The OCP-V Opportunity

Using OCP-V in EMEA to expand OpenShift

Red Hat

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

Consider your options.

OpenShift Virtualization

Journey

Red Hat

OpenShift Virtualization

Journey

Red Hat

9:30 Welcome and Intro

9:45 OpenShift Virtualisation overview

10:30 Live Demo

11:00 BREAK

11:15 Subscription Models

12:00 Migration from RHV and VMWare

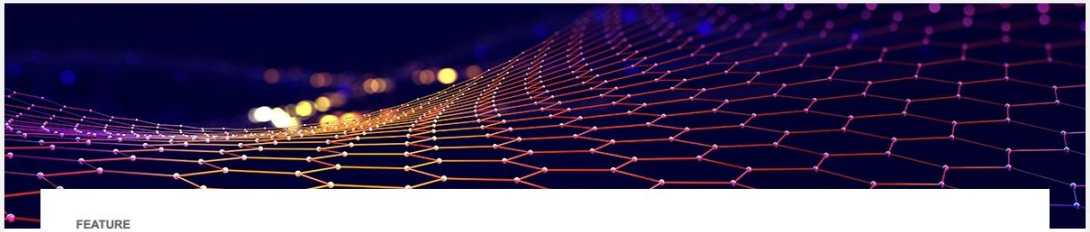
12:30 Application Migration and OpenShift Virtualisation

13:00 Q&A

OpenShift Virtualization Journey

Red Hat

What to Know



FEATURE

Broadcom's VMware acquisition explained: The impact on your IT strategy

In this guide, we look at Broadcom's acquisition of VMware and how it influences your IT desktop, server, cloud and supplier management strategies

By **Cliff Saran,** Managing Editor

Published: **22 Jan 2024**

In November 2023, Broadcom completed its $69bn acquisition of VMware, in a move to build out what the company sees as a multicloud strategy.

VMware has had a number of owners. It was previously owned by Dell, which took over the virtualisation company following its $67bn purchase of EMC in 2016. EMC had purchased VMware in 2004. In 2021, Dell spun out its share of VMware, paving the way to the Broadcom acquisition.

When it began trading in 1998, VMware launched into a world where datacentres were being refreshed with x86 servers. Proprietary Unix hardware was being replaced by x86-powered Linux servers from Red Hat and SUSE and Microsoft was pushing hard in the datacentre space with Windows NT Server, designed to run server software like its Exchange email server and SQL Server database.

VMware enabled x86 servers to run multiple virtual machines (VMs) on each physical server and

Latest News

Microsoft: Nation-state hackers are exploiting ChatGPT

Dutch Supreme Court approves use of EncroChat evidence

Nokia, A1, Microsoft claim first for enterprise 5G edge cloud network slicing

Red Hat

VMware/Broadcom Announcement

$69 Billion	Broadcom paying for VMware
500,000+	VMware customers
$13.5 Billion	VMware Revenue
38k	VMware Employees
$350k	VMware Revenue per employee

https://www.broadcom.com/company/news/financial-releases/60271
https://www.vmware.com/company.html#:~:text=READ%20MORE-,Our%20Customers,more%20than%20500%2C000%20customers%20globally
.

What to Know

Many VMware customers are looking for ways to reduce (or totally remove) their dependency on VMware vSphere as a result of Broadcom's intent to acquire VMware.

Red Hat

Wait a second, isn’t this a change from before?

Yes, yes it is. Let me explain why.

How are we positioning OpenShift Virtualization?

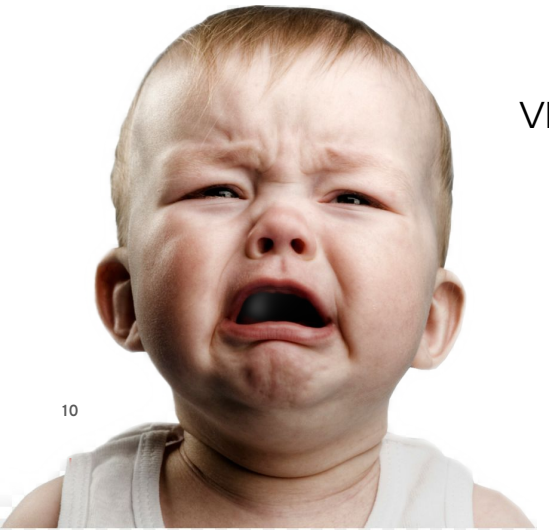
- Included feature of OpenShift, brings modern virtualization infrastructure to OpenShift to support existing virtual machines.

- Organizations can utilize a single unified application platform for both virtual workloads and containerized workloads as they begin their modernization journey

- OpenShift Virtualization is a highly reliable, stable, and performant KVM hypervisor with API and automation capabilities

Customers have a history with Broadcom …

The history is repeating itself even before acquisition closing



VMware Customers are coming to Red Hat for an option

"My subscription cost is going through the roof"

$ → $ $ $

"Get me off of my current Virtualization platform now"

Red Hat

Red Hat can help

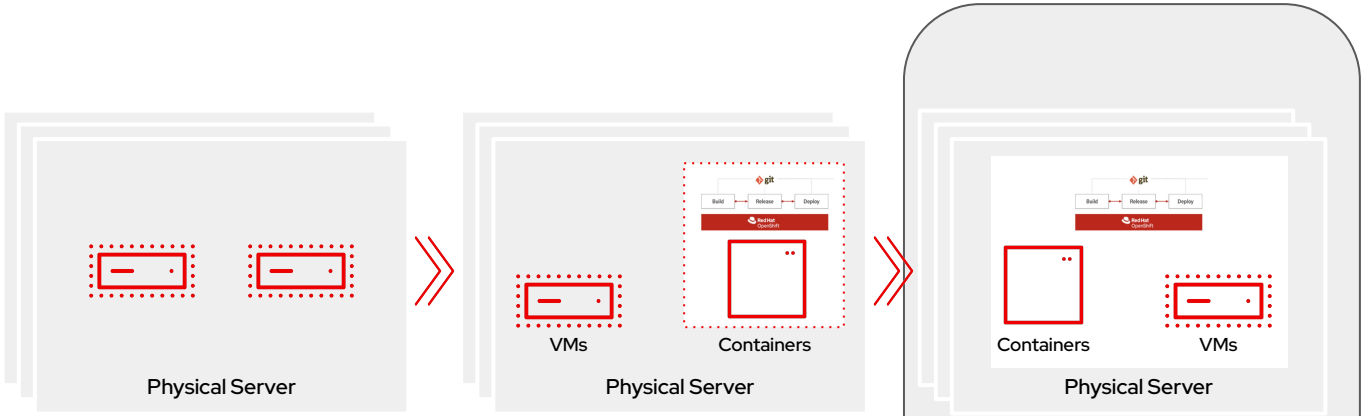
We can help VMware customers modernize their application portfolio to reduce or remove dependency on vSphere

Red Hat

Virtualization Modernization

1. **Sales Play Overview**
2. Use Cases
3. Business Value
4. Customer Wins
5. Call to Action

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



Service uptime / easier maintenance

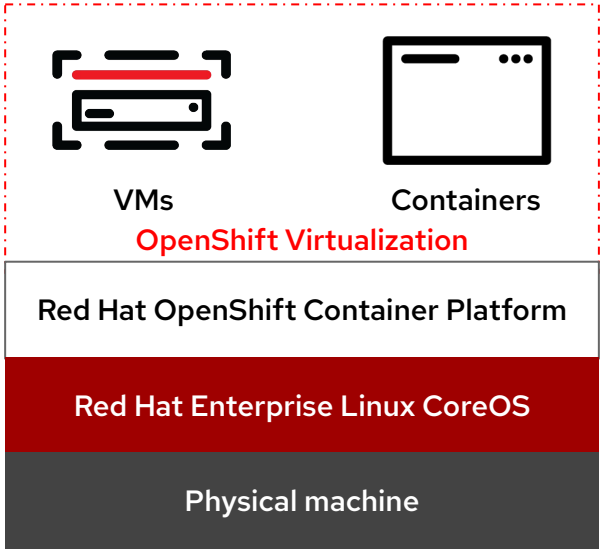
Segregated platforms to run modern applications

Unified application platform

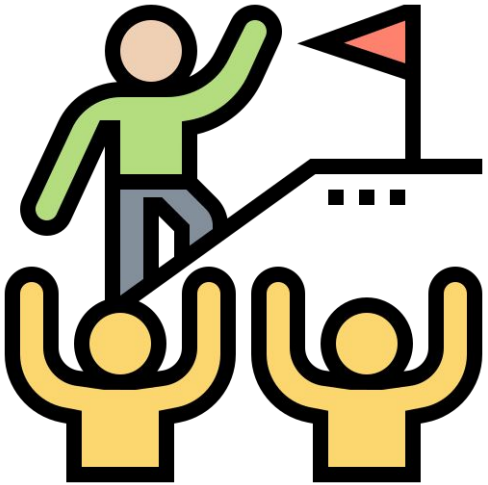
OpenShift Virtualization

What is OpenShift Virtualization?

- Unified platform for running VMs and Containers
  - Included feature of the OpenShift application platform
- Performance, stability, scalability, and reliability of KVM
  - mature Linux virtualization
  - RHEL guest entitlements included
  - Supports Microsoft Windows guests
    - Microsoft Server Virtualization Validation Program (SVVP)
- Leverage existing VM roles and responsibilities, while modernizing skill sets over time
  - Traditional administration, familiar ecosystem partners
- Migration Tooling
  - Migration Toolkit for Virtualization (MTV)
  - Warm migration of VMs at scale



Competitive Edge



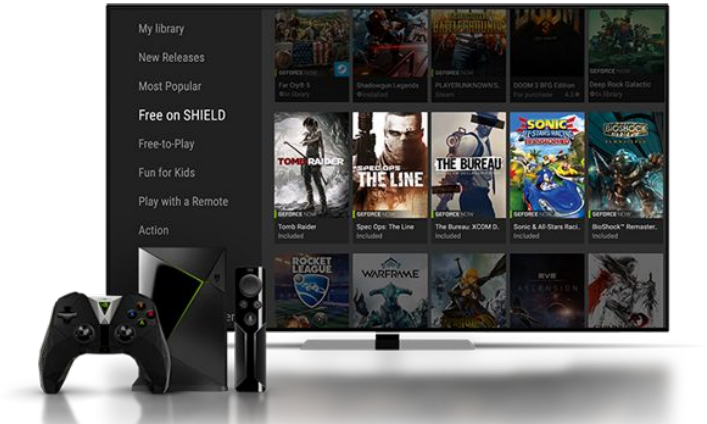
VMWare is reaching a tipping point to where even analysts are questioning the complexity of their story.

"Tanzu is really confusing in its own right, as to who this is targeting, and what is the problem they're trying to solve," Crawford said. "It seems like a collection of different services that they're trying to pull together, but they've had a lot of time to do that and it's still confusing."

"If I were a betting man in Vegas, Tanzu would be on the chopping block after the acquisition closes with Broadcom in October," said Rob Strechay, lead analyst at TheCube

Source:
https://www.techtarget.com/searchitoperations/news/366549332/VMware-Tanzu-portfolio-reshuffled-ahead-of-Broadcom-close

Competitive Edge



28 Million users
1500+ Games
100+ Countries
30+ Data Centers

Presented at
OpenShift Commons

KubeVirt Maturity

KubeVirt

190
Contributing Companies

428
Contributors

60
Releases

Top 10
CNCF active Project

Incubating
CNCF Project status

v1.0.0

50% increase in Contributing companies in CY23

Competitive Edge

CNCF Ecosystem Projects
157 projects with over 178,000 contributors representing 189 countries

Obstacles

Competitive Summary Talk Track

What you should say to **any customer** concerned about their dependency on VMware.

"Yes, we can definitely help you begin your movement away from VMware. Red Hat is leading the charge helping 1000s of organizations globally (with over 200 as public references) accelerate their application modernization initiatives with Red Hat OpenShift, industry leading Hybrid Cloud Application Platform powered by containers, virtualization, Kubernetes, and DevSecOps capabilities, along with the broader Red Hat portfolio of application and data services.

Along with our partners, we have proven and have mature capabilities to help modernize virtualized workloads running on VMware vSphere to containers, serverless, or even VMs running on Red Hat Infrastructure. Our customers such as Sahibinden have been leveraging the VM capabilities in OpenShift for use cases where containers and/or serverless may not be a great fit. Some examples include traditional relational databases such as Microsoft SQL Server, monolithic home grown applications, legacy Microsoft .NET based apps, and containerized versions of ISV apps that are not yet available (e.g. vendor virtual appliances or management applications).

Finally, we have been helping customers migrate from competing Platform-as-a-Service solutions such as Pivotal Cloud Foundry (part of VMware portfolio now) to Red Hat OpenShift as these customers wanted to build their future on industry leading app dev platform powered by containers, Kubernetes, and DevSecOps. "

LIVE DEMO

OpenShift Virtualization Journey

Red Hat

Virtualization Modernization

1. Sales Play Overview
2. **Use Cases**
3. Business Value
4. Customer Wins
5. Call to Action

Use Case and Product Journey

Financial Services

Adopt internal private cloud

Host multiple OpenShift Clusters

Persistent desktops

E-commerce

Modernize 3-tier applications

Adopt Kubernetes to adopt rapid lifecycle for .Net, Java, Linux applications

Telco

Rollout new back office applications

VNF & CNF consolidation at the edge

Manufacturing / Energy

Manufacturing floor automation

Data visualization

Government / Military

Adopt internal private cloud

Host multiple OpenShift Clusters

Tactical Edge with mix of Container / VM applications

Media / Technology

Technical Workstations

Adopt internal private cloud

Red Hat

Success with OpenShift Virtualization

Workload	Details	Target Customer
Technical workstations	Have an easy and consistent way to deploy and manage Professional Desktops at scale.	Technical workstations, 3D rendering and remote visualization
Java Modernization, Windows and Linux apps	Customer is modernizing 3-tier legacy applications External Collateral:	Initiative to modernize 3-tier applications e.g. .Net or Java Application
AI/ML data science platform with CI/CD pipelines	Leveraging GPU compute acceleration, Adopt automated pipelines with GitOps External Collateral: Lockheed Summit Session 2021	Adopting GitOps and DevOps
Multi-tenant OpenShift Clusters	Running multiple fully isolated OpenShift clusters at different OCP versions. Fault zone reduction of a very large environment.	Looking for multi-tenancy
Cloud native architecture, but some services still run in VMs	Wanted to deploy a new app, but specific functionality (database, load balancer, management app) is not yet containerized. Running the specific services as VMs allowed for faster time to market.	Greenfield applications with mixed VMs and Container components
Iaas/PaaS Implementation	Moving to OpenShift to create a private cloud hosting thousands of VMs and Containers	Need for a private cloud with a mix of containers and VMs

Virtualization Key Capability Improvements*

Category	RHV		OCP Virt EOY 2022	Actual OCP Virt EOY 2023	Planned OCP Virt EOY 2024
Workload scalability and limits	90		80	90	90
Density	80		50	60	80
Single Cluster Virtualization infrastructure management	60		80	75	95
Mixed VM and Container environment	50		100	100	100
Multi-tenant capabilities for resources assigned to tenant	10		90	95	90
Scale Out Multi-tenant clusters	20		50	80	100
Infrastructure HA	90		70	90	100
Hotplug	90		20	70	90
Backup integrations	50		40	60	90
Disaster Recovery integrations	50		20	50	80
Software Defined Storage	0		90	100	100
Storage integrations / acceleration	20		70	80	90
Software defined networking	60		70	75	90
Public Cloud integrations	0		50	60	65
Observability	70		70	90	95

***Score is % complete to best in class in category**

Red Hat Strategy Alignment

FY24_Product Strategy_OpenShift

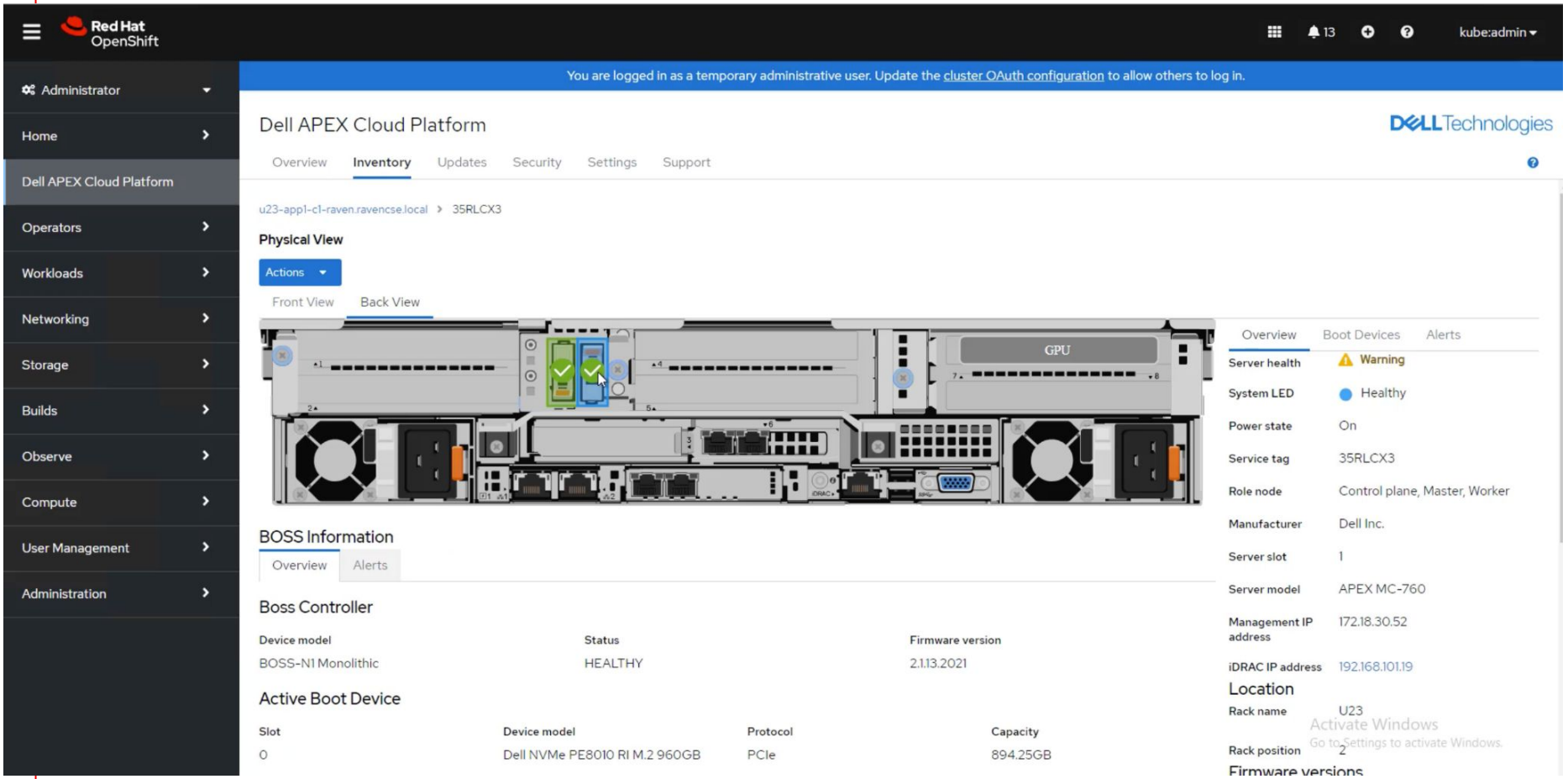
OpenShift Virtualization – With the continued evolution of our Kubernetes native virtualization capabilities, **we now have a strong value position for customers to manage VM workloads on a cloud native platform in OpenShift.** We've continued to see interest as customers seek potential alternatives to vSphere, in light of the pending Broadcom acquisition. We are planning to test OpenShift Virtualization with vSphere Admins through our planned roadshow in 2H CY23 & CY24 and continuing to enhance our virtualization capabilities, as well as integrations with partners.

OpenShift Virtualization Coming to Red Hat OpenShift Service on AWS (ROSA) and AWS Bare Metal Offering in 4.14

New!

- Faster adoption of OpenShift and public clouds
  - Rehost and then refactor
  - Data Center Exit
  - Windows modernization
- Consistent VM deployment and management, on-prem and in the cloud
  - Consistent management
  - VM portability between cloud providers & on-prem
  - Disaster Recovery and bursting

New Exciting Partnership with Dell!



NDA Required

OpenShift Virtualization

	Near Term (Q2 2024)	Mid Term (Mid 2024)	Long Term H2CY2024+

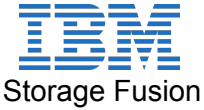
Core Platform	• Backup and Restore with OADP
	  • Datamover, DM for block volumes, non-admin backup (Block Mode)
	• OVN Kubernetes secondary networks (GA)
	  • Microsegmentation (IP block policies)
	• Cloud-like VM provisioning through Instance Types (GA)
		• OVN Kubernetes secondary networks - IPAM
		• DPDK support (GA)
		• Host IP pooling
		• Windows VM's RDP to external clients
		• Configuration and usage of secondary (Multus) networks
			• Realtime Support (GA)
			• OVN Kubernetes: Port mirroring, QinQ, Services and ingress
			• VM Disaster recovery with Regional-DR with additional storage partners

Scale/HA	• Tech Preview: Memory Overcommit • Tech Preview: CPU and Memory Hotplug • Hotplug Bridge and SR-IOV network interfaces (GA)	• CPU and Memory Hotplug	• Memory Overcommit (GA) • Workload aware-scheduler • Sustainability with Project Kepler
Ecosystem	• Data protection from additional storage vendors	• Oracle Cloud Infrastructure • Additional Legacy Backup Vendors	• Arm support • ROSA/AWS Secondary Networks, ODF support • Azure Bare Metal

Red Hat

Red Hat OpenShift

A Growing Infrastructure Ecosystem



Red Hat

Target Personas

Virtualization Admins and Infrastructure Architects (Champions, secondary)

Value Drivers

Diversify Virtualization platform: Reduce dependency on a single vendor. Mitigate risks such as falling behind on technical capabilities, limiting portability options, and offering only one cost profile to calculate project ROI against.

A simplified modernization strategy: Jumpstart the modernization of VM workloads while simplifying the datacenter.

Simplification: Power business transformation and unite your teams on a cost-effective, single platform to quickly deliver the exceptional experiences your customers expect.

Skill Development: Keep your IT staff up to date on technologies being rapidly adopted within the organization and in the industry

Common problems to solve

Manage & monitor systems to keep them running while still ensuring infrastructure technology is up to date.
Ensure infrastructure alternative has critical feature parity

CIO and VP/Director of IT (Decision makers, primary)

Value Drivers

Optimize Cost: Optimize IT infrastructure vendor spend to reflect current needs for innovation. Reconsider spending priorities among vendors.

Speed of Innovation: Address competitive pressures to innovate and improve application development productivity and speed time to market for production systems that operate reliably and securely at scale.

Speed of Delivery: Slow application deployment not only delays business value, but also creates frustration among teams. Adopting common tools and processes break down organizational silos.

Common problems to solve

Organization and efficiency issues resulting from siloes of infrastructure, tools and operations.
Talent retention for current technology coupled with ongoing skill development to adopt new technologies at a pace of change that avoids destabilization

Virtualization Modernization

1. Sales Play Overview
2. Use Cases
3. **Business Value**
4. Customer Wins
5. Call to Action

Modernize at your own pace

Legacy Virtualization
Apps in VMs

Slow evolution

Increasing costs

Developer productivity

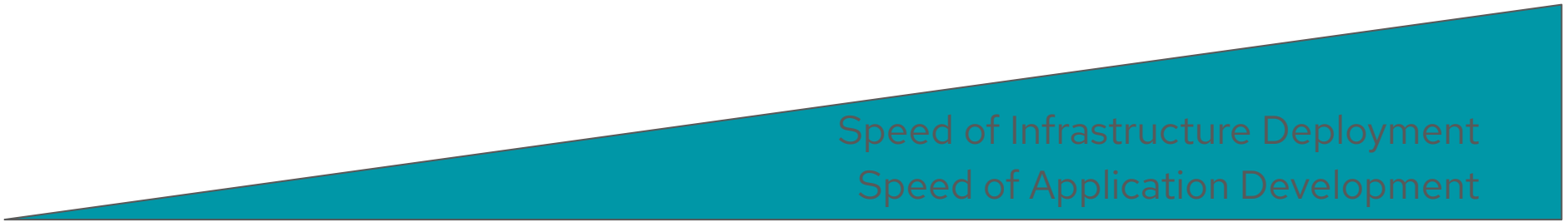
MTV

Infrastructure Modernization
Apps in VMs

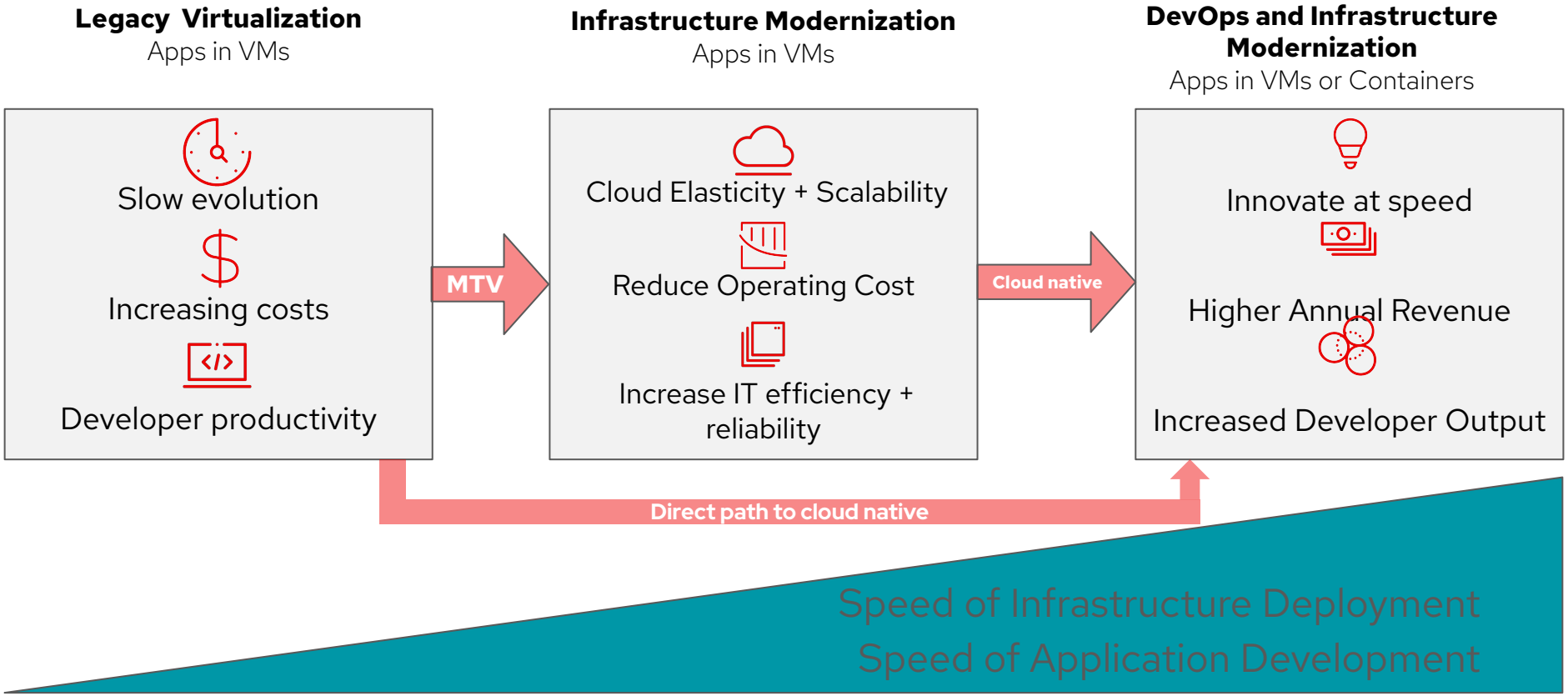
Cloud Elasticity + Scalability

Reduce Operating Cost

Increase IT efficiency + reliability



Modernize at your own pace



NextGen Virtualization Leveraging OpenShift

Red Hat Business Value Practice

COST EFFECTIVENESS

Lower TCO

Cloud-native approach to VM manageability minus the cost of proprietary SW

ITERATIVE MODERNIZATION

Flexibility of approach

Traditional VM behavior while VMs participate in modern DevSecOps and GitOps pipelines via Infrastructure as Code

RISK MANAGEMENT

Highly resilient and scalable

Manage VM fleet with single-pane of glass with modern dashboard technology

Up to 21% Higher Operational Infrastructure Efficiency

Consistency of management

Up to 42% reduction of Unplanned Outages

Next Gen Virtualization with Red Hat OpenShift

Red Hat
Business
Value Practice

BUSINESS OBJECTIVES	RED HAT SOLUTION ENABLERS	BUSINESS IMPACT
Cost Efficiency	• VMware cost avoidance • Consistent experience for VM Admins and developers (across VMs, containers, serverless) • Unified tools, process and pipelines for all apps • Consistency of management for system admins: one simpler architecture to manage • Openshift app platform efficiencies	↓ CapEx and OpEx (VMware) ↓ Effort spent on managing IT infrastructure
Iterative Modernization	• Refactor VMs on your schedule • Migration toolkit for virtualization (MTV): analytics enable s migrations at scale • VMs as code - CI/CD use case • Windows VMs can be brought into containers during OS changeover/migration • Leverage OpenShift functionality and modalities: Advanced Cluster Management for hybrid and multicloud, IT Operators, APIs	↑ Development velocity ↑ Developer satisfaction ↑ Modernized revenue generating applications
Risk Mitigation	• Maintaining traditional VM behavior to mitigate developer disruption • Manage VM fleet with single-pane of glass with modern dashboard technology • Security is intrinsic and inherited from KVM • Portability of containerized workloads	↑ Observability and control ↑ Flexibility ↓ Unplanned downtime

Virtualization Modernization

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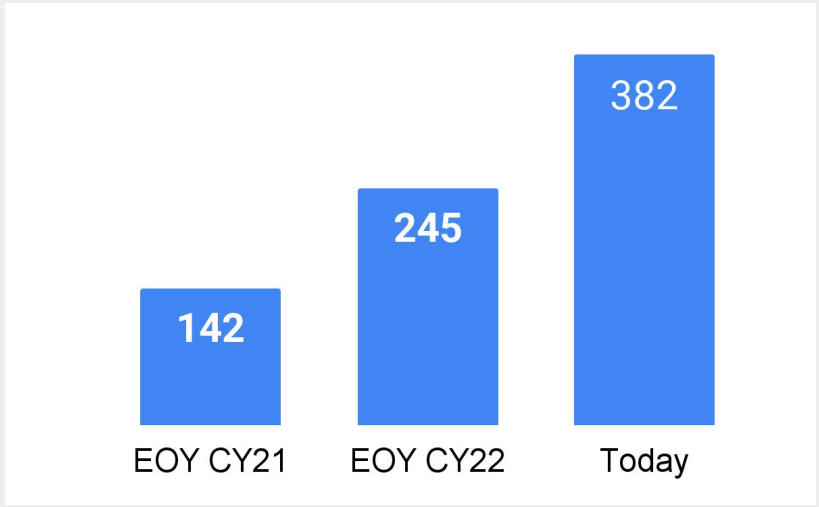
Key OpenShift Virtualization Customers

(Internal Version)

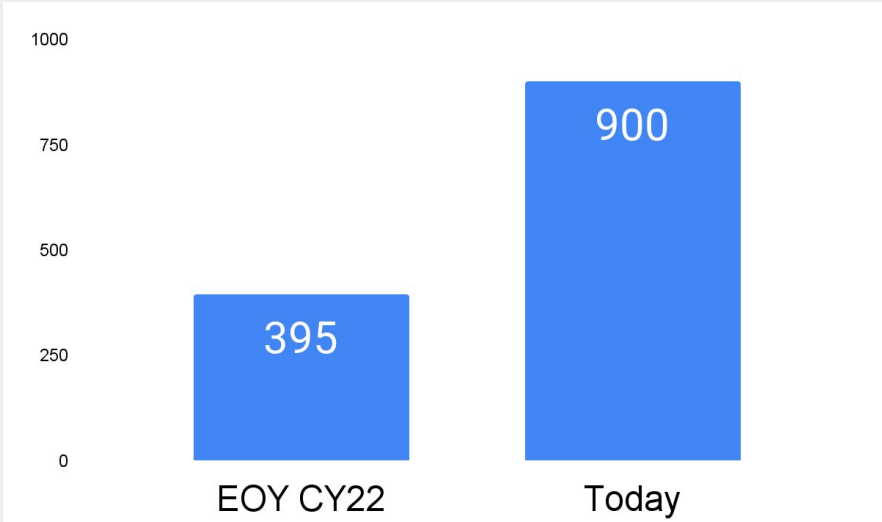
Production (or moving in)

POC / Evaluation

OpenShift Virtualization Adoption*



Unique Accounts

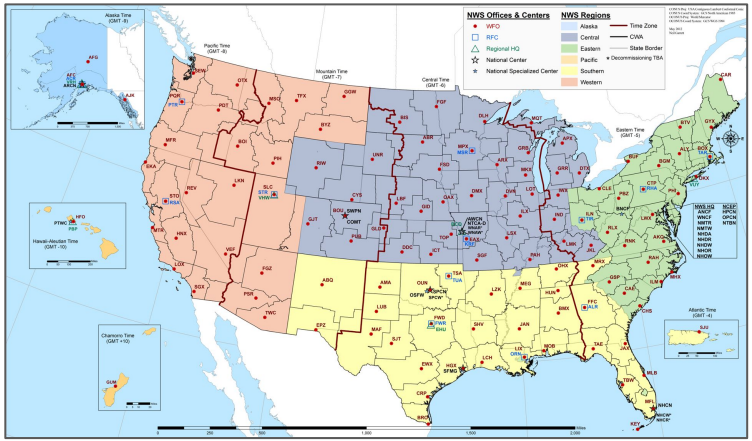


Total Operator Count

*connected customers only
as of September 21, 2023

NOAA AWIPS is deploying 150+ OpenShift clusters

122 Weather Forecast Offices, 13 River Forecast Centers, etc..



- I love talking about OCP-Virt! (it's on premise, I'm weird)
- It's more user-friendly than Red Hat Virtualization (RHV)
- Also much more admin-friendly than RHV
- Has more features than RHV (it's OpenShift!)
- Minor gaps related to niche features (USB passthrough)
- VM backup/restore via partners
  - Kasten by Veeam, Trilio and others at red.ht/openshift-backup
- Provides RHEL VM subscriptions
  - (*once the OCP baremetal subs gets fixed...*)
- I'm looking forward to the GUI-based network configuration in OCP 4.14

Global Investment Bank

"During Red Hat Summit, in 2018, we talked about KubeVirt and we could see KubeVirt would slot very well into their [customer's] existing environment. It could replace the hypervisor control, and also, since we could do this in a very controllable API and CLI controllable method, it would fit with the existing home-built selection infrastructure that was already in place."
Principal Solution Architect, Red Hat

"It allowed folks who spent the last decade or so on existing technologies to get up to speed with a newer subset of technologies to really help drive to create a single solution where we deploy one set of capacity and then burn down that capacity whether it becomes a VM or it becomes a container."
"A big thanks to Red Hat team that's stuck with the project, worked with us day in day out, and really helped enable a solution to help modernize our underlying compute platform."
VP Tech Fellow, Global Investment Bank

One of the largest investment banks in the world, is migrating their applications from traditional virtualization to Red Hat OpenShift Container Platform with container-native OpenShift Virtualization. Many of these applications are crucial, with expectations of long life cycles and minimal downtime

Highlights

- 40k servers supporting over 250k VMs
- 70 / 30 Linux / Windows split
- 60k stateless virtual Windows desktops
- OpenShift Data Foundation allows live OpenShift upgrades with low impact to application availability
- Over 1,000 servers across multiple geos running containerized applications
- Improved operational life cycle provides "pet" levels of application availability with the benefits of a cloud-native environment

Products and services

Red Hat® OpenShift® Container Platform
Red Hat® OpenShift® Virtualization
Red Hat® OpenShift® Data Foundation

Red Hat

Source: Operationalizing Virtualization for Key Applications Using Red Hat OpenShift Container Platform at 2022 Red Hat Summit, May 2022.

Virtualization Modernization

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Our target customers are:

Looking for an alternative Virtualization Solution

Uses RHV as their Virtualization solution

Customers ready for a modernization message

OpenShift Virtualisation Opportunities for Partners

Workshop Series

Sales & Technical Training - Skill up on OpenShift

https://connect.redhat.com/en/training/emea/technical-training-skill-openshift-security

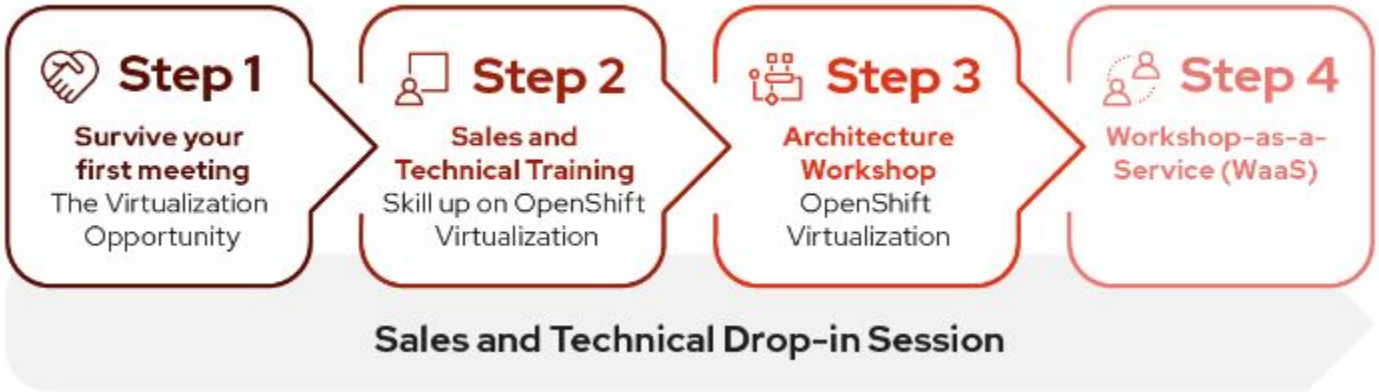
Architecture Workshop - OpenShift Virtualization

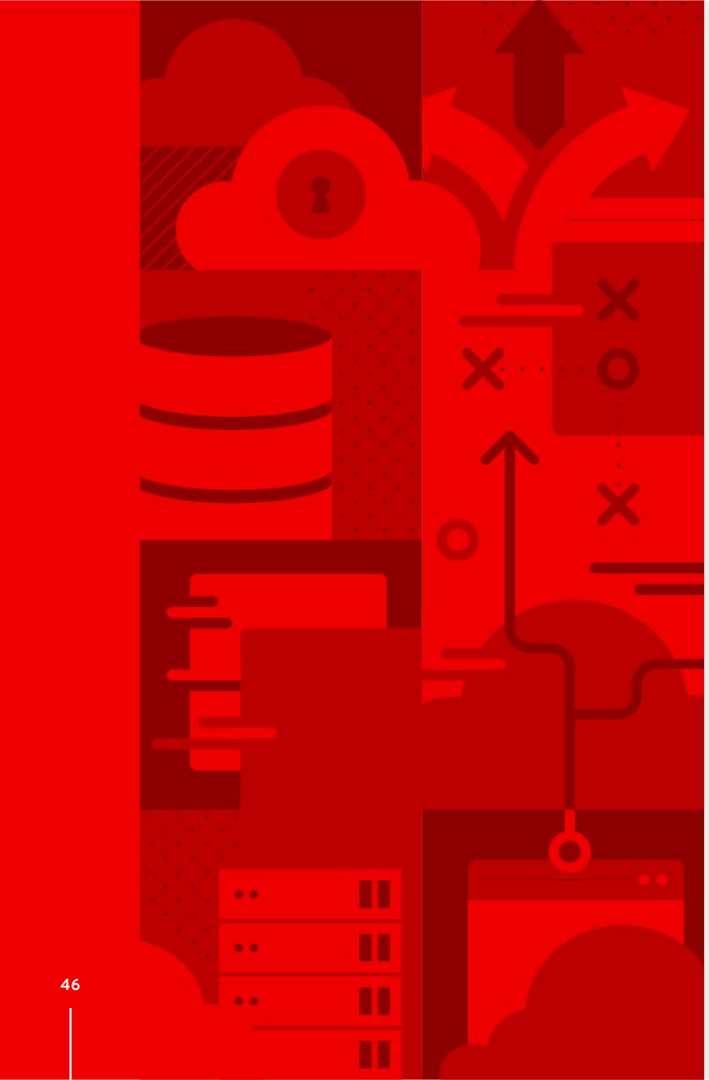
https://connect.redhat.com/en/training/emea/architecture-workshop-openshift-infrastructure

DL 316 - Managing Virtual Machines with Red Hat OpenShift Virtualization

https://training-lms.redhat.com/sso/saml/auth/rhopen?RelayState=deeplinkoffering%3D45162822

Red Hat


Step 1
Survive your first meeting
The Virtualization Opportunity
Step 2
Sales and Technical Training
Skill up on OpenShift Virtualization
Step 3
Architecture Workshop
OpenShift Virtualization
Step 4
Workshop-as-a-Service (WaaS)
Sales and Technical Drop-in Session



Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

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