Accelerating cloud-native development with managed OpenShift

Red Hat OpenShift on IBM Cloud is a managed Kubernetes service that benefits platform and cloud-native development teams

IBM Cloud

As users of OpenShift, your team already knows the power of using declarative configurations to automate deploying, scaling, self-healing and other standard operations of running a container-based application in production on a cloud platform.

Automating operations enables cloud-native DevOps teams to devote more time and focus to creating business value.

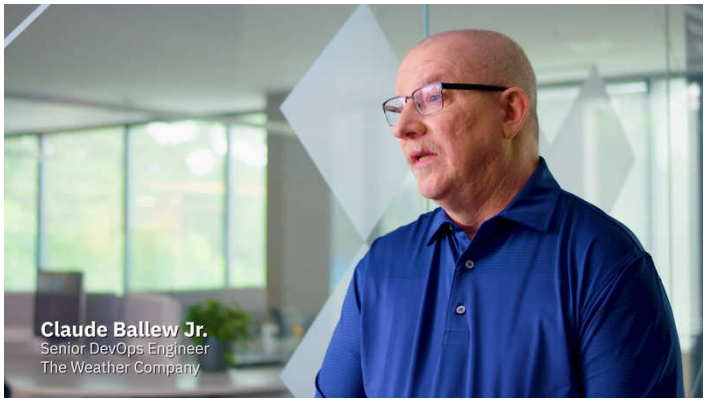
Managing an on-premises-based OpenShift environment can still hold a team back since infrastructure and operations teams must manage infrastructure, apply software upgrades and security patches, as well as implement logging, monitoring, and security solutions.

Red Hat OpenShift on IBM Cloud is a managed Kubernetes service that takes over the operations work that blocks teams from innovating and updating the user experience of customer-facing applications.

Red Hat OpenShift on IBM Cloud can be deployed in seven multi-zone regions (MZRs) and 30 single zone regions (SZRs) world-wide, allowing you to keep applications close to your users while maintaining data sovereignty.

Unlocking Innovation

As part of continuously improving customer experience, cloud-native development teams will need to access speech-to-text, chatbot frameworks, and other advanced technologies they cannot easily or quickly create in-house. Moving an existing application to RedHat OpenShift on IBM Cloud service puts a catalog of 180+ advanced cloud services a mere click and API call away.



Video: *Claude Ballew Jr., DevOps leader for The Weather Company, shares his team's experience with using managed OpenShift*

Red Hat OpenShift on IBM Cloud provides a managed but native Kubernetes environment. Cloud-native DevOps teams use it to go fast while staying relentlessly focused on what customers want.

Managed OpenShift Service Responsibilities

These are some of the Kubernetes-related tasks that Red Hat OpenShift on IBM Cloud manages for its customers:

Infrastructure and App Orchestration

- Providing a 24/7 global SRE team to maintain the health of the environment and help with OpenShift.
- Integrating infrastructure resources to work automatically with cluster architecture and be available to deployed apps/workloads in multiple regions and zones globally.
- Deploying and managing a dedicated master node for each cluster.
- Quickly provisioning worker nodes (dedicated VMs, bare metal, VPCs) with hardware trust for clusters in multiples zones, so that they are accessible via the Kubernetes API.
- Provisioning and binding cloud object storage (COB) volumes.
- Setting-up subnets (for external access), VLANs, load balancers, and other/add-on cluster management components (for example, an Istio service mesh).
- Integrating clusters with third-party technologies (LogDNA, for example, which performs log analysis).

Security

- Maintaining controls required for industry compliance (PCI DSS, GDPR, HIPPA, SOC1, SOC2), with a Cloud Activity Tracker.
- Isolating, monitoring, and recovering the cluster master; providing highly available replicas of the Kubernetes master API server, etcd, scheduler, and controller manager components to protect against a master outage.
- Automatically applying master and worker node security patch updates.
- Providing a private container registry, enabling Kubernetes Secrets for pulling app components into pods, and using Vulnerability Advisor for scanning of container images (both at rest and in flight) for vulnerabilities.
- Security Adviser for centralizing events into a single dashboard establishing a private container registry and enabling consolidating resolution tracking.
- Encrypting communication between the master and worker nodes with TLS.
- Provisioning worker nodes with two local SSD, AES 256-bit encrypted data partitions.
- Providing options for cluster network connectivity, such as public and private service endpoints.
- Providing Kubernetes role-based access controls (RBAC) and integrating it with IBM Cloud platform identity and access management (IAM).