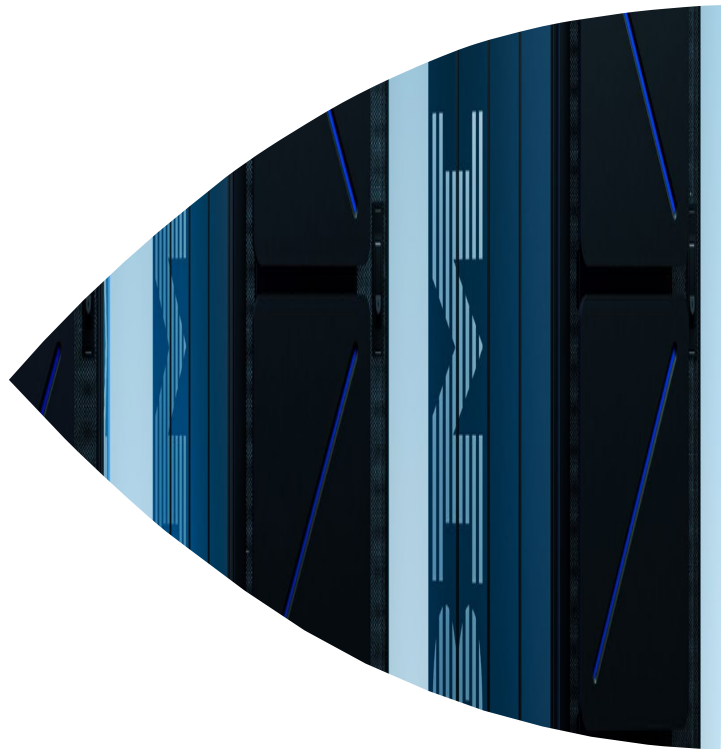


Evaluation of the Red Hat OpenShift Platform on IBM Power Systems



WE TESTED RED HAT OPENSIFT ON IBM
POWER (PPC64LE) TO SEE HOW EASY IT
IS TO DEPLOY, HOW IT COMPARES TO
X86, AND WHETHER WORKLOADS RUN
THE SAME WAY.

Evaluation of the Red Hat OpenShift Platform on IBM Power Systems

We tested Red Hat OpenShift on IBM Power (ppc64le) to see how easy it is to deploy, how it compares to x86, and whether workloads run the same way.

Using an IBM Power logical partition (**LPAR**) and Red Hat's **Assisted Installer**, we successfully deployed and configured a **Single-Node OpenShift (SNO)**¹ environment in a test setting.

Deployment Workflow

The hands-on deployment followed a standard workflow:

1. **LPAR Provisioning:** An IBM Power logical partition (LPAR) was prepared with allocated compute, memory, and storage boundaries to host the cluster environment.
2. **Cluster & Network Definition:** Using the web-based **Red Hat Assisted Installer**, we defined the SNO cluster parameters using static IP assignments together with standard DNS network configuration.
3. **Media Generation & Bootstrapping:** The Assisted Installer generated a discovery ISO containing embedded CoreOS configurations for ppc64le. This ISO was written to a standard USB drive and attached directly to the IBM Power server.
4. **Automated Provisioning:** Upon configuring the Power server to boot from the attached media, the automated installation process completed, yielding a fully functional, ready-to-use SNO cluster.

Evaluated Workloads & Compatibility Testing

Following cluster deployment, we executed basic application deployments to verify runtime behavior and multi-architecture container execution on ppc64le.

The test verified that containerized applications deploy using identical manifests (YAML/Helm) and operational patterns as on x86:

- ▶ **Modern Application Runtimes:** Verified native container execution of microservice workloads compiled for ppc64le, including Python, Node.js, and Java.
- ▶ **Enterprise Data Services:** Validated persistent volume mounting, rapid container startup, and stable execution for SQL and NoSQL database engines.
- ▶ **Operator Lifecycle & Ecosystem:** Verified OperatorHub catalog access and seamless Day-2 lifecycle management (automated provisioning, scaling, and updates) for ppc64le-compatible OpenShift Operators.

¹ SNO was used solely for fast POC validation; production environments require 3-Node Compact or Multi-Node HA topologies for Red Hat support and node-level failover.

Final Verdict

The evaluation proved that deploying OpenShift on IBM Power requires no specialized platform-specific tooling or hardware-level installer customizations. OpenShift on IBM Power feels completely natural for DevOps teams as there's zero learning curve from x86 architecture. Modern multi-arch images run natively on IBM Power without requiring developers to alter code bases or application delivery workflows.

Evaluated Workloads: Seamless Multi-Arch Compatibility

Modern enterprise applications require zero compromises during architectural transitions. Our evaluations confirmed seamless execution of containerized stacks natively compiled for ppc64le:

- ▶ **Modern Application Runtimes:** High-throughput performance for microservices built on **Python**, **Node.js**, and **Java** (Quarkus, Spring Boot).
- ▶ **High-Demand Data Services:** Out-of-the-box support and rapid container startup for enterprise databases including **PostgreSQL**, **MongoDB**, and distributed caching layers.

Applications run seamlessly next to core enterprise data, avoiding costly latencies associated with multi-cloud transit.

Empower Your Cloud Strategy

OpenShift on IBM Power transforms hybrid cloud infrastructure. It takes minutes to validate via Single-Node OpenShift, scales smoothly into Red Hat-supported multi-node enterprise production clusters and requires zero retraining for platform operations. By consolidating containerized workloads onto IBM Power, organizations do not just modernize, they maximize ROI, shrink their data center footprint, and slash per-core licensing costs.