Red Hat OpenShift is a trusted Kubernetes enterprise platform that supports modern, hybrid-cloud application development and provides a consistent foundation for applications anywhere, across physical, virtual, private, and public clouds. Red Hat OpenShift and IBM Cloud Paks let teams consistently develop, deploy, and orchestrate cloud-native applications, while taking advantage of the security, reliability, and scalability of IBM Z and LinuxONE infrastructure.

**Application development and modernization**

A Red Hat OpenShift Container Platform subscription includes several capabilities that are enabled for IBM Z and LinuxONE:

- **Red Hat OpenShift Service Mesh**, built on Istio, provides a uniform way to connect, manage, and observe microservices-based applications as managing and security between services become more difficult.
- **Red Hat CodeReady Workspaces** is a collaborative Kubernetes-native solution for rapid application development that delivers a consistent, secure, and zero-configuration development environment on Red Hat OpenShift.
- **Red Hat OpenShift Do (odo)** is a command line interface tool for writing and deploying applications on OpenShift and Kubernetes, allowing developers to focus on what is most important to them: code.

**More secure and resilient foundation**

Red Hat OpenShift on IBM Z and LinuxONE allows businesses to integrate and modernize their applications with a strong foundation built for security, resiliency, and availability. IBM Z and LinuxONE are designed to prevent security threats and protect data across a hybrid cloud environment with certified multitenant workload isolation as well as a transparent, pervasive encryption with optimized performance. IBM Z and LinuxONE also protect the integrity and confidentiality of data with Crypto Express adapters (HSM) designed to meet strong security requirements of Federal Information Processing Standards (FIPS) 140-2 Level 4 and IBM Data Privacy Passports that protect data across private, public, and hybrid cloud. IBM Z and LinuxONE hardware cryptographic support and key protection enables encryption everywhere for confidential computing. The unique combination of OpenShift container security plus the IBM Z cryptographic hardware creates a highly differentiated, security-rich solution.
“To provide the best customer experience, we need flexibility and portability in developing and deploying applications, as well as stability for our customer facing systems. Following a successful proof-of-concept, we are going to deploy Red Hat OpenShift on IBM Z for our production systems.”
- Major Asia Pacific bank

Flexibility and scalability

As organizations modernize existing applications to cloud-native architectures, flexibility to manage and deploy the entire application portfolio across different infrastructures to scale is essential. Red Hat OpenShift is a complete platform that complements features to build and deploy containerized software on any infrastructure. Together with IBM Z and LinuxONE, organizations can scale out to millions of containers on a single system for nondisruptive vertical and horizontal growth to accommodate increases of workloads on demand. Teams can take advantage of high flexibility through dynamic resource sharing and reconfiguration, and continue to deliver excellent customer experiences with ultra low latency and large volume data serving and transaction processing.

Efficiency for colocated workloads

Red Hat OpenShift on IBM Z and LinuxONE also optimizes latency, deployment, and cost through colocated containerized applications with existing data and applications. Cloud-native applications can be located close to existing workloads to improve throughput and reduce latency, empowering organizations to integrate and modernize without disrupting current services along their cloud-native journey. Teams can centrally manage workloads using a single platform that provides consistency across environments, and cloud developers can also deploy IBM z/OS applications using Red Hat OpenShift with no special Z skills required.

Infrastructure and installation

Red Hat kernel-based virtual machine (KVM) is now a supported virtualization option on IBM Z and LinuxONE for OpenShift users, alongside the traditional z/VM hypervisor. This is particularly useful for users who can reuse their KVM skills, either when migrating onto IBM Z or LinuxONE from an x86 based infrastructure, integrating new containerized applications, or when modernizing colocated applications.

Running user provisioned infrastructure (UPI) installs of OpenShift using KVM via libvirt on IBM Z and LinuxONE is supported. In addition the platform-agnostic installer can be used to leverage environments provisioned using IBM Cloud Infrastructure Center, which provides the IaaS layer on IBM Z and LinuxONE along with industry standard APIs.

Find out more about Red Hat OpenShift.

About Red Hat

Red Hat is the world’s leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.