



This solution delivers a 3-server (node) configuration using external data protection services with the RAID protection being handled by the IBM FlashSystem Storage.

## The Opportunity: Preparing for Tomorrow's IT Landscape

Businesses today are continuously evolving, driving a need for IT infrastructure that is agile, scalable, adaptable, and performs reliably under pressure. The goal is to create a flexible foundation that efficiently supports current essential applications (often virtual machines or VMs) with enterprise-grade performance, while seamlessly incorporating future innovations, including modern cloud-native applications. Managing diverse application types efficiently requires a forward-looking infrastructure strategy built on proven, high-performance components.

## The Path Forward: A Unified Platform for Application Evolution on Proven Storage

IBM offers a strategic platform designed for this journey: OpenShift Virtualization, powered by the enterprise-grade performance and reliability of IBM FlashSystem storage. This solution provides a modern, consistent environment where you can run your essential virtual machines today, leveraging industry-leading storage, on the same platform that is ready to host containerized applications when you need them.

- **OpenShift Virtualization:** Leverages robust Red Hat technology (based on Kubernetes) to provide an efficient, scalable environment for managing your virtual machines using modern principles.
- **IBM FlashSystem:** Delivers award-winning, all-flash storage hardware appliances known for high performance, low latency, extreme reliability, and rich enterprise data services – providing a rock-solid data foundation for the platform.

Think of this as adopting a versatile, modern operating system for your infrastructure, running on a high-performance, reliable hardware foundation – expertly supporting your established VM applications today and inherently ready for the cloud-native applications of tomorrow.

### Key Strategic Benefits:

- **Accelerate Application Performance:** Leverage the low latency and high throughput of IBM FlashSystem for demanding VM workloads.
- **Achieve Operational Consistency:** Manage diverse workloads (starting with VMs) on a single platform utilizing familiar, trusted enterprise storage.
- **Build for the Future:** Invest in a platform that supports your current VMs while being ready for containers and cloud-native evolution, protecting your investment in both software and hardware.
- **Strengthen Infrastructure Resilience:** Benefit from the proven reliability and integrated data protection features of IBM FlashSystem.
- **Enable Phased Modernization:** Seamlessly integrate VMs into a modern infrastructure built on high-performance storage, creating a smooth path for application evolution.

## A Unified Foundation Built on Performance and Reliability

### How It Works: Consistency and Capability on Enterprise Storage

This solution provides a unified approach, combining modern platform software with trusted enterprise storage hardware:

1. **The Modern Platform:** OpenShift Virtualization utilizes the power and scalability of Kubernetes technology, tailored to provide a robust environment for running and managing virtual machines. It brings principles of automation and modern management to your VM operations.
2. **The High-Performance Data Foundation - IBM FlashSystem:** This is the cornerstone providing consistent, high-performance, and feature-rich storage across the entire platform. Business-critical VMs

demand speed and reliability. IBM FlashSystem delivers this through dedicated hardware appliances, seamlessly integrated with OpenShift Virtualization:

- **Exceptional Performance:** Ensures VM responsiveness and handles demanding I/O requirements with market-leading low latency.
- **Enterprise Data Services:** Offers robust capabilities built into the hardware, such as efficient FlashCopy snapshots (for backup, cloning, testing) and replication options (for disaster recovery) directly applicable to your VMs.
- **Proven Reliability:** Built with enterprise-grade availability features to keep your VM environment running.
- **Simplified Storage Management:** Leverage familiar IBM storage management tools and integrate storage provisioning into the OpenShift platform via standard interfaces.

## Flash System Storage Benefits:

- **Intelligent Onboard Processing (FlashCore Modules):** IBM's unique FlashCore Modules feature built-in processing that handles real-time data compression and encryption *directly on the drive*. This delivers significant efficiency gains without impacting application performance – a key differentiator from standard SSDs.
- **Ultra-Low Latency Performance:** Engineered for extreme responsiveness, delivering latency often measured in microseconds, which significantly accelerates databases and transactional workloads.
- **Advanced Cyber Resilience with Safeguarded Copy:** Goes beyond standard snapshots with creating immutable (tamper-proof) copies isolated within the system, enabling rapid and reliable recovery from ransomware or other data corruption events.
- **Guaranteed Availability and Endurance:** Offers high levels of availability (often "six nines" or 99.9999%) and non-disruptive operations, backed by guarantees on FlashCore Module endurance under maintenance.
- **Hardware-Accelerated Efficiency:** Provides powerful data reduction (compression, deduplication) performed efficiently in hardware, maximizing usable capacity and reducing TCO without performance penalties.
- **AI-Enhanced Management & Insights:** Leverages IBM Storage Insights for AI-driven recommendations on performance optimization, capacity planning, and system health, simplifying administration.
- 

## Choosing Your Path to Modern, High-Performance Infrastructure

Adopting OpenShift Virtualization with IBM FlashSystem is a strategic move towards a more agile, high-performance, and future-ready infrastructure:

- **Performance Foundation:** Build your modern VM platform on the proven speed and reliability of IBM FlashSystem, ensuring excellent application performance.
- **Unified Platform Strategy:** Consolidate VM workloads onto a modern platform that aligns with cloud-native principles and is ready for container adoption, all supported by your enterprise storage.

- **Operational Consistency:** Streamline management by leveraging familiar FlashSystem storage while managing VMs through the modern OpenShift Virtualization interface.
- **Integrated Data Services:** Utilize the powerful, efficient data services built into FlashSystem for your VM workloads via seamless integration.
- **Investment Protection:** The platform's inherent capability to run containers means your investment in FlashSystem and the OpenShift platform supports both current VMs and future cloud-native initiatives.
- **Expert Partnership:** Benefit from the combined strength, innovation, and enterprise support of IBM and Red Hat, leaders in hybrid cloud, data storage, and open-source platforms.

## Embarking on Your Modernization Journey

Evolving your infrastructure is a strategic process. IBM and its partners can support your journey:

1. **Assess:** Review your current infrastructure, VM workloads, and strategic goals for modernization.
2. **Plan:** Design a roadmap for platform adoption, identifying initial VM workloads and confirming FlashSystem integration plans.
3. **Implement:** Deploy OpenShift Virtualization and integrate with IBM FlashSystem using the supported CSI driver and best practices. Migrate initial VM workloads.
4. **Operate & Optimize:** Manage your VMs on the new platform, leveraging the performance of FlashSystem and the capabilities of OpenShift Virtualization.

## Shape Your Future Infrastructure

Ready to explore a strategic path towards a unified, high-performance, and future-ready infrastructure? Contact your IBM Account Executive to discuss how OpenShift Virtualization and IBM FlashSystem can support your modernization goals.