

Running Red Hat OpenShift with VMware Cloud Foundation on Dell EMC VxRail

Red Hat OpenShift with VMware Cloud Foundation on Dell EMC VxRail

- Running OpenShift on a turnkey hybrid cloud platform simplifies IT and developer operations
- Operate containers at scale with automated lifecycle management for OpenShift and VMware Cloud Foundation on VxRail
- Architect, develop, and operate a hybrid mix of applications, delivering a flexible cloud experience
- Simple and direct path to Kubernetes at cloud scale with one, complete, automated platform for traditional and cloud native applications

Containers with Kubernetes are enabling organizations to build and deploy applications with unprecedented innovation and operational efficiency. Enterprises have flexibility to choose where and how they run containers. They can run them in the public cloud or on-premises, either on bare metal or on virtual infrastructure. Often the easiest and most efficient path to get started with containers is to run them on virtual machines. In fact, roughly 75% of containers run on-premises are on virtual machines today¹.

Dell Technologies, VMware, and Red Hat have validated VMware Cloud Foundation on Dell EMC VxRail with Red Hat® OpenShift® Container Platform. Together, they bring the VMware Cloud Foundation on VxRail turnkey hybrid cloud experience with the flexibility to run, manage, and deploy containers with Red Hat OpenShift.

Red Hat OpenShift: Container technology for the hybrid cloud

Red Hat OpenShift is an enterprise-ready Kubernetes container platform that helps companies build, deploy, run, manage and secure an innovative application experience across hybrid clouds. It delivers full-stack automated operations, a consistent experience, and self-service provisioning throughout the Red Hat OpenShift container stack, including the operating system, Kubernetes and cluster services, and application on any cloud. Red Hat OpenShift helps developer teams work together more efficiently to move ideas from development to production.

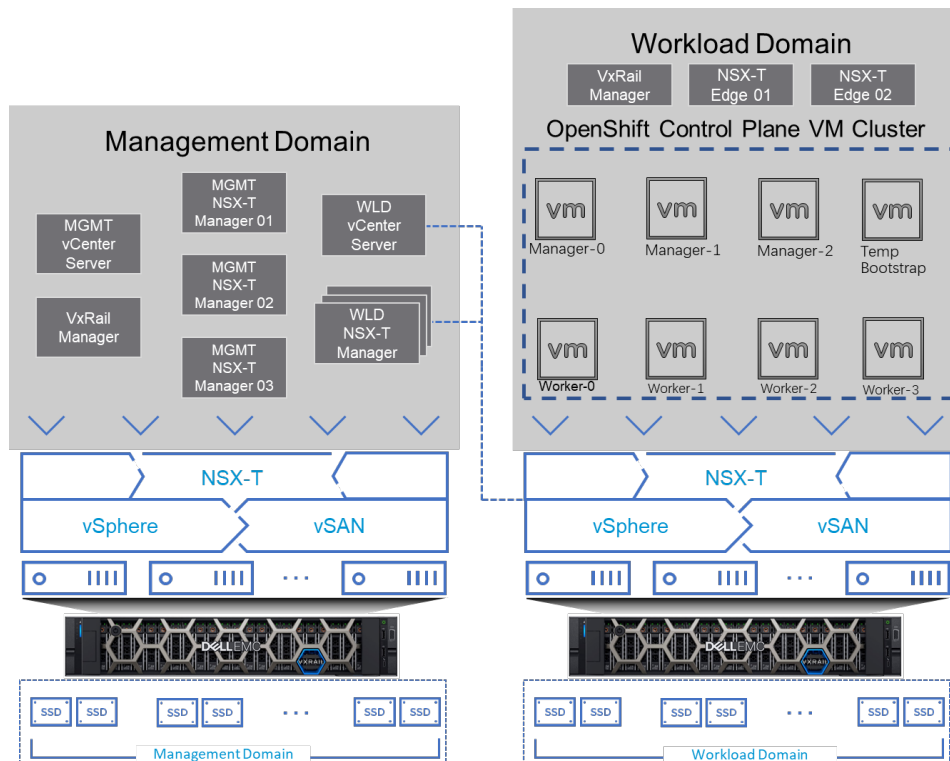
VMware Cloud Foundation on VxRail

VMware Cloud Foundation on VxRail delivers a simple and direct path to modern apps and the hybrid cloud with one complete, automated hybrid cloud infrastructure platform. Full stack integration between VxRail HCI System Software, which provides infrastructure automation and single click lifecycle management for all firmware and software, with VCF SDDC manager means both the hyperconverged infrastructure layer and VMware cloud software stack are managed as a turnkey hybrid cloud experience, greatly reducing risk and increasing operational efficiency. With consistent infrastructure and operations, enterprises can deploy, host, and manage traditional VM workloads alongside cloud native containerized workloads across core, edge, and cloud environments. Integrated, end-to-end lifecycle management streamlines operations to help IT rapidly deliver infrastructure as code to developers so they can create and deploy applications faster and drive business innovation.

Better Together: VMware Cloud Foundation on VxRail with Red Hat OpenShift

Below are the technology components used in the validated reference architecture:

- VMware Cloud Foundation
 - VMware vSphere®
 - vSphere Cloud Native Storage (CNS) / Kubernetes vSphere CSI Driver
VMware vSAN™
VMware NSX® Data Center
 - VMware NSX-T Container Plugin for OpenShift
- Dell EMC VxRail
 - VxRail HCI System Software
- Red Hat OpenShift



As part of the validation effort, generic design and deployment guidelines for running OpenShift on VMware Cloud Foundation on VxRail have been documented. This figure illustrates the architecture used. For more detailed technical information on the configuration and other deployment guidelines, please refer to the [reference architecture document](#).

In summary, VMware Cloud Foundation on VxRail makes it easy to build and modernize applications with Red Hat OpenShift on a turnkey hybrid cloud platform. Red Hat OpenShift offers automated installation, upgrades, and lifecycle management throughout the container stack—the operating system, Kubernetes and cluster services, and applications on any cloud helping development teams build with speed, agility, confidence, and choice. VxRail is the only jointly engineered system with deep VMware Cloud Foundation integration and is the industry standard for VMware environments, making it ideal for running OpenShift. VMware Cloud Foundation on VxRail delivers automated end-to-end infrastructure lifecycle management, simplifying and accelerating the delivery of the virtualized infrastructure resource pools that developers need in order to move through today's DevOps software development lifecycle quickly and deliver innovation for their business.

¹ Mar 2018 - Special Study - Doc # US43661118 IDC, Container Infrastructure Market Assessment: Bridging Legacy and Cloud-Native Architectures — x86 Software Containers Forecast, 2017–2021