OpenShift Virtualization Roadshow



Welcome to the OpenShift Virtualization Roadshow

09:00 - 09:25	Overview presentation
09:30 - 11:30	Virtualization lab
11:30 - 12:15	Lunch break
12:15 - 13:15	Recap, QA, Services - Continued lab
13:15 - 13:30	Wrap-up



Who's who from Red Hat



Michael BangSr. solution architect



Martin SkøttSr. solution architect



Kim Borup Sr. architect



The WORLD is changing





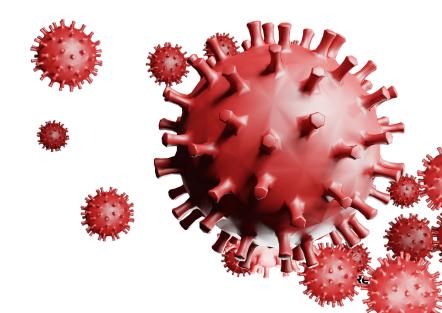




We are living in one of the BIGGEST SHIFTS in human history



And then COVID happened













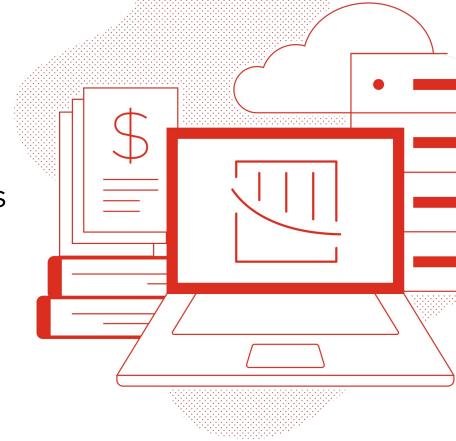
OpenShift as an Application Platform should bring developers and operations teams together for both Containers and Virtualization.





Why are you here today? Server Virtualization industry is changing dramatically

Consider your options.





By the end of of the day....



Consider an alternative solution for your virtual infrastructure



Become familiar with Red Hat OpenShift Virtualization

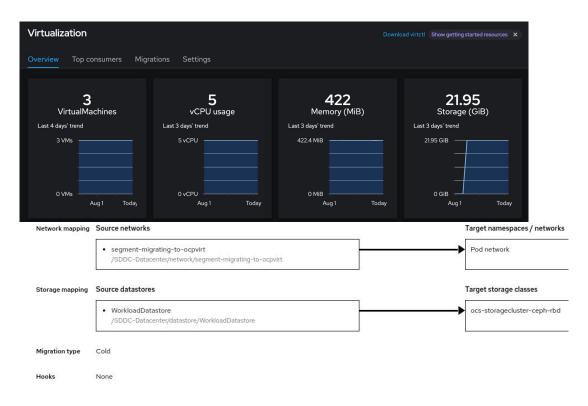


Understand that your journey to infrastructure modernization starts here



What we will cover in the hands-on workshop

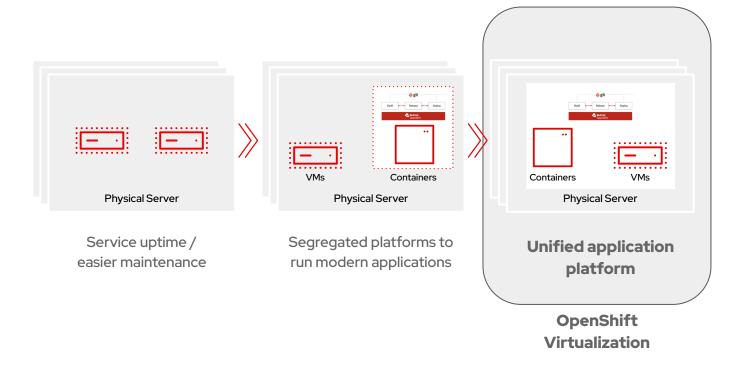
- Virtual machine
 - Provisioning
 - Management
 - Live migration
- Platform
 - Storage
 - Network
 - Load balancing
- Migration
 - vSphere -> OpenShift
- Backup and restore





Bring cloud-native functionality to virtual machines with Red Hat innovation

The benefits of k8s without containerizing



19

A single open platform for application innovation

A complete application platform that integrates with existing infrastructure, tools, and services



Empowering operations teams to innovate

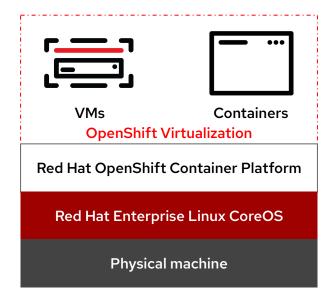
A cloud-like experience, everywhere

Trusted enterprise open source platform



What is OpenShift Virtualization?

- Included feature of the OpenShift application platform
- Run VMs in OpenShift
- Performance, stability, scalability, and reliability of KVM, the Linux kernel-based hypervisor
- RHEL guest entitlements are included
- Supports Microsoft Windows guests Microsoft Server
 Virtualization Validation Program (SVVP)
 - Manageability and ecosystem of OpenShift
 - Unified platform for running VMs and Containers





Bring traditional VMs into OpenShift

Traditional VM behavior in a modern platform

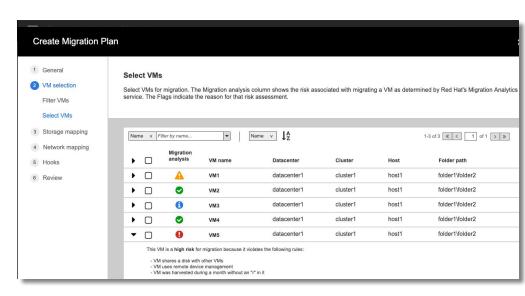
- Administrator concepts and actions
- Network connectivity
- Live migration

Leverage existing VM roles and responsibilities

- Maintain business critical application components
- Modernize skill sets over time

Migration Tooling

- Migration Toolkit for Virtualization (MTV)
- Warm migration of VMs at scale

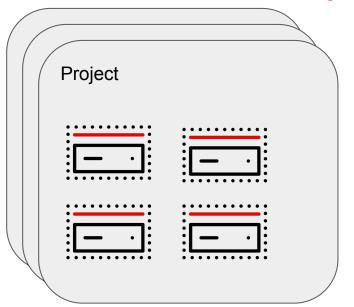


Creating a migration plan with MTV



Self-service VM by Project

Assign roles and collaborate around Projects as you would in the cloud



Add users / groups Set roles

Create / Delete Start / Stop / Restart Clone Migrate

View status Copy ssh command



Project editor





Fragmented 'approach' to VM provisioning

A process that can take weeks trapped in queues and iterations

Virtual Machine **Execute workflow** Execute workflow **Execute workflow Execute workflow** Execute workflow CPU: 4 vCPU.1 core Review & approve Assign IP & hostname Allocate volumes Install JBoss 7.4u11 Install security tools Configure LB & DNS Memory: 16GB Configure MW VM hardening Disk: 30 GB Configure DNS (host) Whitelist source IP Configure FW OS: RHFI Additional filesystems data: 500GB, disk ▶ logs: 100GB, partition Application platform Networking Storage **Platform** Security Networkina ▶ JBoss 7.4 Update 11 team team team team team Firewall rules (1-3 days) (1-2 days) (1-2 days) (2-4 days) (2-7 days) ► Ingress: SSH, HTTPS Earess: *.redhat.com DNS & LB api.service.org Execute workflow ► Healthcheck: HTTPS port Review & approve Queue to networking & storage teams Create VM from virtualization template and custom parameters Add disks and partitions and re-configure OS with custom filesystems Install corporate tools and configure default users and permissions Queue to platform team VM Ready? Request for a Virtualization Queue to security team new Virtual team Queue to networking team Machine (1-3 days) **Red Hat** Hand over the VM: IP, credentials and metadata

Next Gen approach to VM provisioning

Automated VM provisioning in minutes

Manage networks, storage, load balancers, etc. Security VM template VM image OpenShift **Execute workflow** Validated network, storage, and security against policies and permissions Provisioning of VM with corporate tools

Virtual Machine

- ► CPU: 4 vCPU.1core
- ► Memory: 16GB
- Disk: 30 GB
- OS: RHFI

Additional filesystems

- ▶ data: 500GB, disk
- ▶ logs: 100GB, partition

Application platform

▶ JBoss 7.4 Update 11

Firewall rules

- ► Ingress: SSH, HTTPS
- Egress: *.redhat.com

DNS & LB

- api.service.org
- ► Healthcheck: HTTPS port

Request for a

new Virtual

Machine

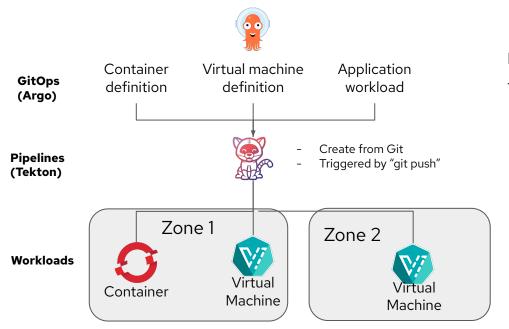
from template and custom parameters



VM Ready!

OpenShift Virtualization:Build Cloud-native VMs

Deploy VMs as Code with CI/CD

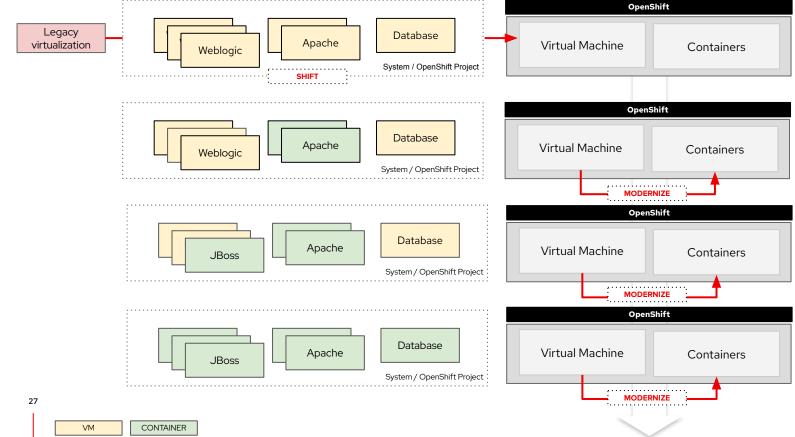


Integrate legacy VMs with a modern GitOps framework

- Deploy different security zones to run both composite applications of pods/VMs as well as traditional VM workloads
- Deploy and automate Virtual Machines as Code with GitOps

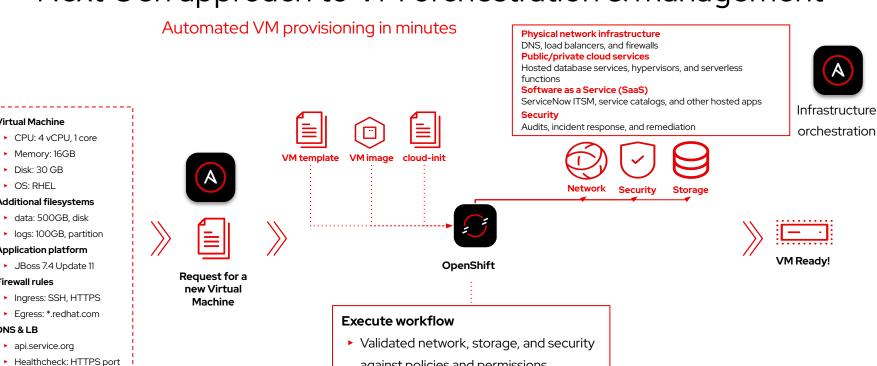


OpenShift Virtualization: Modernize Applications Iteratively





Next Gen approach to VM orchestration & management



- against policies and permissions
- Provisioning of VM with corporate tools from template and custom parameters
- ▶ Publish VM: IP, credentials and metadata



Virtual Machine

 Disk: 30 GB OS: RHFI Additional filesystems data: 500GB, disk ▶ logs: 100GB, partition Application platform

CPU: 4 vCPU.1core Memory: 16GB

▶ JBoss 7.4 Update 11

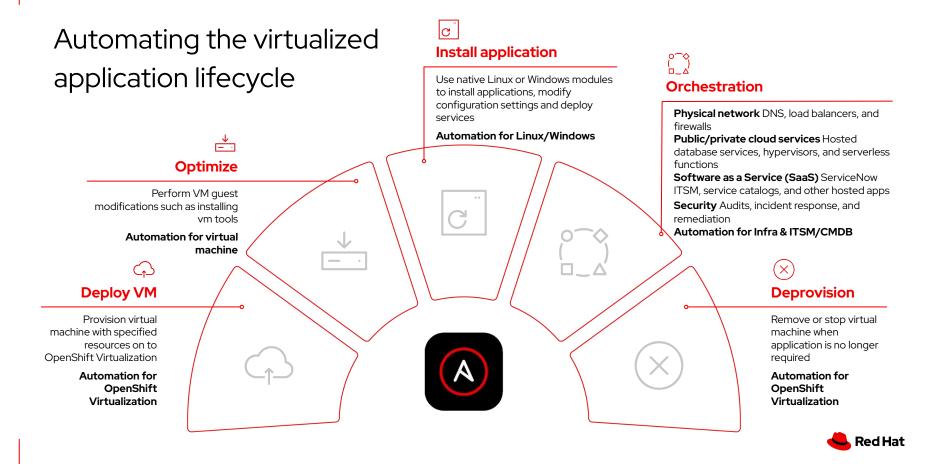
► Ingress: SSH, HTTPS

► Egress: *.redhat.com

api.service.org

Firewall rules

DNS & LB





Let's get familiar with the product





OpenShift Virtualization Roadshow

Hands-on workshop companion slides



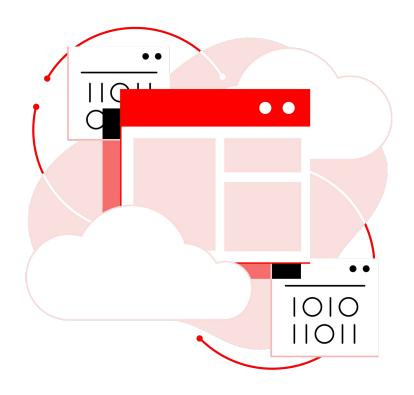
Demo



Choose your own adventure: Modules for roles and interests

- Virtual machine administrators
 - Customize virtual machines
 - Windows virtual machines
- Virtual infrastructure administrator
 - Bare metal OpenShift
 - Network management; Storage management
 - Backup and restore
- Virtual machine users
 - Exposing apps using a Route; Exposing apps using MetalLB





Your journey with OpenShift Virtualization

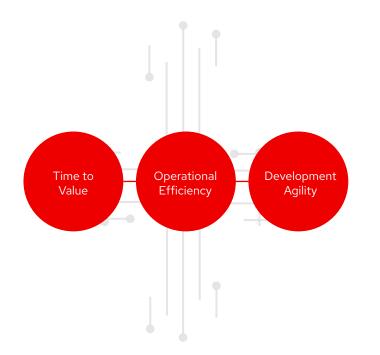




OpenShift Virtualization Service Offerings

Red Hat Services Organization





ac·cel·er·a·tor

/ək'selə rādər/

noun

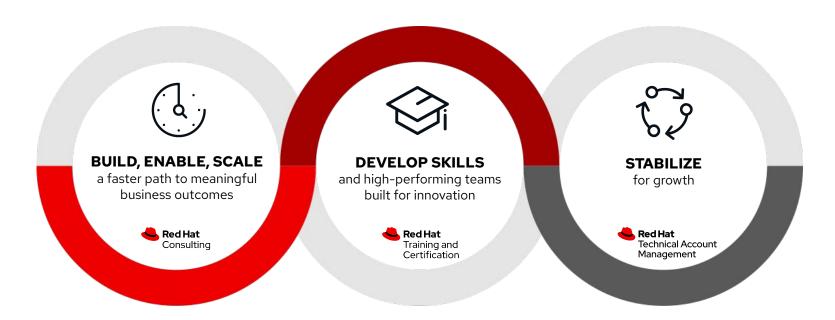
a team that causes something to happen or develop more quickly

a process for accelerating change

a roadmap for maintaining acceleration

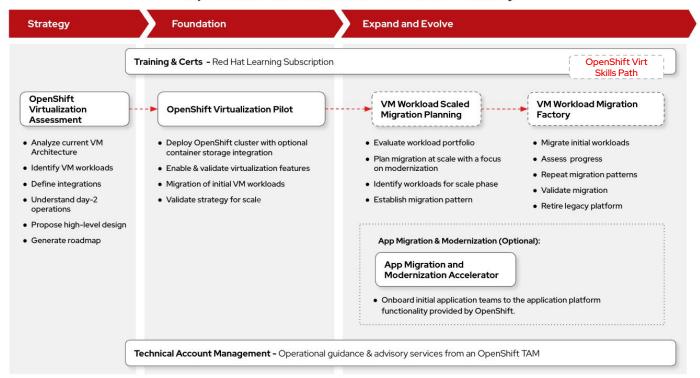


Red Hat Services A combined life cycle



RH Services Map: OpenShift Virtualization

OpenShift Virtualization - Services Journey





Getting Started: OpenShift Virtualization Assessment



What We Cover

- Virtual environment current state compute, network, storage
- Dive deep into virtualization use cases
- Hybrid cloud and edge strategy
- Platform management & security strategy
- Environment monitoring and observability
- Backup and disaster recovery
- Pilot scope and plan for scaled migration

Outcomes

- Smarter customer adoption through a clear path to pilot and business value realization
- Expertly-leveraged capabilities supported with high-level recommendations and design considerations
- Faster time-to-value by embarking on a customer journey with Red Hat Services

2 Weeks



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- youtube.com/user/RedHatVideos
- facebook.com/redhatinc
- twitter.com/RedHat

