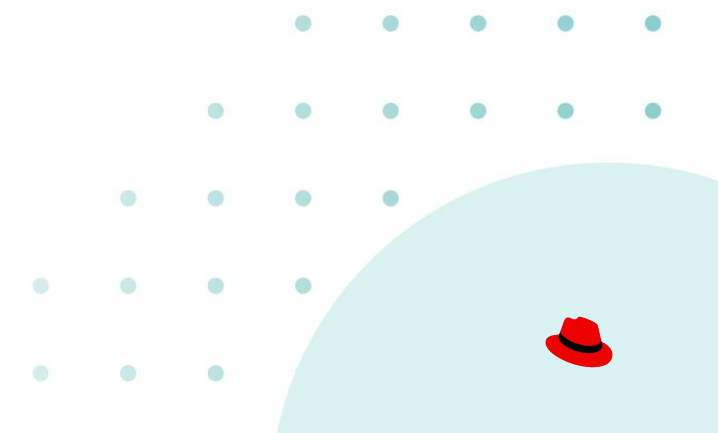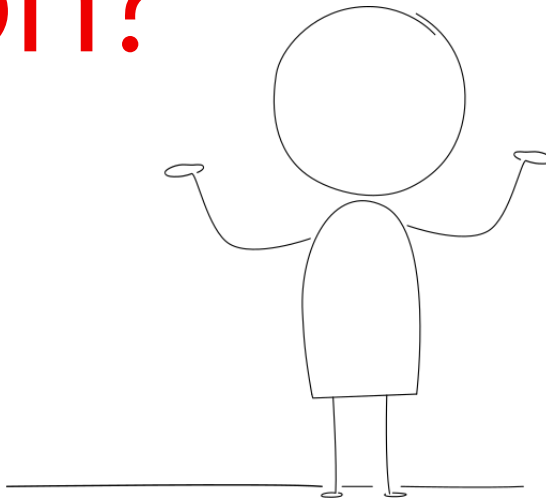# Red Hat Summit

Connect

OpenShift Virtualization at Scale with Ansible Automation Platform

Janine Eichler
Senior Architect
EMEA Solutions & Technology Practice

Martijn ten Heuvel
Principal Architect
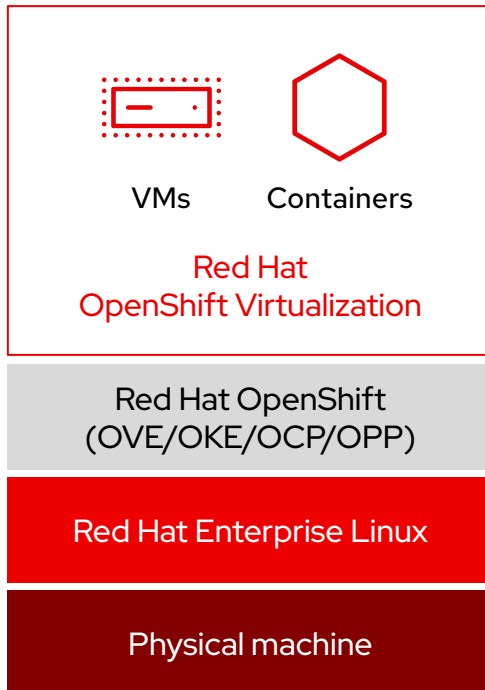EMEA Solutions & Technology Practice
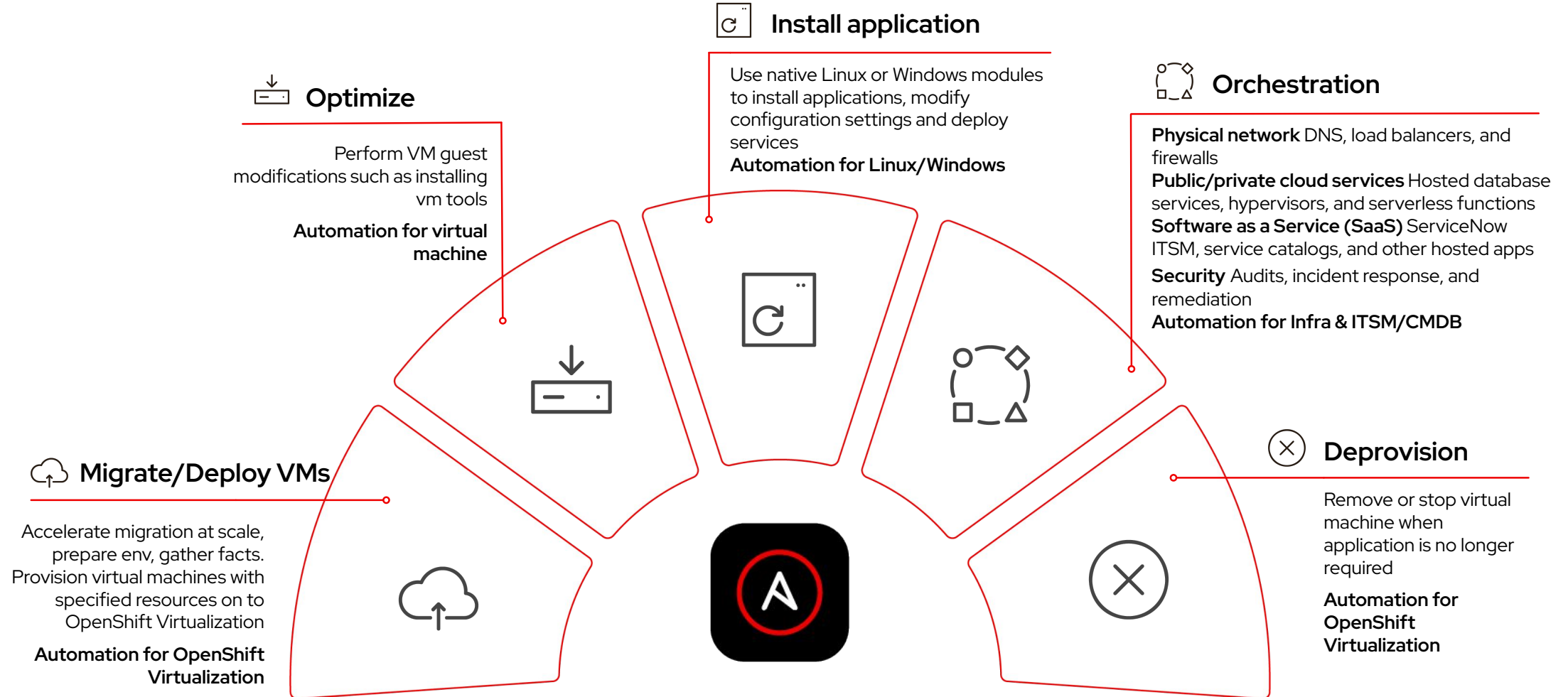
Why is there so much attention to Virtualization?

Red Hat OpenShift Virtualization

The modern option for general purpose virtualization

VMs   Containers

Red Hat
OpenShift Virtualization

Red Hat OpenShift
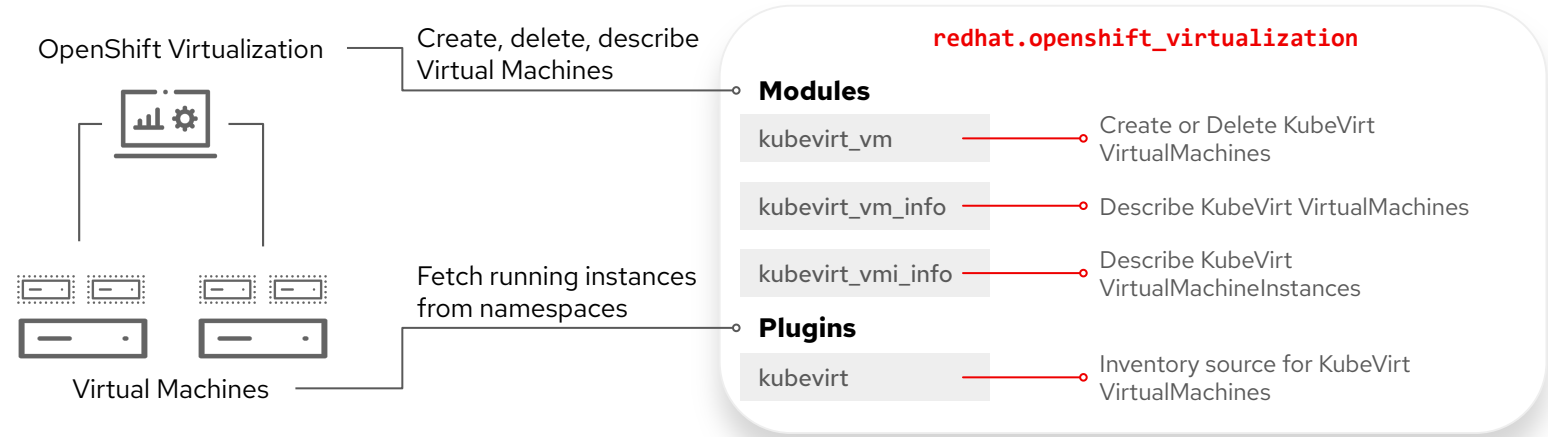(OVE/OKE/OCP/OPP)

Red Hat Enterprise Linux

Physical machine

▶ **Unified platform**
for virtual machines and containers*

▶ **Consistent management**
tools, interfaces, and APIs incl. ACM and AAP integrations

▶ **Performance and stability**
of Linux, KVM, and qemu

▶ **Healthy open source community**
the KubeVirt project is a top 10 CNCF active project, with 200+ contributing companies

▶ **Diverse ecosystem**
of Red Hat & partner operators

▶ **Included feature**
of all OpenShift subscriptions (OVE/OKE/OCP/OPP)

▶ **Includes Red Hat Enterprise Linux**
guest entitlements*

▶ **Supports Microsoft Windows**
guests through Microsoft SVVP

▶ **Inbound guest migration**
using Ansible Automation Platform + Migration Toolkit for Virtualization, Training and Consulting

▶ **Virt admin focused training**
DO316, EX316

*excluding OVE which is virtual machines only and includes no RHEL guest entitlements

Install application

Use native Linux or Windows modules to install applications, modify configuration settings and deploy services
Automation for Linux/Windows

Optimize

Perform VM guest modifications such as installing vm tools

Automation for virtual machine

Orchestration

Physical network DNS, load balancers, and firewalls
Public/private cloud services Hosted database services, hypervisors, and serverless functions
Software as a Service (SaaS) ServiceNow ITSM, service catalogs, and other hosted apps
Security Audits, incident response, and remediation
Automation for Infra & ITSM/CMDB

Migrate/Deploy VMs

Accelerate migration at scale, prepare env, gather facts. Provision virtual machines with specified resources on to OpenShift Virtualization

Automation for OpenShift Virtualization

Deprovision

Remove or stop virtual machine when application is no longer required

Automation for OpenShift Virtualization

OpenShift Virtualization — Create, delete, describe Virtual Machines

Virtual Machines — Fetch running instances from namespaces

redhat.openshift_virtualization

Modules

kubevirt_vm	Create or Delete KubeVirt VirtualMachines
kubevirt_vm_info	Describe KubeVirt VirtualMachines
kubevirt_vmi_info	Describe KubeVirt VirtualMachineInstances

Plugins

| kubevirt | Inventory source for KubeVirt VirtualMachines |

infra.openshift_virtualization_migration

At a glance

aap_deploy	network_mgmt
bootstrap	operator_mgmt
mtv_mgmt	validate_migration
mtv_migrate	...and more!

infra.openshift_virtualization_ops

At a glance

vm_backup_restore	vm_lifecycle
vm_collect	vm_networking
vm_hot_plug	vm_patching

```yaml
---
- name: Create a VM snapshot (OpenShift Virt)
  hosts: localhost
  tasks:

  - name: Use vm_backup_restore role
    ansible.builtin.import_role:
      name: infra.openshift_virtualziation_ops.vm_backup_restore
      tasks_from: vm_backup.yml
    vars:
      vm_backup_restore_request:
        - operation: snapshot
          names:
            - rhel01
          namespace: vmexamples-user1
```

5

AAP + Virt Architecture "by Day"
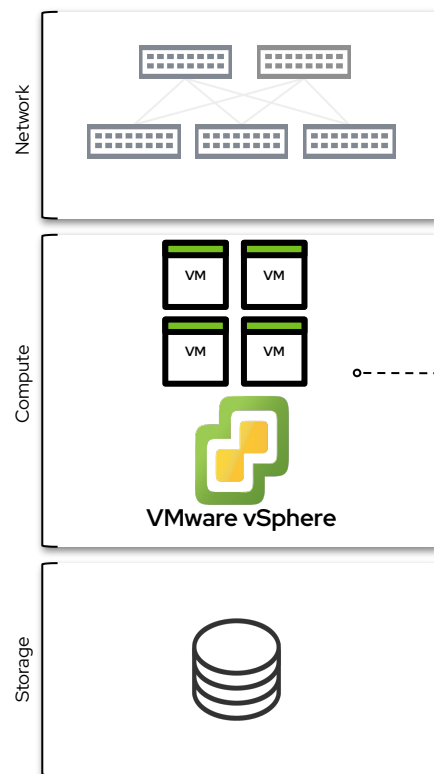
Ansible Automation Platform

Automate & Orchestrate

0 Existing

2 Steadystate

Discover / Prepare

Day 2 Automation & Management

e.g. ServiceNow

ITSM

e.g. Kafka, Prometheus, Dynatrace

Events

Network

Compute

VM **VM**

VM **VM**

VMware vSphere

Storage

1 Migrate

*

A

Migration Toolkit for Virtualization

Network

Compute

VM **VM**

VM **VM**

Red Hat Openshift Virtualization

B OpenStack Migration

Red Hat OpenStack Platform

VM

C Hyperscaler Migration

Public Cloud

VM
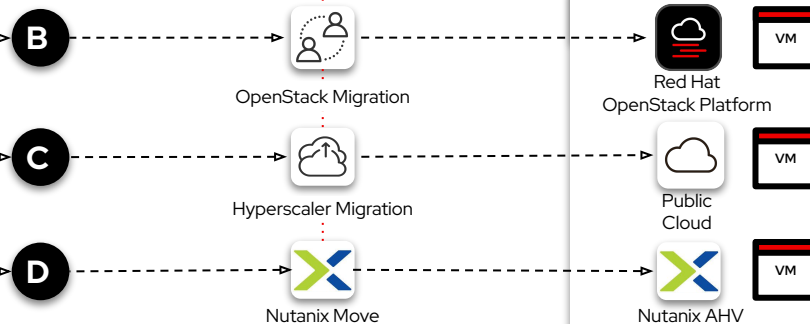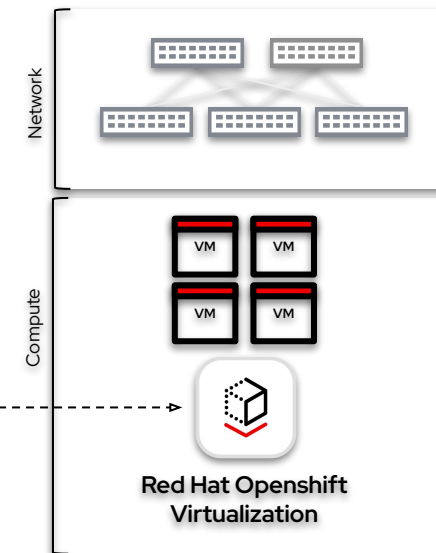
Alternative hosting options

D Nutanix Move

Nutanix AHV

VM

*Collection infra.openshift_virtualization_migration

Red Hat services

Evolve

| Navigate & Assess | Rationalize | Migration decisions | | Prove | Pilot | | Plan | Scale |

Strategic Adoption
Application Modernization

Enterprise Adoption Shift (Cloud native)

Strategy

Virtualization Migration Assessment

Foundation

Expand

| Design | Build | Bulk migration preparation | Build Automation & platform | Execute migration wave 1 | Execute migration wave .. | Execute migration wave N |

Tactical Adoption
Virtualization Migration Factory

Tactical Adoption Shift

| Design | Build | Identify proof points | Prove & report value |

Operational Adoption
Proof of Value

Red Hat Training and Certification + Technical Account Management

Key Takeaways

VMs   Containers

**Red Hat
OpenShift Virtualization**

Red Hat OpenShift
(OVE/OKE/OCP/OPP)

Red Hat Enterprise Linux

Physical machine

‣ **Red Hat OpenShift Virtualization as the modern, unified platform**
for virtual machines and containers

‣ **Automation is Key for Scale**
provides modules and collections to automate the entire lifecycle of virtual machines, from provisioning and migration to day 2 operations and de-provisioning.

‣ **Red Hat's Virtualization Migration Services**
offers a structured approach to help customers migrate their virtual machines.

Red Hat

Questions?

Optional Demo

Red Hat Summit

Connect

Thank you

in linkedin.com/company/red-hat

f facebook.com/redhatinc

▶ youtube.com/user/RedHatVideos

🐦 twitter.com/RedHat