

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

June 2021





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

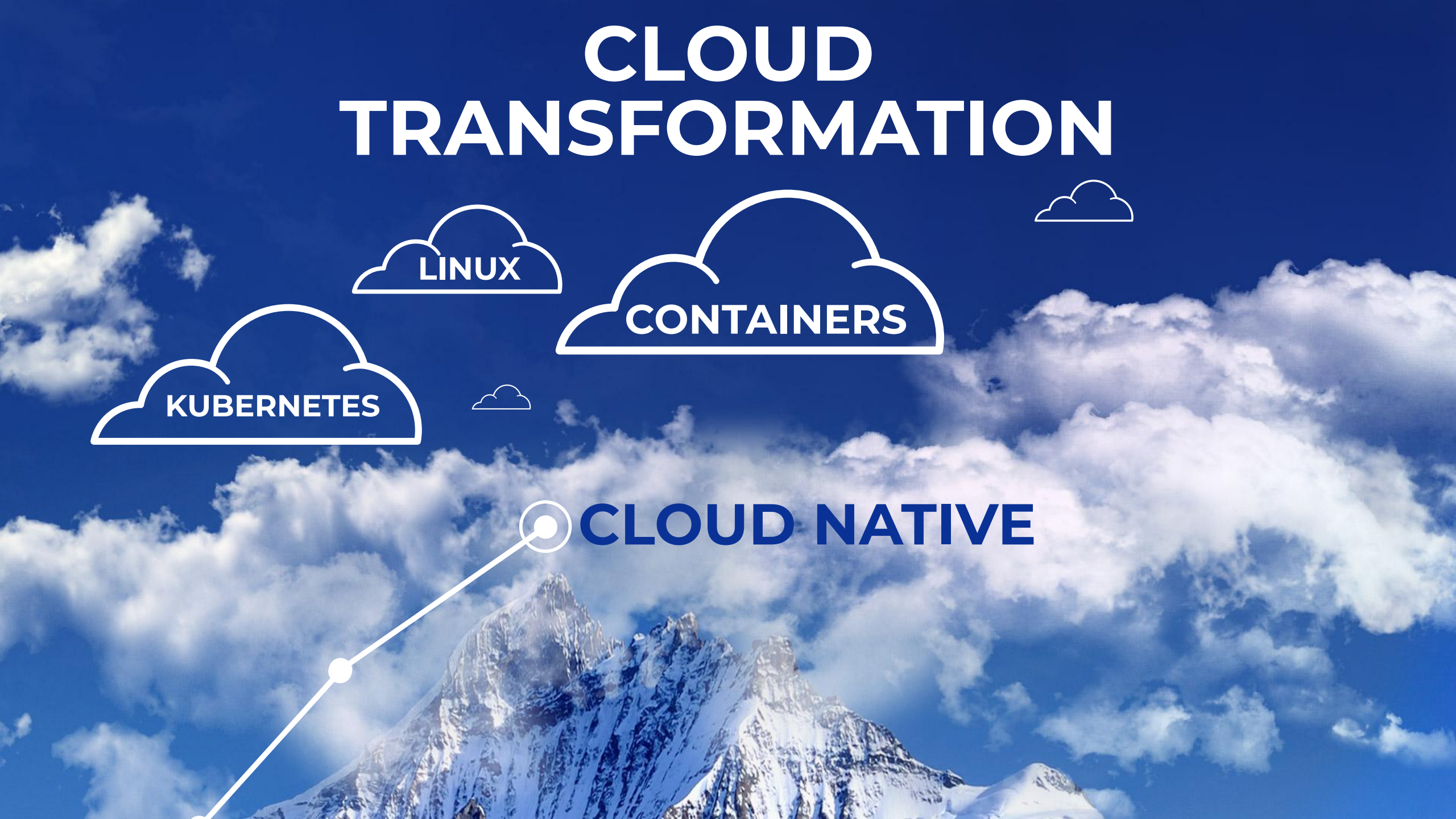
CLOUD TRANSFORMATION

LINUX

CONTAINERS

KUBERNETES

CLOUD NATIVE





CLOUD
NATIVE







KUBEVIRT

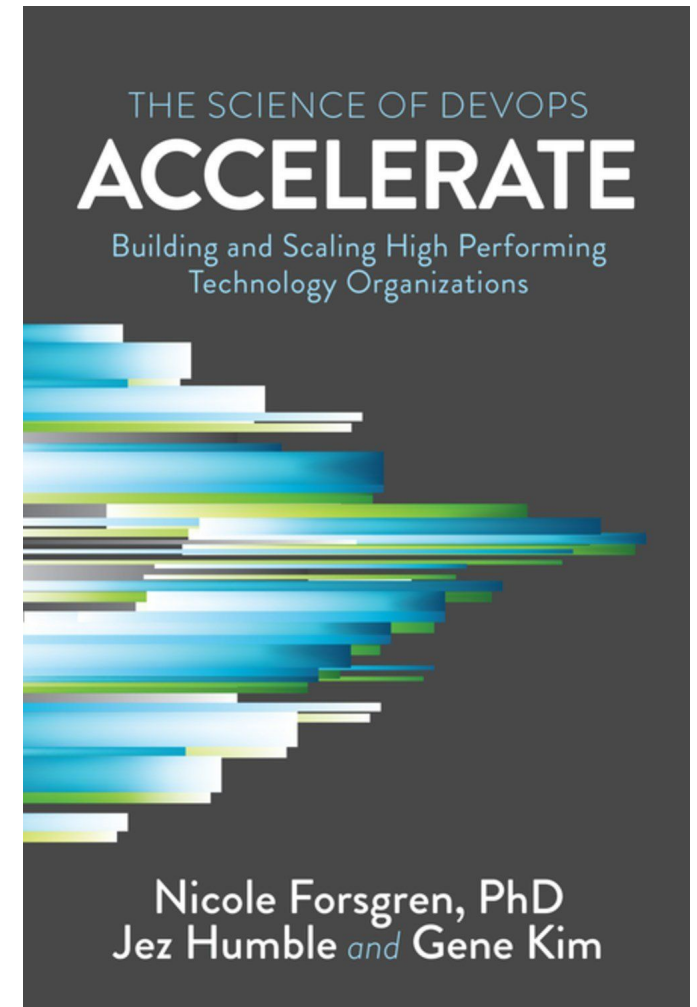
VIRTUALIZATION

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



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



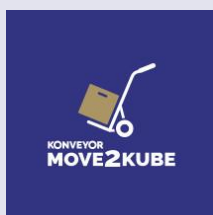
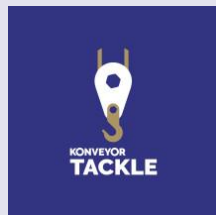
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A community of **people** passionate about **helping others modernize** and migrate their **applications** to Kubernetes by **building tools and discovering patterns** of how to **break down monoliths, adopt containers, and embrace Kubernetes**.



Additional community contributors being recruited

Projects



Meetups

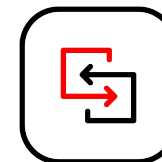


How I strangled a monolith

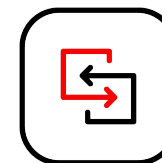
How I containerized my java app

How I created an operator

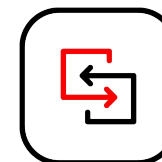
 **Red Hat** Supported Operators



Migration Toolkit for Applications



Migration Toolkit for Containers



Migration Toolkit for Virtualization



Forklift 2.0 GA



Migration at Scale

Of virtual machines to KubeVirt

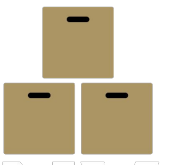


The screenshot shows the 'Migration plans' section of the Konveyor web console. The left sidebar contains a menu with 'Providers', 'Migration Plans', and 'Mappings'. The main area displays a table of migration plans with columns for Name, Source provider, Target provider, VMs, and Plan status. There are four plans listed: 'plantest-1' (Running), 'plantest-2' (Ready), 'plantest-3' (Succeeded), and 'plantest-4' (Succeeded). Each plan has a progress bar and a 'Start' button.

Name	Source provider	Target provider	VMs	Plan status
plantest-1 my first plan	vcenter-1	ocpv-1	2	Running 0 of 2 VMs migrated
plantest-2 my 2nd plan	vcenter-1	ocpv-1	1	Ready Start
plantest-3 my 3rd plan	vcenter-1	ocpv-1	4	Succeeded 1 of 4 VMs migrated
plantest-4 my 4th plan	vcenter-1	ocpv-1	1	Succeeded 1 of 1 VMs migrated

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



Migration Toolkit for Virtualization

Providers

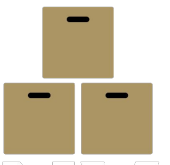
VMware OpenShift Virtualization

Download data

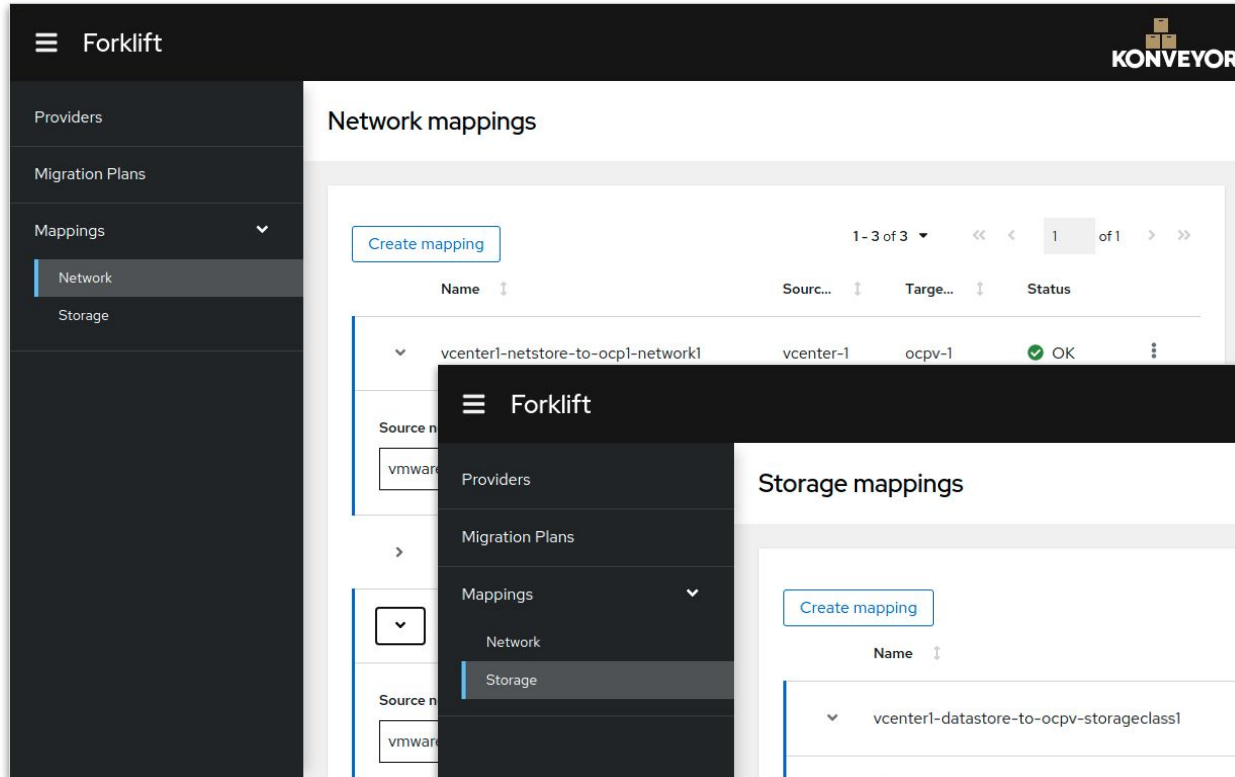
	Na...	Endpoint	Clu...	Ho...	VMs	Net...	Dat...	Sta...
<input type="checkbox"/>	VCenter1	vcenter.v2v.bos.redhat.com	2	15	41	8	3	Ready
<input type="checkbox"/>	VCenter2	vcenter.v2v.bos.redhat.com	2	15	41	8	3	Ready
<input type="checkbox"/>	VCenter3	vcenter.v2v.bos.redhat.com	2	15	41	8	3	Ready

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.

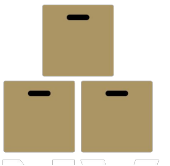
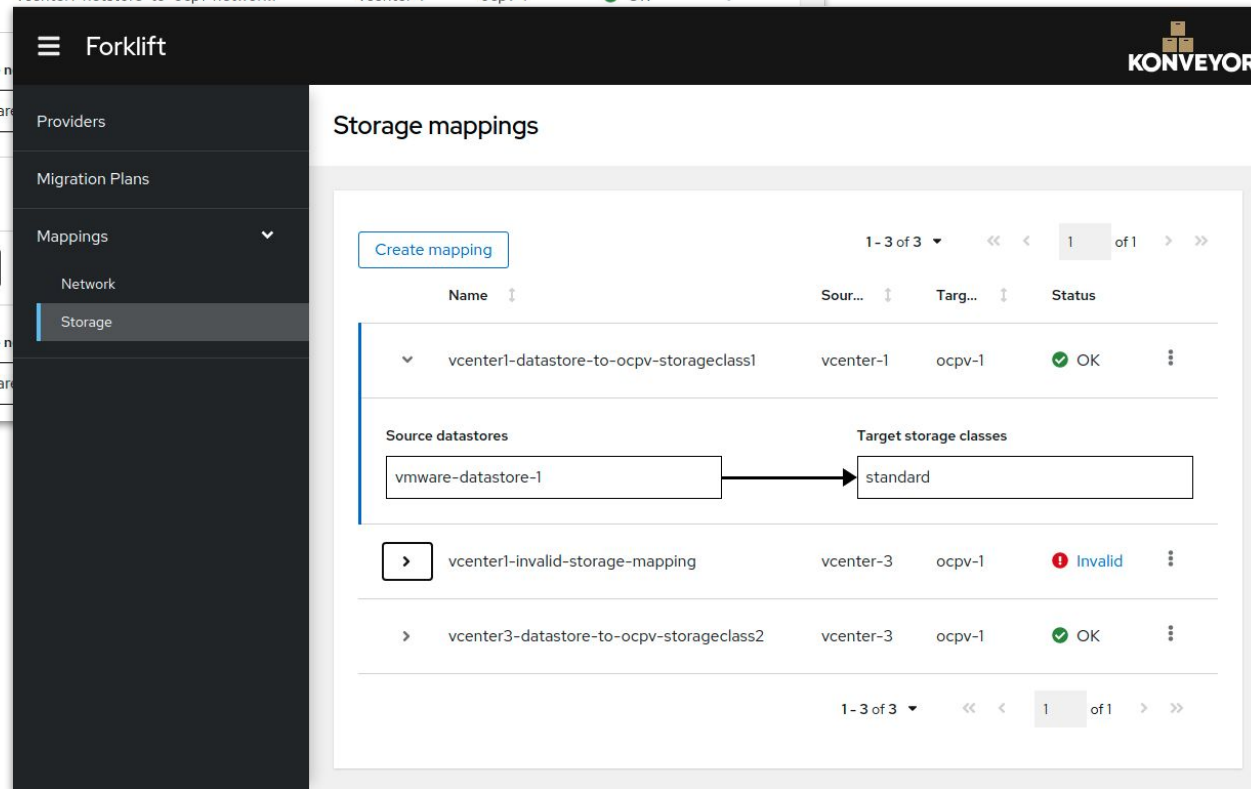


Infrastructure Mappings



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

Providers

Migration Plans

Mappings

Migration plans > Create

Create migration plan

1 General

2 VM selection

3 Network mapping

4 Storage mapping

5 Type

6 Hooks

7 Review

Filter

Select VMs

Select VMs

Select VMs for migration. The Migration assessment column highlights conditions related to migrating a particular VM, as determined by Red Hat's migration analytics service.

>

☐

0 selected

1 - 5 of 5

<

>

	Migr...	VM ...	Data...	Clus...	esx13.v2v.bos.redhat.com	r path
>	<input type="checkbox"/>	Advisory	fdupont-test	V2V-DC	V2V_Cluster	esx13.v2v.b...
>	<input type="checkbox"/>	Warning	fdupont-te...	V2V-DC	V2V_Cluster	esx13.v2v...
>	<input type="checkbox"/>	Critical	fdupont-te...	V2V-DC	V2V_Cluster	esx13.v2v...
>	<input type="checkbox"/>	Analysing	pemcg-dis...	V2V-DC	V2V_Cluster	esx13.v2v.b... Discovered virtu...
>	<input type="checkbox"/>	Ok	pemcg-isc...	V2V-DC	V2V_Cluster	esx13.v2v.b...

Next

Back

Cancel

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.



Migration Progress



Launch your migration, sit back and relax. We will keep you informed on our progress during the migration.

≡ Forklift

Providers

Migration Plans

Mappings

Migration plans > plantest-01

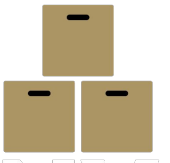
Migration details by VM

Cancel

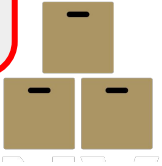
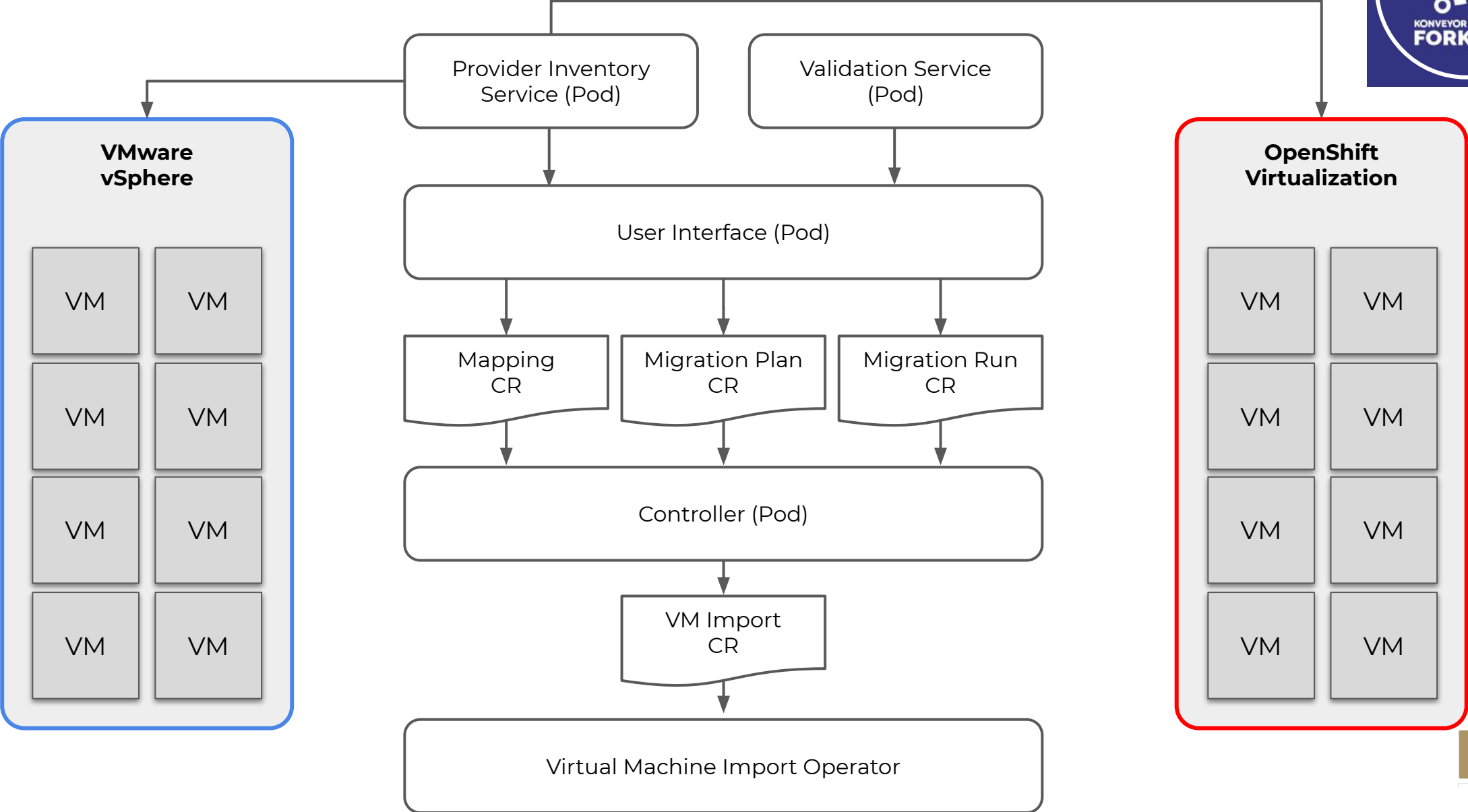
1 - 2 of 2

1 of 1

Name	Start ti...	End ti...	Data copied	Status									
<div>▼</div> <div>fdupont-tes...</div>	10 Oct 202...		30.41 / 64.00 GB	Convert image to kubevirt.									
<table><thead><tr><th>Step</th><th>Elapsed time</th><th>State</th></tr></thead><tbody><tr><td>● Transfer disks</td><td>01:36:00</td><td>Mock Step Phase</td></tr><tr><td>● Convert image to kubevirt</td><td>6258:24:48</td><td>Mock Step Phase</td></tr></tbody></table>					Step	Elapsed time	State	● Transfer disks	01:36:00	Mock Step Phase	● Convert image to kubevirt	6258:24:48	Mock Step Phase
Step	Elapsed time	State											
● Transfer disks	01:36:00	Mock Step Phase											
● Convert image to kubevirt	6258:24:48	Mock Step Phase											



Forklift Architecture



Forklift Roadmap

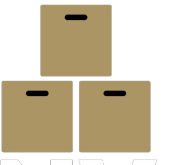


Forklift Roadmap

VM migration



- **Forklift 2.0 Launched!**
 - Warm Migration from **VMware vSphere**
 - Pre-migration checks (tech preview)
- **Forklift 2.1**
 - Cold migration from **RHV/oVirt**
 - Migration Hooks



Forklift Roadmap

VM migration

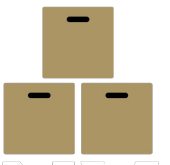
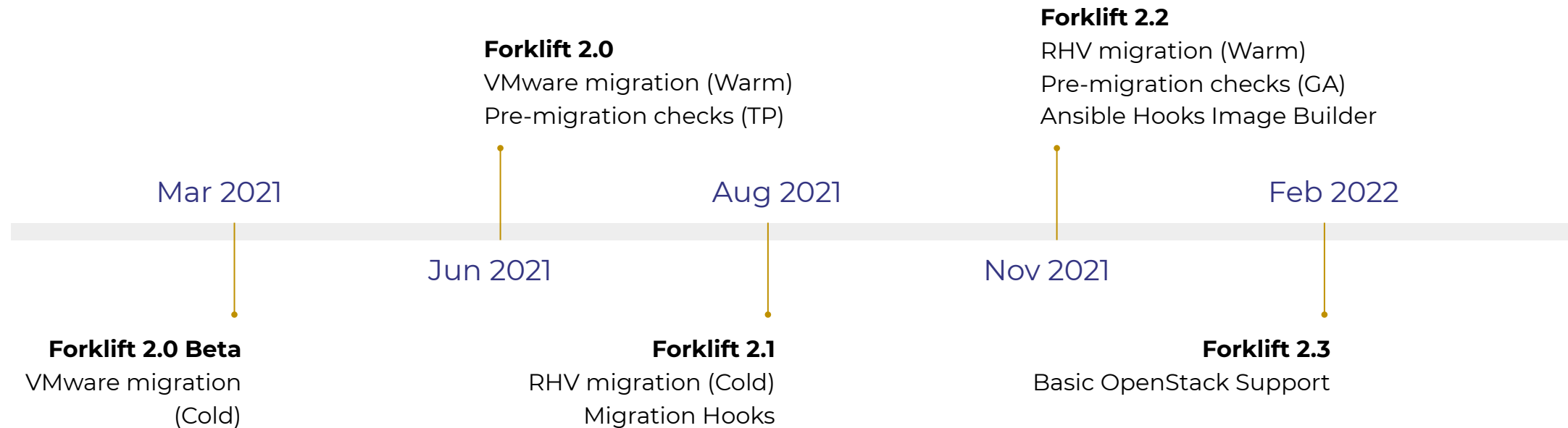


- **Forklift 2.2**
 - Warm migrations from **RHV/oVirt**
 - Ansible Hooks Image Builder
 - Pre-migration checks (GA)
- **Forklift 2.3**
 - **OpenStack** Support (Basic)



Forklift Roadmap

VM migration



Demo

<https://red.ht/mtv-videos>



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Propose a meetup talk ([form](#))
- **Contribute**
Join the next quarterly project planning
Invites sent to [Konveyor-community list](#)



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Thank you!

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