#RedHatOSD

RED HAT FORUMS

WHAT'S NEXT: SOLUZIONI CLOUD E DI VIRTUALIZZAZIONE RED HAT

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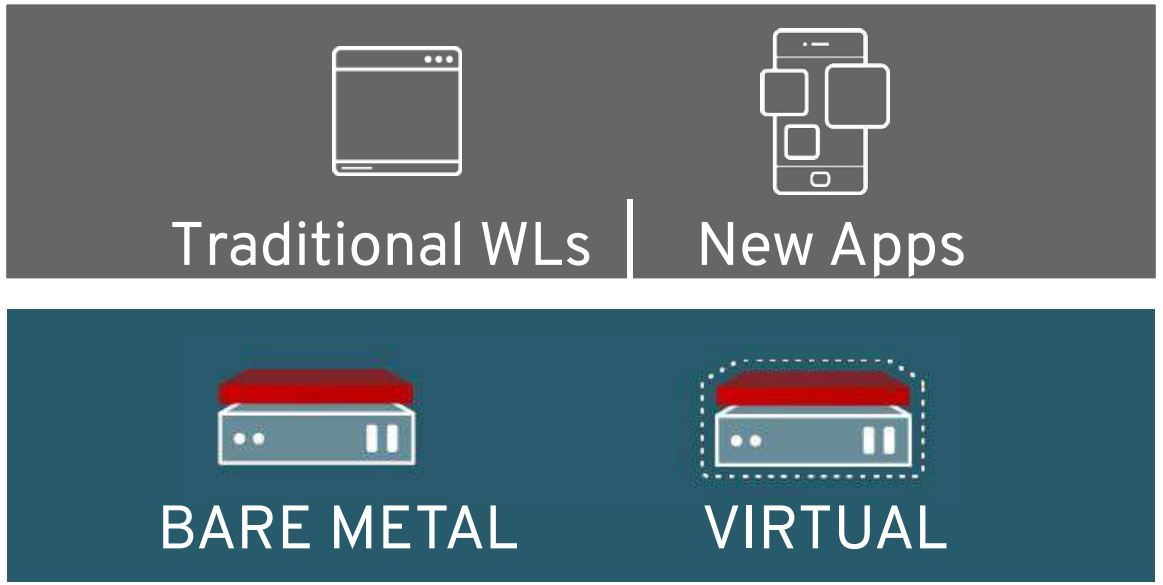
November 20th 2019 - Roma
December 3rd 2019 - Milano

Red Hat

DC Evolution Mode 1



Typical on-prem scenario
Traditional WorkLoads can run either on bare metal or virtual, as well as non-containerized multi-tier apps.

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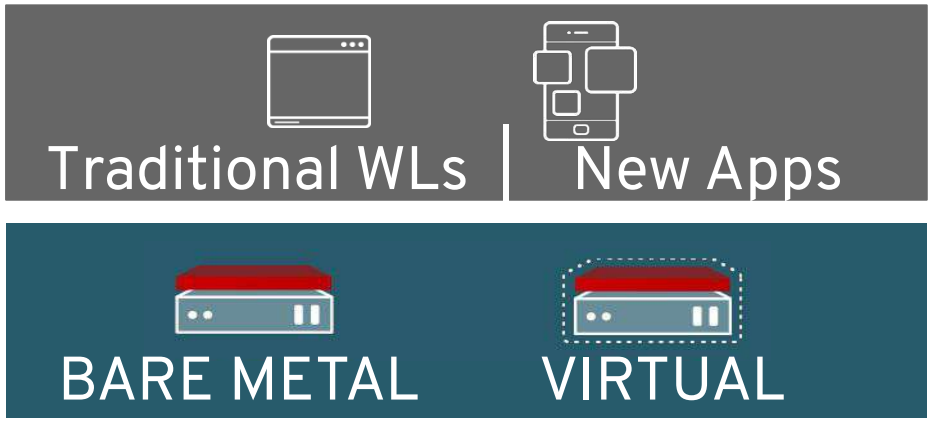
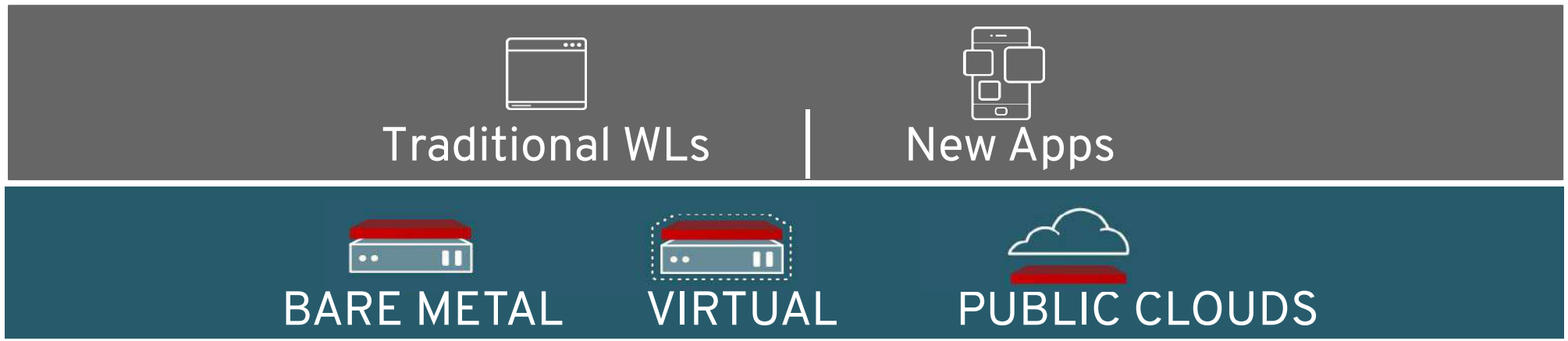


Mode 2

Scale out on public cloud
Public Cloud is often used to bear load peaks.



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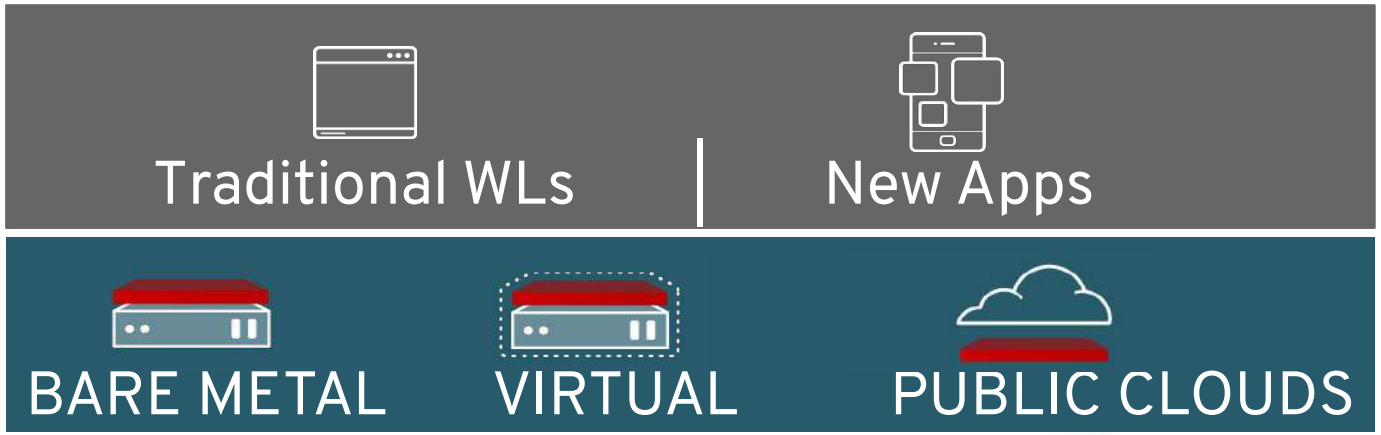

Mode 3

Green + Brown Fields

Typically new technologies don't replace immediately legacy technologies, rather they are placed alongside.

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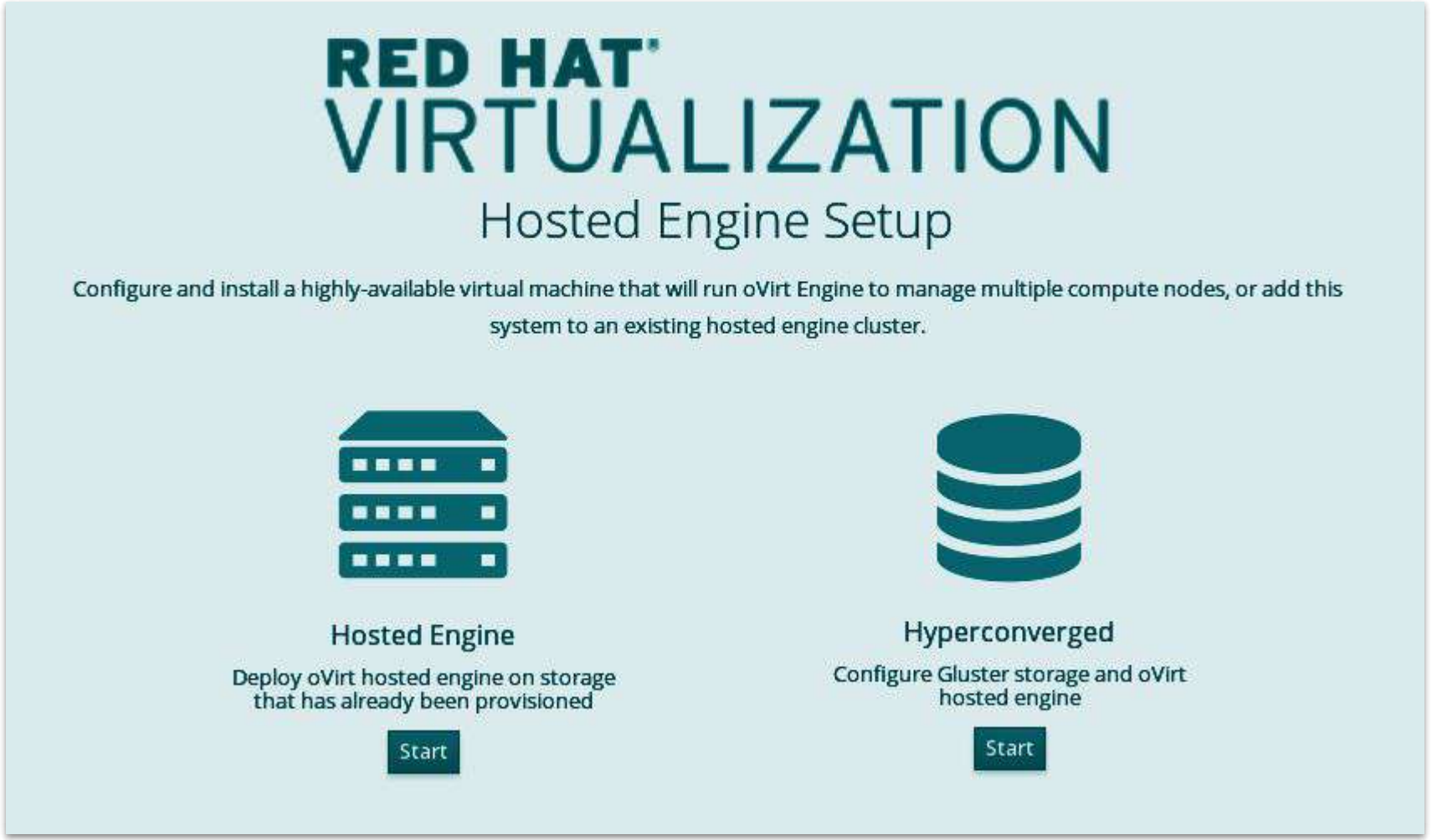
Red Hat Virtualization 4.3



Red Hat

Red Hat Virtualization 4.3

New Features

RED HAT® ENTERPRISE LINUX®

- Red Hat Enterprise Linux 8 is a fully supported guest OS
- Other RHEL guest OS supported 3, 4, 5, 6, 7
- Microsoft Windows Server 2008, 2008 R2, 2012, 2012 R2, 2016
- Microsoft Windows 7, 8, 8.1, 10

RED HAT® ANSIBLE® Engine

- ovirt.shutdown-env
- ovirt.engine-setup
- ovirt.hosted-engine-setup
- ovirt.infra

RED HAT® OPENSTACK® PLATFORM

- Neutron (OVN) certified as an external network provider
- Connect RHV virtual machines to Neutron networks
- Create and manage per-VM and per-network security groups and rules
- Host OpenStack Platform control plane on Red Hat Virtualization

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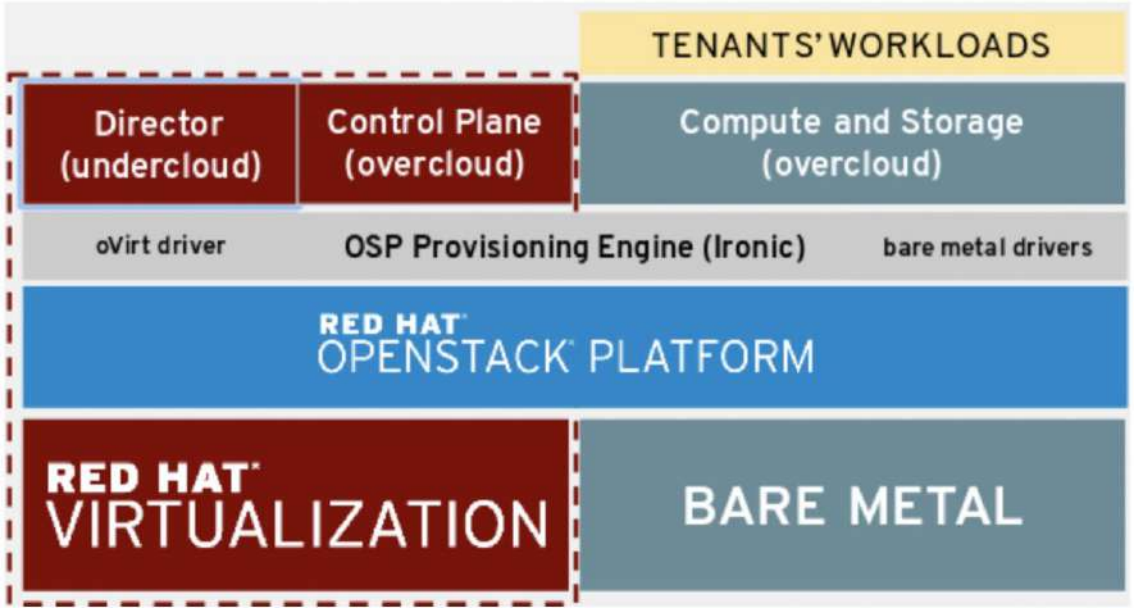
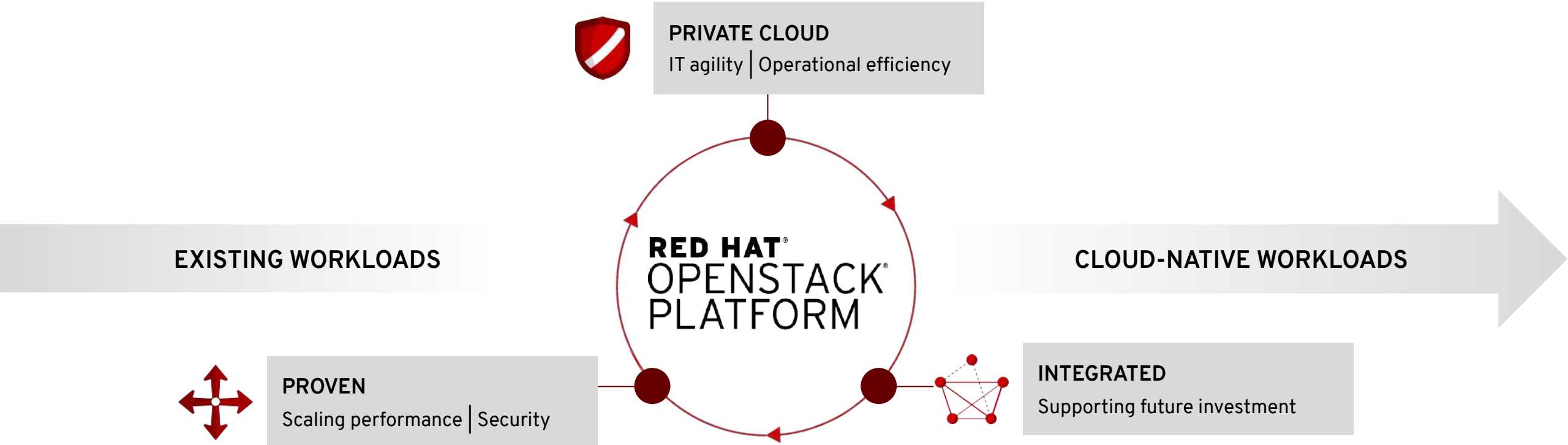
OSP Control Plane: Benefits of virtualization



- Native high availability for Red Hat OpenStack Platform director and the control plane nodes.
- Additional infrastructure services can be deployed as VMs on the same RHV cluster
- Maintenance without service interruption.
- Integration with third party and/or custom tools engineered to work specifically with RHV, such as backup solutions.

Red Hat OpenStack

The on-premises foundation for hybrid cloud



DELIVERING TRANSFORMATIVE AND DIFFERENTIATED BUSINESS VALUE

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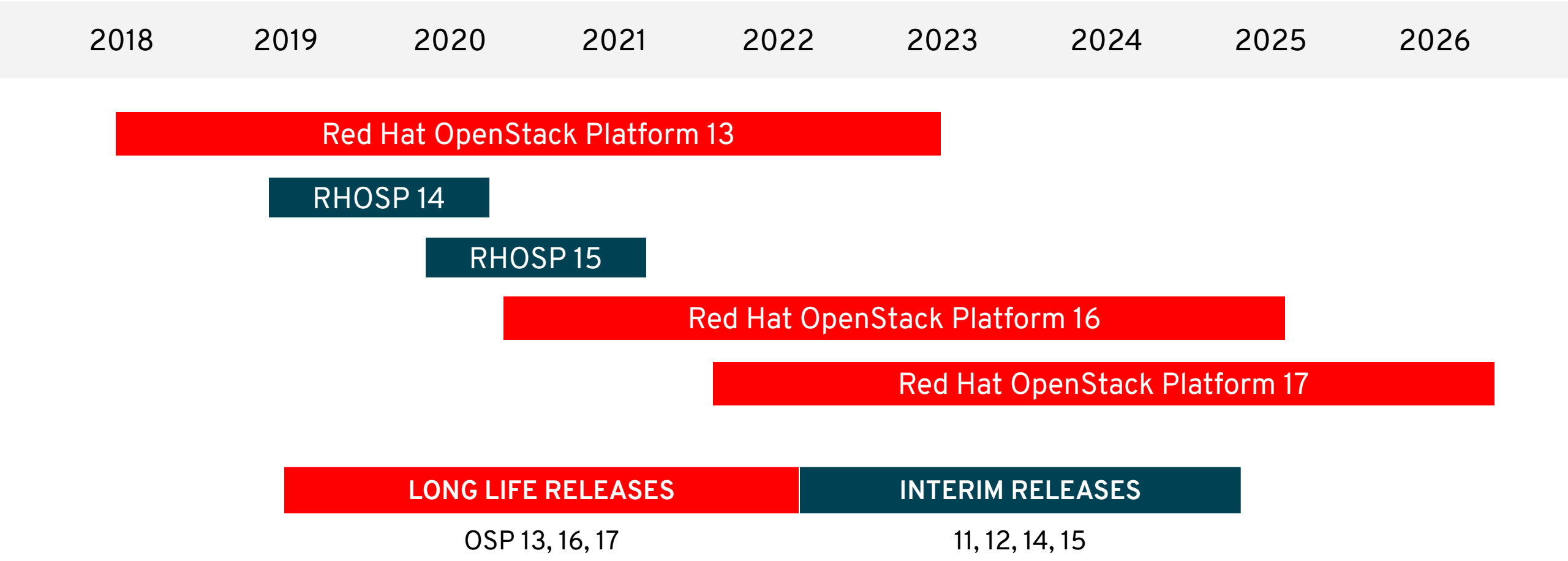
RED HAT OPENSTACK ROADMAP

Releases Lifecycle



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Red Hat Openstack Roadmap

* Director deployed instance HA
* Kuryr OCP CNI
* Edge - Distributed Compute Nodes (BP)
* Cinder Multi-attach (TP/BP)
* Support for volume multipath

* Unified procedure of containerized undercloud
* Ansible integration into overcloud.
* Director-deployed OCP
* Attach a volume to multiple hosts (TP)
* Low footprint deployments (TP)
*

* OVN/OVS [default ML2 plugin] : increased feature IPv6
* Next Gen OpenShift Installer (OCP 4.x) deploying on OSP
* HSM backend support for Barbican
* Single management node deploys multiple standalone environments

* Live migration pinned instances
* Octavia OVN L4 LB driver
* Increase of Ansible use
* Backup & Recovery - Automation GA
* Logging
- EFK stack integration
- rsyslog integration

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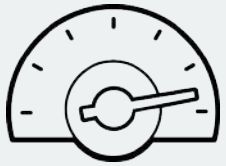
OpenStack Platform 15, powered by RHEL 8

Red Hat Enterprise Linux 8

Note: RHEL 8 is supported as a guest on Red Hat OpenStack Platform 10+

Efficiency - The ultimate networking platform

Red Hat Enterprise Linux 8 host support
Efficient kernel tracing monitoring
Crypto offload to NICs for IPsec VPN



Performance - More options to accelerate apps

vGPU full support
QoS - Max Bandwidth Support
IBM POWER9 hardware compatibility

Security - Safety, without compromise

Enhanced TCP stack performance
Improved Firewall protection and DDoS Mitigation
Hardware Security Module (HSM) back end support

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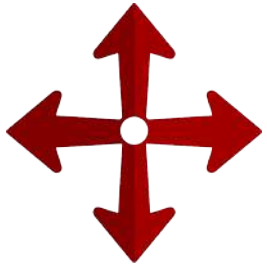
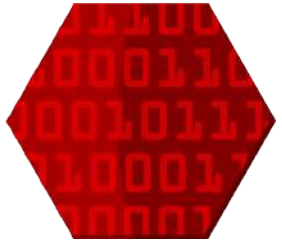
Red Hat OpenStack Focus Use Cases

NETWORK FUNCTION VIRTUALIZATION

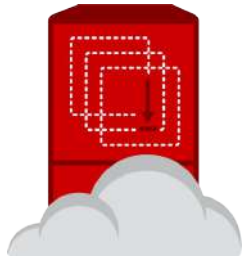
DEVELOPER CLOUD



EDGE COMPUTING



AI/ML/HPC



SERVICE PROVIDER

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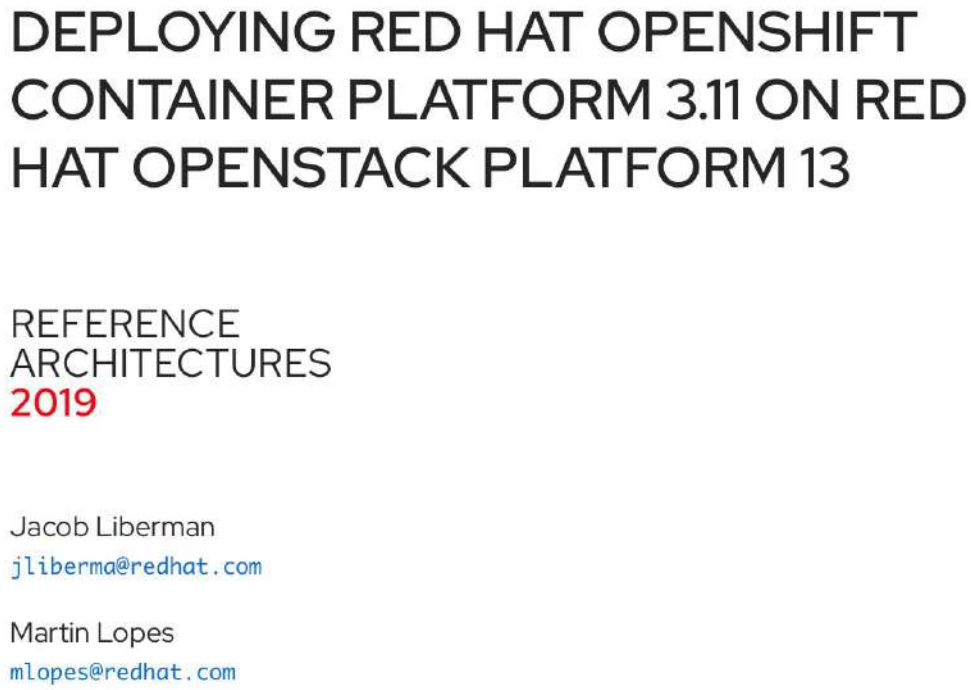
OpenShift on OpenStack Reference Architecture

Current: OSP 13 LTS and OCP 3.11 with Kuryr | Next: OSP 13 LTS and OCP 4.2 with Kuryr

Use Cases: Software developer cloud, web, mobile, AI/ML, and predictive analytics workloads

Target: Primarily, customers with existing OSP subs.

Next: OCP 4.2 on OSP 13 & 15



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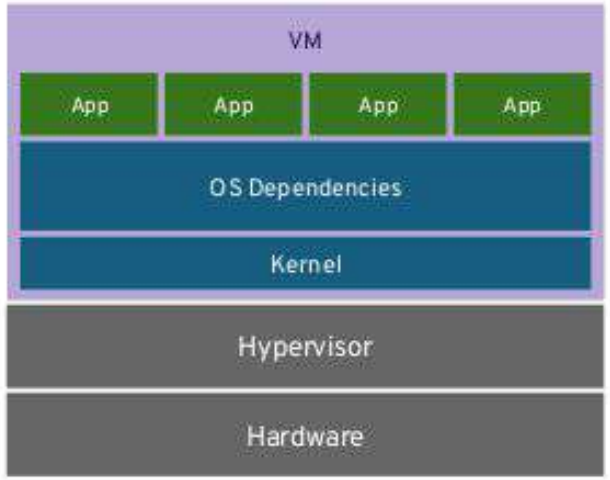
https://access.redhat.com/documentation/en-us/reference_architectures/2019/html-single/deploying_red_hat_openshift_container_platform_3.11_on_red_hat_openstack_platform_13

WHAT'S NEXT

Red Hat Virtualization: Next

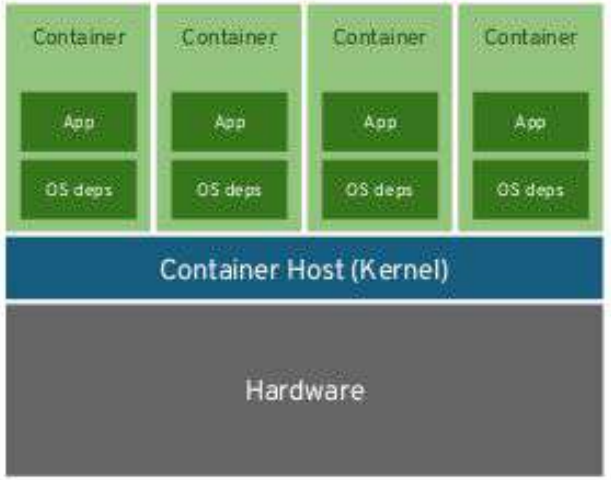
Virtual Machines and Containers

VIRTUAL MACHINES



VM virtualizes the hardware

CONTAINERS



Container ~~virtualizes~~ isolates the process

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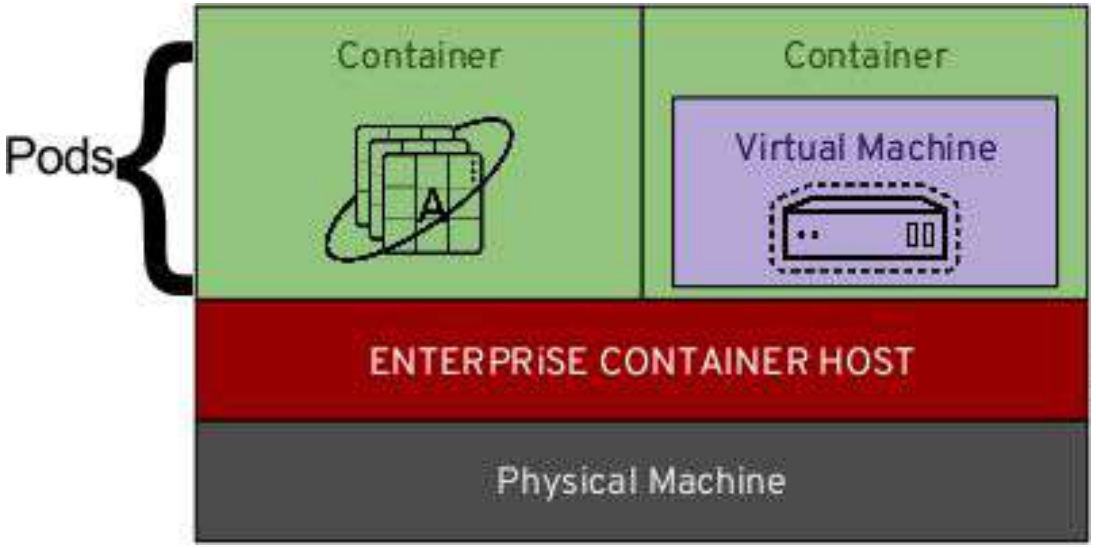
VMs and Containers Together



Red Hat OpenShift Container Platform

Resultant **virtual machine**s are able to run side by side directly on the same **OpenShift nodes** as **application containers**.

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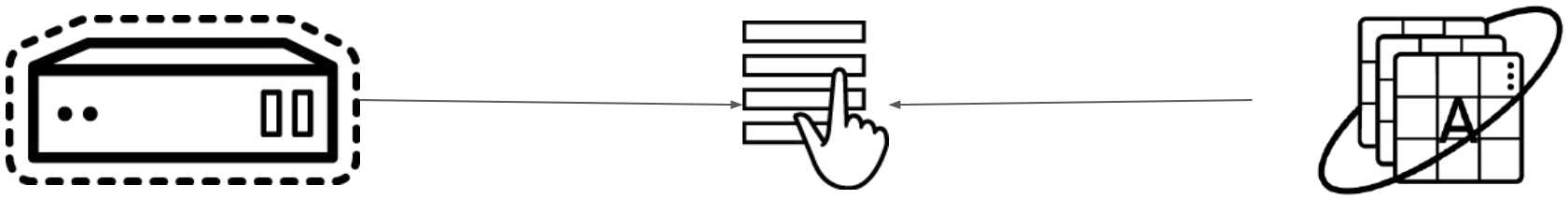
What is CNV ?

- **Container-native Virtualization** is an add-on to *OpenShift Container Platform* that allows virtual machine workloads to run and be managed alongside container workloads.
- You can create virtual machines from disk images imported using the **containerized data importer** (CDI) controller, or from scratch within *OpenShift Container Platform.*



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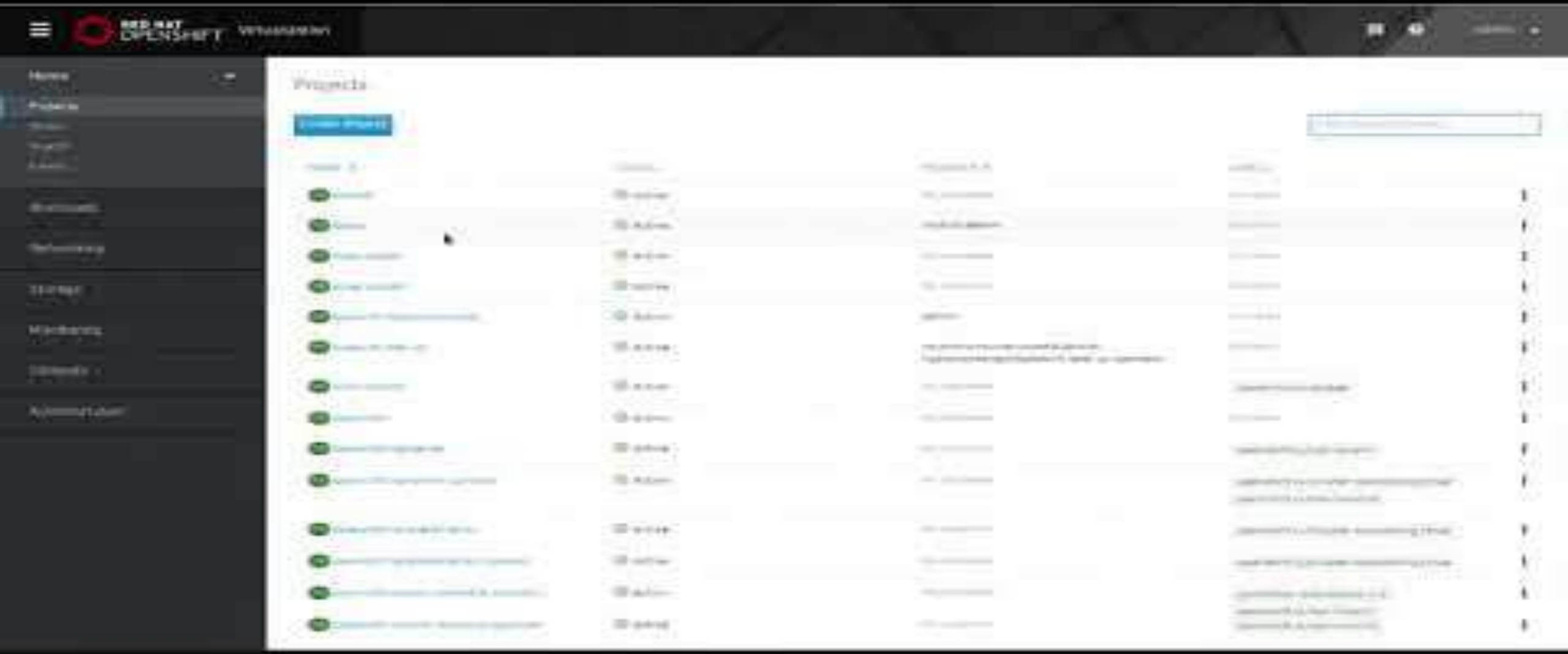
CNV VIDEO/DEMO


RED HAT OPENSHIFT
Projects

What you can do today

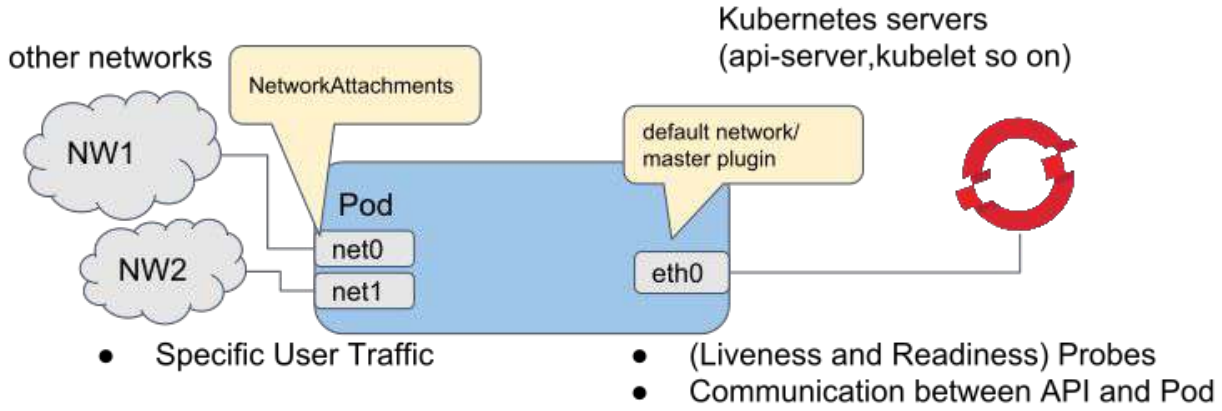
- Creating and managing Linux and Windows VMs
- Connecting to virtual machines via consoles and CLI tools
- Importing and cloning VMs, including VMware virtual machines
- Managing network interfaces and storage
- Live migrating virtual machines between nodes

What you can’t

- Use CNV in production (CNV is currently TP for OCP 3.11 and version 4.1)
- For version 3.11 (CNV 1.4):
  - The limit for compute node devices is currently 110.
- For version 4.1 (CNV 2.0):
  - Masquerade does not currently work with CNV.
  - Interfaces connected to the default Pod network lose connectivity after live migration. As a workaround, use an additional multus-backed network.

Multus

- **Multus** CNI is a container network interface (**CNI**) plugin for OpenShift that enables attaching multiple network interfaces to pods.
- Typically, in OpenShift each pod only has one network interface (apart from a loopback) -- with **Multus** you can create a multi-homed pod that has multiple interfaces.
- This is accomplished by **Multus** acting as a "**meta-plugin**", a **CNI** plugin that can call multiple other CNI plugins.



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