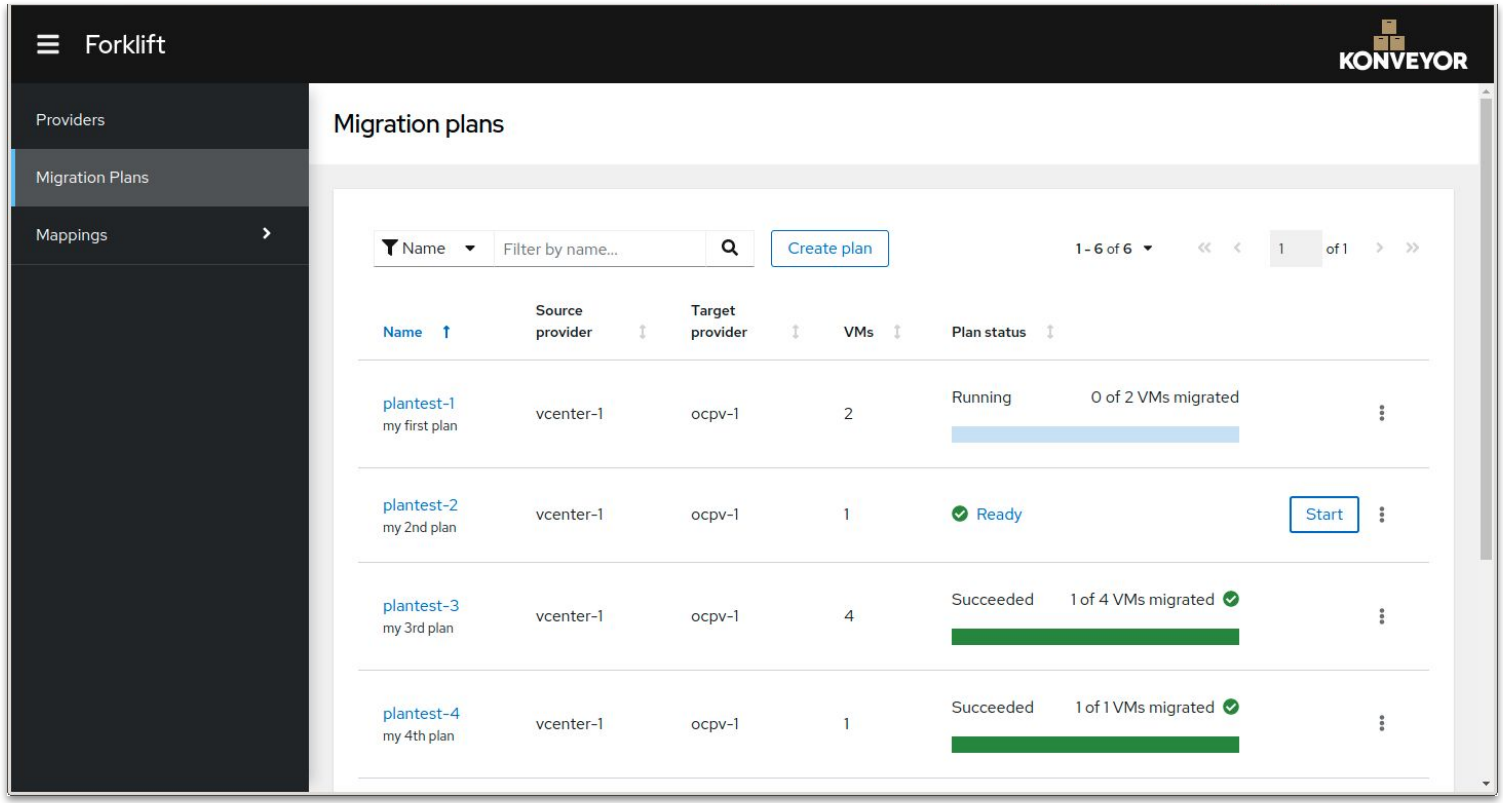
- Migration Toolkit for Applications
- Migration Toolkit for Containers
- Migration Toolkit for Virtualization

Red Hat

Forklift 2.2

Migration at Scale

Of virtual machines to KubeVirt

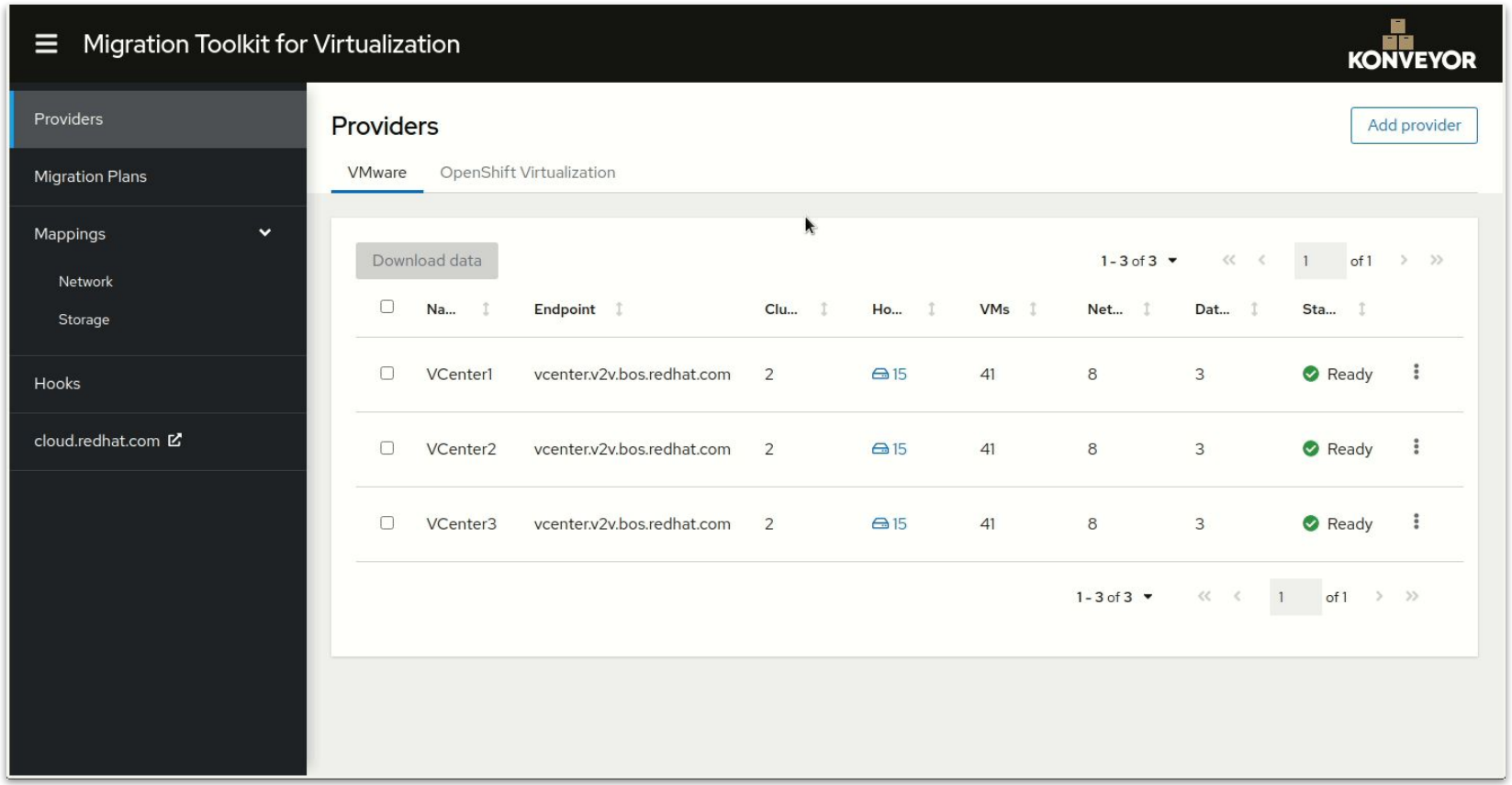


Mass Migration of VMs

Migrate virtual machines at scale to OpenShift Virtualization in a few simple steps. Provide source and destination credentials, map infrastructure, and create migration plans

Providers

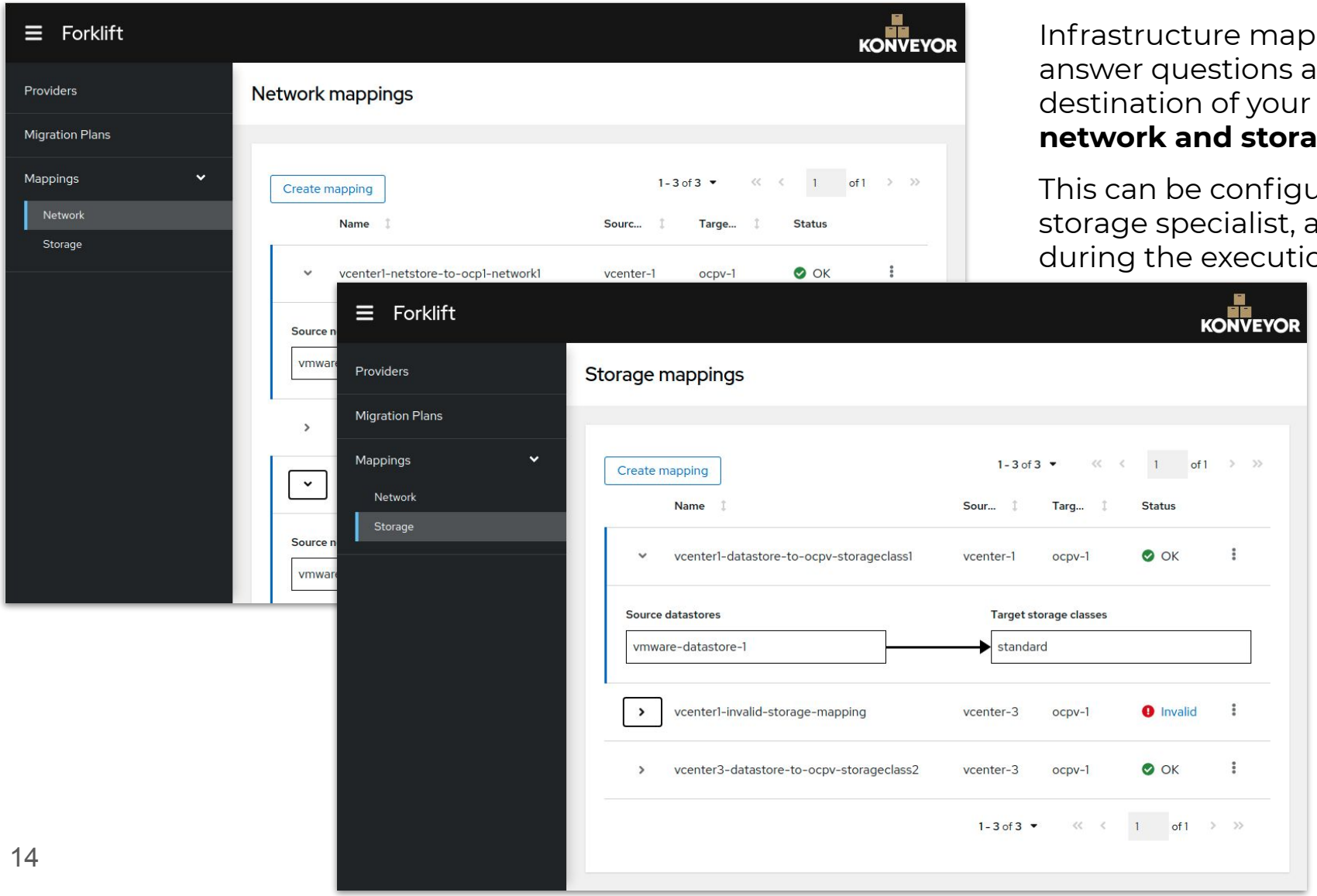
Easy to configure source and target providers



The providers section allows you to configure the credentials for your source and destination clusters.

Multiple source and destinations can be added, and your overall provider information can also optionally be uploaded to cloud.redhat.com for additional information about your overall environment, helping you better plan your migration at scale.

Infrastructure Mappings

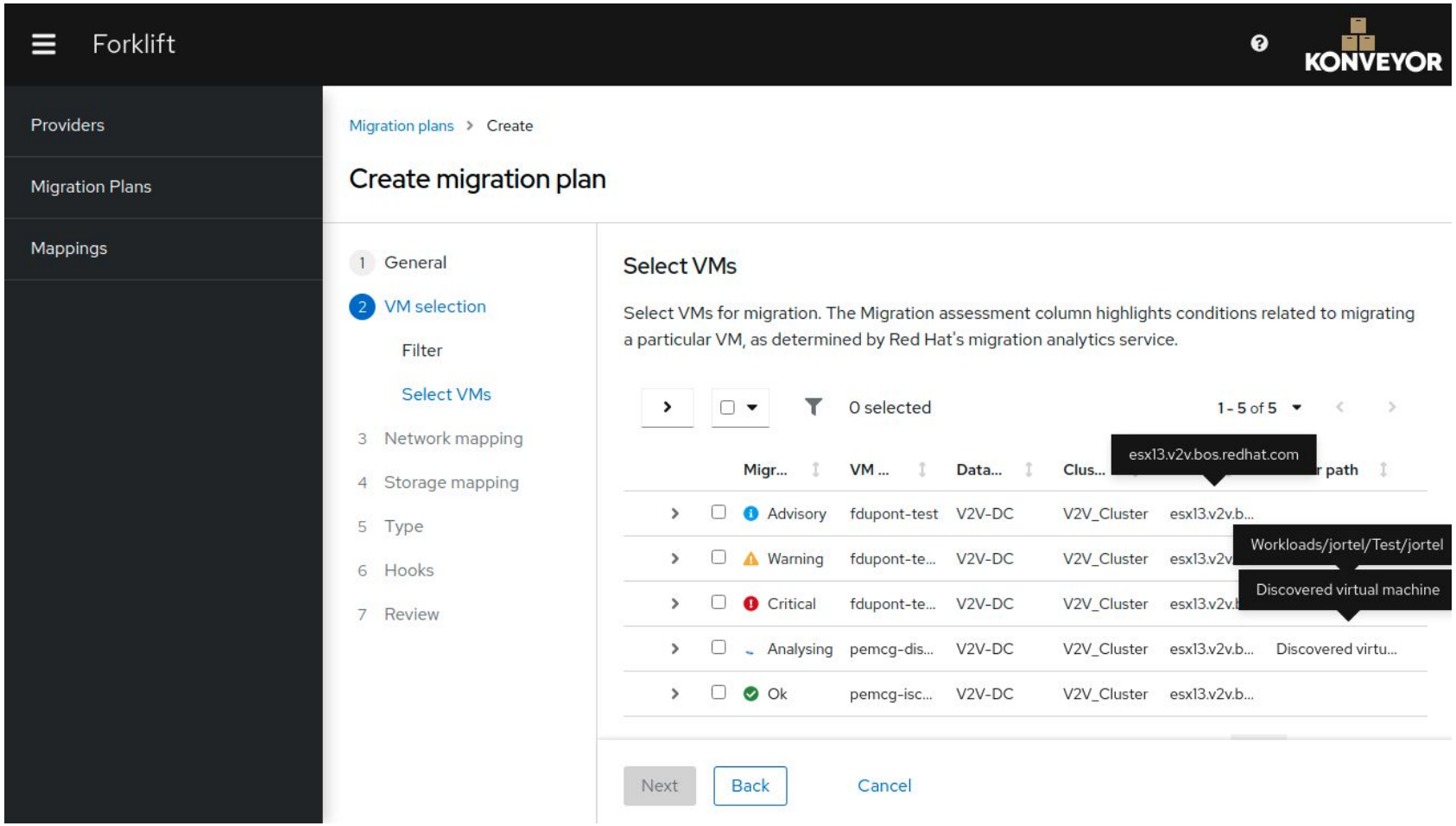


Infrastructure mapping allows you to answer questions about source and destination of your VMs from a **network and storage** point of view.

This can be configured once by your network and storage specialist, avoiding redundant questions during the execution of your migrations.

Migration Plans

And pre-migration checks



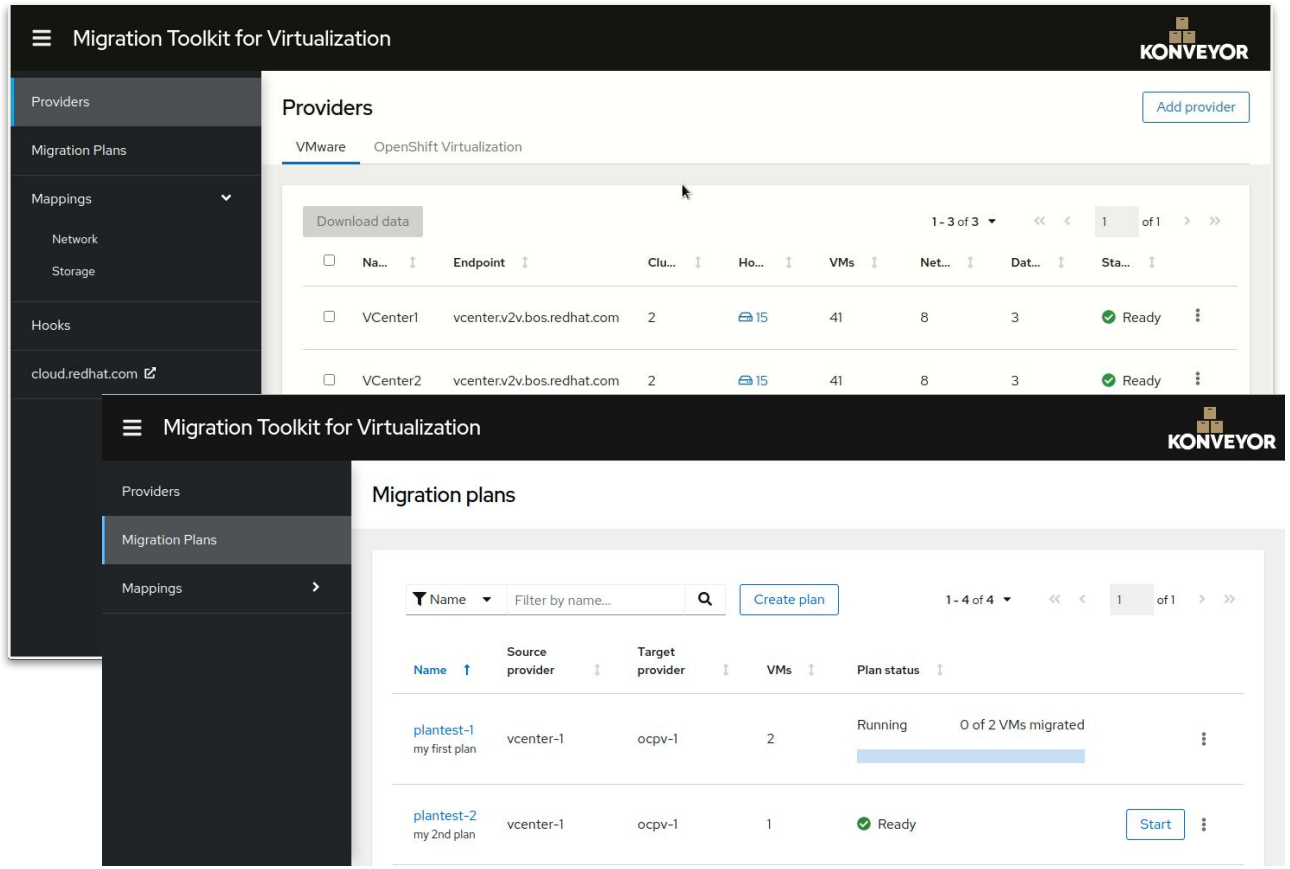
Forklift introduces, as tech preview, new on-premise migration analytic capabilities, helping you find potential migration issues before executing a migration.

When selecting your virtual machines, Forklift will automatically inform you of any known potential issue and provide information on how to solve this issue when possible.

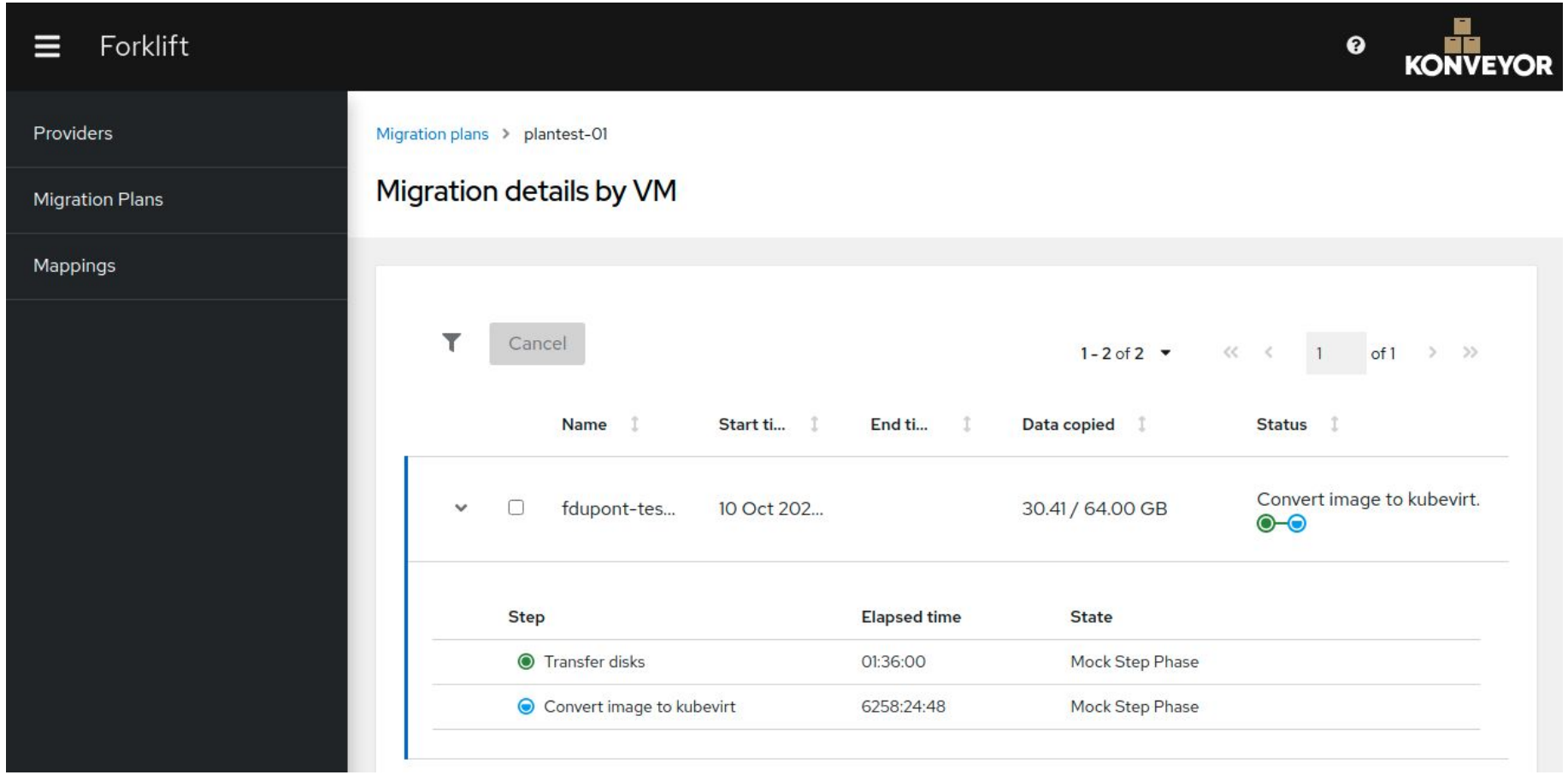
Virtual machines can be filtered down by names, folders or other parameters to review all VMs related to a specific applications.

Other Features

- Mass migration of VMs from VMware and RHV to OpenShift
- Added Red Hat Virtualization as supported source provider (Cold Migration only)
- Validation service: Includes SR-IOV cards and Opaque networks that are configured.
- Hooks: Automated tasks to be performed pre and post migration
- Must-Gather: specific add-ons and UI integration to ease troubleshooting



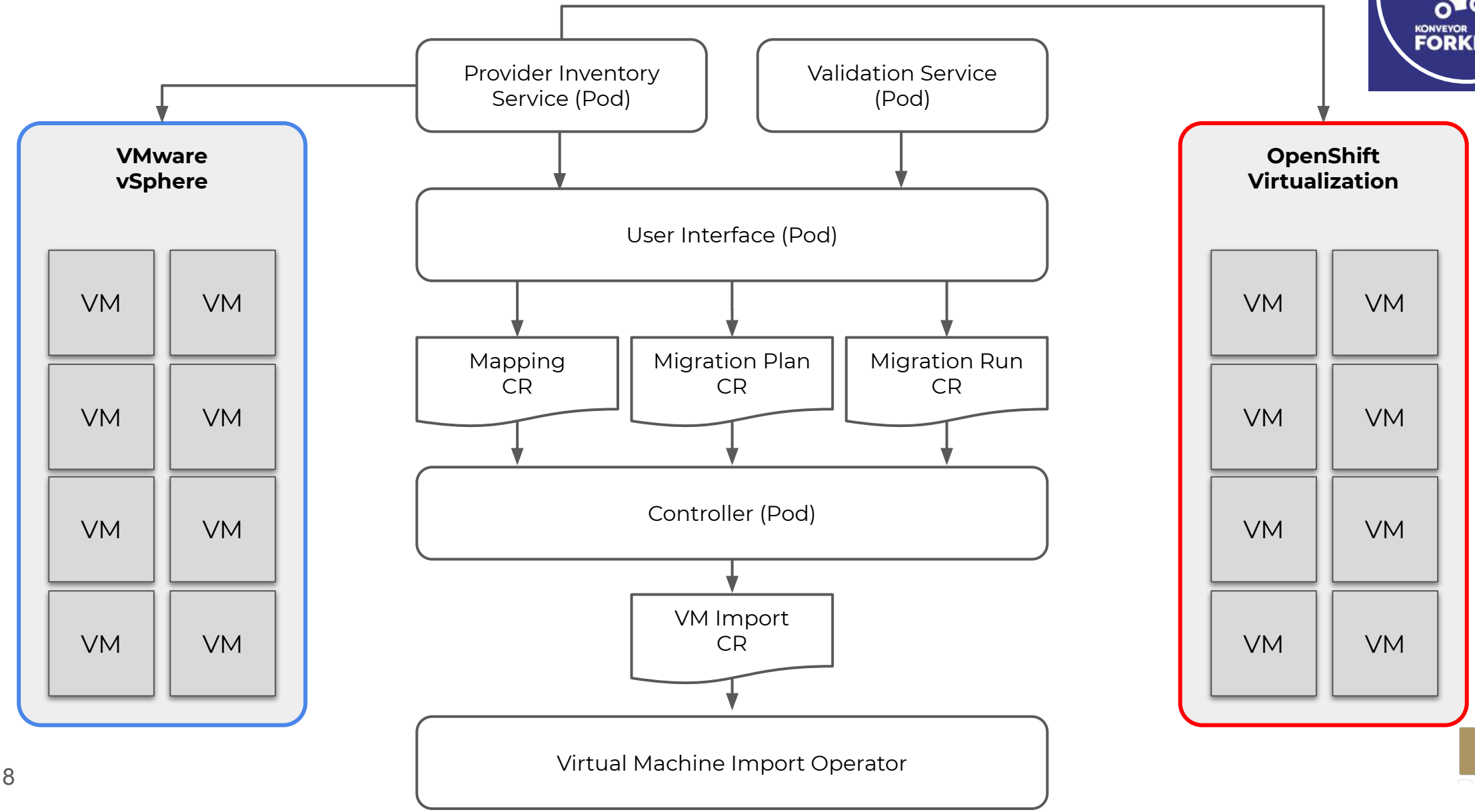
Migration Progress



Launch your migration, sit back and relax.

We will keep you informed on our progress during the migration.

Forklift Architecture



Forklift Project

Konveyor Community (con't)

Governance

- **Goal**
  - Although each project can/will maintain a level of governance internally, community governance will comprise of members of each project. The intent is to provide guidance and direction through a steering committee which is comprised of the following:
    - One representative from each Konveyor project
    - One overall "Maintainer Representative"
    - One overall "Member Representative"
  - Additionally a Code of Conduct committee is established to ensure meritocracy, fairness, diversity and to offer conflict resolution.

- **Status**
  - In-progress, under review with community project leads (review/feedback welcomed!)
    - Proposed Governance

Konveyor Community (con't)

Contributing

- **Goal**
  - Encourage community participation through a contributor ladder approach. The idea is to provide a rewards based system identifying various roles based on level of contributions made. This includes everything from a community participant to a project maintainer.

- **Status**
  - In-progress, under review with community project leads (review/feedback welcomed!)
    - Proposed Contributor Ladder

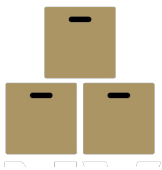
GitHub Repos

To build Forklift

Forklift projects

- Forklift Operator. The Forklift Operator deploys and maintains Forklift.
- Forklift Documentation. Documentation for installing and using Forklift.
- Forklift UI. The Forklift UI is based on Patternfly 4.
- Forklift Controller. The Forklift Controller orchestrates the migration.
- Forklift Validation. The Forklift Validation service checks the virtual machines for possible issues before migration. Runs with Open Policy Agent.
- Forklift must-gather. Support tool for gathering information about the environment.

https://github.com/konveyor/forklift



GitHub Repos

To build Forklift

Forklift website

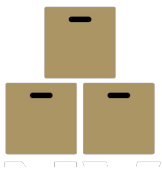
- https://forklift.konveyor.io

Forklift mailing list

- https://groups.google.com/g/forklift-dev

Konveyor Channel in Kubernetes Slack

- https://kubernetes.slack.com/archives/CR85S82A2



Forklift Roadmap

Forklift Roadmap

VM migration

- **Forklift 2.0**
  - Warm Migration from **VMware vSphere**
  - Pre-migration checks (tech preview)

- **Forklift 2.1**
  - Cold migration from **RHV/oVirt**
  - Migration Hooks
  - Must Gather

Forklift Roadmap

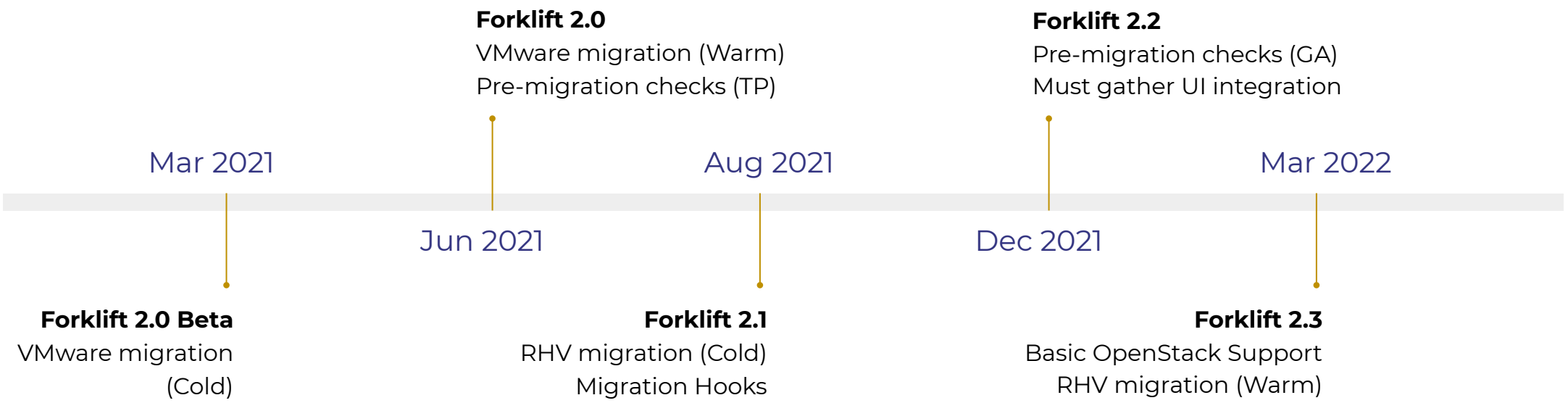
VM migration

- **Forklift 2.2**
  - Ansible Hooks Image Builder
  - Pre-migration checks (GA)

- **Forklift 2.3**
  - Warm migrations from **RHV/oVirt**
  - **OpenStack** Support (Basic)

Forklift Roadmap

VM migration



Demo

https://red.ht/mtv-videos

Get Involved

- **Chat**
  #konveyor on slack.k8s.io

- **Get Meetup Invites + Tool Updates**
  Subscribe at konveyor.io

- **Share**
  Propose a meetup talk (form)

- **Contribute**
  Join the next quarterly project planning
  Invites sent to Konveyor-community list

www.konveyor.io

Thank you!

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