

THE FUTURE OF VIRTUALIZATION

Strategic Insights for Public Sector



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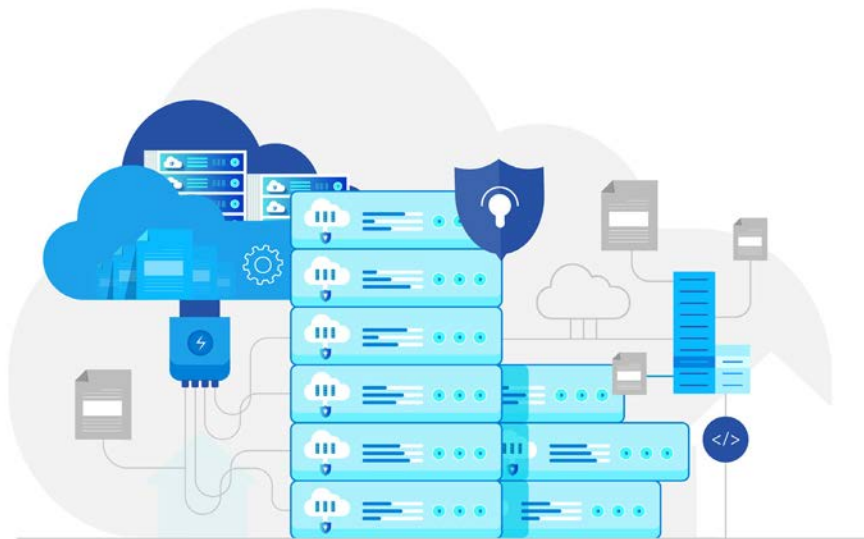
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Changes at VMWare Should Prompt Market Research

The last 10 years has seen a steady progress of public sector IT toward cloud and more recently containers. This has created a punishingly wide spectrum of technical skills needed to staff and maintain the modern hybrid, multi-cloud enterprise. The impact is increased program costs on both the technology and labor sides of the equation. A key part of the enterprise IT continuum on-prem to cloud has been classic virtualization and virtual machines (VM's), and VMware has been the unchallenged leader. However, with Broadcom's recent changes to the VMware product lineup and pricing, technology leaders need to reassess their market research for virtualization.

While Broadcom has been changing the VMware product suite, Red Hat has been building an alternative. Red Hat OpenShift Virtualization. This makes "right now" a perfect time to reassess how modern public sector IT teams approach virtualization. Incidentally, this moment could not come at a better time. AI initiatives across the public sector require the brightest minds to move up the value chain. Every enterprise is facing increasing pressure to standardize the lower levels of the architecture to free up staff labor hours for more advanced capabilities. This pressure needs to push the total cost of ownership for managing an increasingly complex IT baseline down.



The VM isn't Going Away, But the Modern IT Stack Can Compress

PUBLIC SECTOR PROGRAMS DON'T HAVE UNLIMITED BUDGETS AND IT'S VERY LIKELY THAT SOME ENTERPRISE WORKLOADS WILL NEVER BE REFACTORED INTO CONTAINERIZED MICROSERVICES.

In cases where code is too old or too complex, it's just too expensive. Acknowledging this reality means the modern IT stack must allow virtualization and containers to run side by side within the enterprise. Enter, OpenShift Virtualization. The upstream, open source technology behind OpenShift Virtualization, KubeVirt, has been a mature, stable upstream community for years. Red Hat started the KubeVirt project in 2016 and KubeVirt 1.0 was released as a CNCF project in July of 2023.

(<https://kubevirt.io/2023/KubeVirt-v1-has-landed.html>).

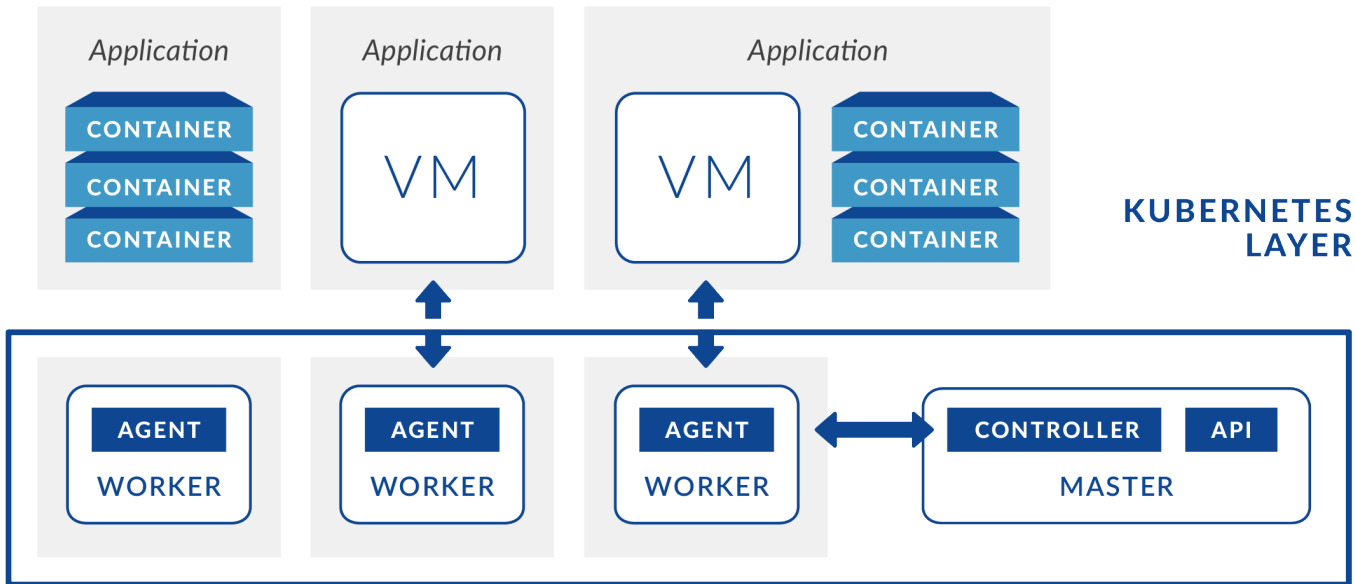
Because kernel-based virtual machine (KVM) hypervisors are themselves Linux processes that can be containerized, KubeVirt takes KVM-based virtual machine workloads and manages them as Kubernetes pods. As a result, VMs can now be brought into a modern Kubernetes-based cloud native environment without refactoring the code. The flexibility this provides is significant, allowing the modernization of legacy applications over time while maintaining them as VMs and creating mixed applications that consist of VM's, containers, and serverless functions.



Red Hat has been Investing in Kubernetes-based Virtualization

Red Hat continues to invest in the KubeVirt foundational technology and through OpenShift Virtualization is making it available as an enterprise grade capability. OpenShift continues to get simpler to manage and includes more robust feature sets around security and resiliency than ever before. Now, with the increasingly robust support for VMs, OpenShift is a viable option for public sector organizations considering their VMware alternatives.

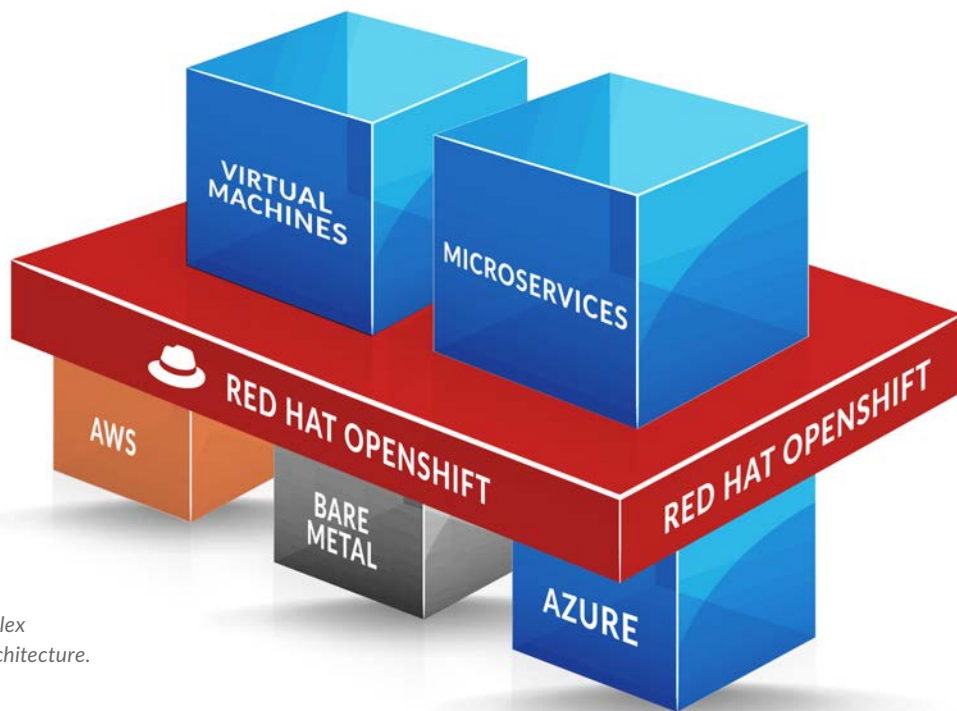
OpenShift Virtualization is already being used by large enterprises. Even before the VMware price changes, OpenShift Virtualization was undergoing scaled deployment in large commercial enterprises with savvy technology and value hawks like Goldman Sachs. Goldman Sachs is already making the transition to an OpenShift-based hybrid multi-cloud enterprise and reaping the benefits from it to reinvest in other initiatives.



KubeVirt unites containers and VMs into one comprehensive Kubernetes architecture

Simplifying the Modern Hybrid Multi-cloud Enterprise

Public sector programs need the flexibility to deploy platforms and applications on-premises or across various hyperscalers such as AWS and Microsoft Azure. VMware had been dominant in the industry for on-premises virtual machine instances, though OpenShift virtualization also offers this along with the added advantage of running in the public cloud and out at the edge. With OpenShift as a core enabling technology, the modern, hybrid multi-cloud enterprise becomes more efficient, simpler to manage, and more economical with a consistent user experience across all infrastructure combinations, from edge to cloud.



OpenShift simplifies the complex modern hybrid multi-cloud architecture.

Reduce Costs Through Standardization and Simplification

The business case should always drive a technology change decision. There are two elements public sector program need to look at as they assess the business case and total cost of ownership for moving to OpenShift and OpenShift Virtualization.

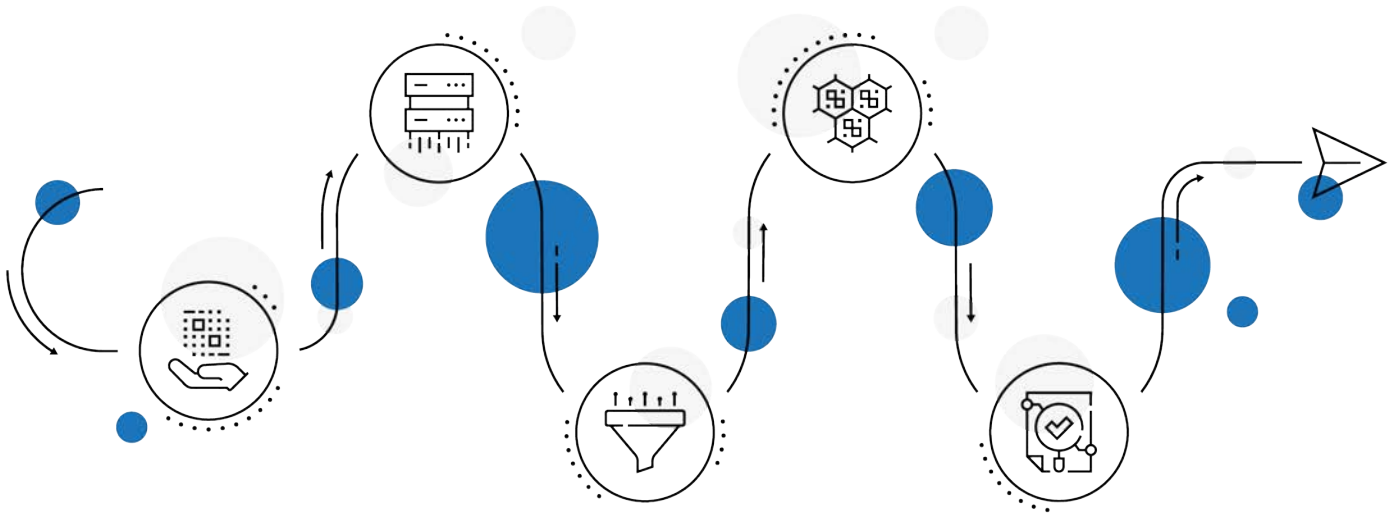
The first element is license costs. The key question is, does a potential move reduce the cost of licensed software in the layers up through the platform? Eliminating the VMware costs could be a significant savings. Additionally, if the VMs are using RHEL, every current Red Hat Enterprise Linux (RHEL) subscription will run free of charge under OpenShift Virtualization, enabling organizations to realize additional cost savings.

The second element is labor costs. These occur both above and below the platform. Each tool in the IT stack represents a required skillset and profession. Reducing the number of skillsets simplifies hiring and training the infrastructure management team. It also reduces the skillsets above the platform requiring development teams to only know one interface to build modern, cloud-native capabilities or transition existing VMs that can run across the hybrid multi-cloud environment. Fortunately, the cost to refactor code into containers is NOT a cost-driving requirement that programs need to consider with adopting OpenShift Virtualization.



Planning for Transition Success

Any changes in a core technology like VMware comes with switching risks as infrastructure management skills need to evolve. Fortunately, we have seen that most public sector organizations have already been experimenting with containers and Kubernetes. This means most have the skillsets already in house to make the switch. Organic skills in containers, Kubernetes, and OpenShift are must-have skills to successfully make the move to OpenShift Virtualization. Fierce Software is a strong advocate of the platform team approach; a small team of high skill individuals, empowered and supported by market-leading platform technologies that manage these platforms for DevSecOps application teams. For transition success, a platform team is the perfect resource to lead the effort to optimize the IT stack, reduce license costs, and provide a consistent experience across their organization's hybrid cloud.



Fierce Software Is Your Innovation Broker for Market Research and Pricing

In the public sector, program leaders must make informed decisions regarding resource allocation, and the new reality with the changes at VMware necessitates a fresh look at the market alternatives. If for no other reason than to be a savvy customer, technology leaders must assess their objectives, current approach, and trade space. Fierce Software is standing by to help public sector-focused programs explore their market research. Our team makes the connections between market-leading vendors and government requirements. We are your Innovation Broker for this market research. Contact sales@fiercesw.com to get started.



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See This Evolved Approach in the Fierce Software Lab

Fierce Software is committed to the success of our public sector customers and that means setting the conditions for the technology to succeed. Fierce is putting this evolved, OpenShift-based hybrid multi-cloud architecture into our lab environment. Interested public sector stakeholders can see a working example of what the technology baseline will look like and understand how it will work. Federal Systems Integrator (FSI) teams can participate in Fierce workshops where, in partnership with our vendors, we will teach these teams the skills they need to be able to deliver this evolved technology stack efficiently and effectively.



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**WHILE ALL TEAMS CAN BENEFIT FROM
A FIERCE SOFTWARE WORKSHOP,
IT IS THE ENTERPRISE PLATFORMS TEAMS
THAT WILL SEE THE MOST BENEFIT.**

Efficiently offering secure and resilient multi-tenant platform capabilities requires teams to constantly learning about new best practices and tradecraft. The increased in interest in AI means platform teams need to have the skillsets to ensure the scalable infrastructure, data management, and security under these vital new enterprise initiatives is not brittle. Empowered with OpenShift and other enterprise grade platform tools from vendors like HashiCorp, MongoDB, CloudBees, and GitLab, platform teams can deliver more value with fewer resources, freeing up talented individuals to focus on advancing AI efforts.

Interested teams should Contact sales@fiercesw.com to get started.



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