Virtuozzo

Value-added OpenStack for SME private cloud

VIRTUOZZO WHITEPAPER

Introduction

OpenStack's heritage as an enterprise cloud platform is beyond question: it's trusted by household names such as Disney, Intel and Bloomberg.

Among smaller businesses, however, there can be the perception that only large enterprises have the resources to make OpenStack work. It's an open-source platform, so the technology is free, but the challenge lies in the skills and experience needed to implement and support it.

There is, however, accelerating adoption of "value-added" OpenStack solutions that deliver the TCO and flexibility benefits of open-source, without the complexity of having to build and maintain it yourself.

This article explains how this value-added approach works, and how it enables small and medium-sized enterprises to adopt OpenStack as a robust, future-proof platform for on-premises virtualization, storage and private cloud.

OpenStack as an Alternative to Proprietary Platforms

OpenStack's modular architecture for cloud infrastructure makes it an excellent choice for companies with simple or complex needs. Its modular design is flexible and adaptable, allowing IT teams to include only the compute, storage and networking components relevant to their specific goals.

For enterprises, this offers an open, flexible alternative to proprietary cloud platforms such as VMware, Nutanix or Scale, with several benefits:

More Flexibility:

OpenStack allows easy customization and integration, enabling personalized cloud infrastructure that meets specific organizational needs. It uses a variety of components and technologies.

Cost Efficiency:

Built on open-source technology and deployable to commodity hardware, OpenStack provides a cost-efficient alternative for enterprises, allowing them to exploit existing hardware investments while reducing infrastructure costs.

Freedom from Vendor Lock-In:

OpenStack is an open and vendor-agnostic platform that can operate on different hardware or software configurations. This allows for transitions between vendors and technologies with minimal disruptions, mitigating the risks associated with vendor lock-in.

Community Support:

Governed by the Open Infrastructure Foundation, OpenStack has a thriving community of over 110,000 members across 187 countries and supported by more than 34k individual contributors globally, ensuring ongoing support and development momentum. Disney, Intel, Bloomberg and many other enterprises are already using OpenStack.

Challenges with Standard OpenStack

However, benefiting from OpenStack means tackling its inherent setup and management complexity. Companies new to OpenStack often struggle to configure the technology, especially if they lack deep IT skills or experience using this system.

Even organizations well-versed in Linux and other open-source technologies can find the complexity of developing, running, and maintaining an OpenStack-based private to be daunting.

To have a production-ready OpenStack environment requires:

Integration of OpenStack services

Coordinating compute, storage, network, identity and other OpenStack services for smooth operation.

Securing and maintaining OpenStack

Continually updating code and documentation; tracking and applying the required updates; implementing proper configurations and performing overall ongoing maintenance.

Researching OpenStack hardware compatibility

Finding hardware configurations that meet OpenStack specifications to guarantee better performance and stability.

Providing user support with effective SLAs

Promptly addressing issues and ensuring round-the-clock support for production cloud services, involving sufficient skilled personnel.

Designing and deploying the environment

Building an elastic OpenStack environment that can meet immediate needs and be scaled up later. Any company-specific feature implementation requires investment in internal development.

Offering training and internal documentation

Sustaining the IT team's proficiency through ongoing training initiatives and meticulous documentation tailored to the specific OpenStack deployment.

> “OpenStack was the obvious solution, it’s the stable and mature alternative, but we didn’t want to develop the new platform ourselves”

Value-Added OpenStack from Virtuozzo

Virtuozzo provides a production-ready, turnkey OpenStack cloud platform called Virtuozzo Hybrid Infrastructure. It is fine-tuned for performance, efficiency and ease of use for traditional applications, cloud-native applications and AI/ML projects in private cloud environments.

By packaging and simplifying OpenStack, businesses can take advantage of this industry-standard framework with rapid time-to-value, low cost of ownership, and minimal management overheads for the IT team.

Hassle-free Launch and Maintenance

Virtuozzo Hybrid Infrastructure includes KVM-based virtualization, OpenStack orchestration, software-defined storage, self-service portals, and easy-to-use cloud management and monitoring tools, in a single hyperconverged solution. This eliminates the need for in-house development efforts or costs to deploy and run.

The platform can be deployed on-premises and supports a wide range of server, storage, and networking hardware. It also features automated installation and updates for all components without downtime, reducing manual effort, eliminating the risk of human error, and significantly lowering TCO.

Commercial Support, Predictable SLA

Virtuozzo includes 24x7 support as part of the software package. The Virtuozzo team (and/or local authorized partners) work with customers at every stage of their project lifecycle, from pre-sales consultations to addressing any issues and making tailored adjustments and recommendations.

Additionally, as the platform is based on open-source OpenStack, enterprises can easily leverage the community's wealth of knowledge and insights.

Ready for Cloud-Native and AI/ML

As well as traditional virtual machines, Virtuozzo provides built-in Kubernetes management for running cloud-native applications. Kubernetes clusters can be automatically provisioned, scaled, and updated. It is an industry-standard CNCF-certified Kubernetes implementation based on OpenStack Magnum.

The platform also meets the needs of emerging AI/ML markets with built-in functionality for managing GPU-powered infrastructure fine-tuned for accelerated data processing.

Enhanced Performance and Reliability

Virtuozzo Hybrid Infrastructure provides a significant performance boost with a highly tuned KVM hypervisor that delivers 85% higher performance compared to CentOS KVM.

Virtuozzo's integrated software-defined storage delivers high performance with speeds up to three times faster than Ceph. The platform includes block, file, and S3-compatible object storage that can be used for immutable, scalable and cost-efficient application data storage and backup.

Built-in load balancing for the compute infrastructure ensures fault tolerance and improves the performance of web applications by distributing incoming network traffic across virtual machines from a balancing pool.

> "We wanted to work with the best vendor. Virtuozzo is the biggest-brand OpenStack company out there, and they're committed to the OpenStack ecosystem."
>
> WORLDSTREAM

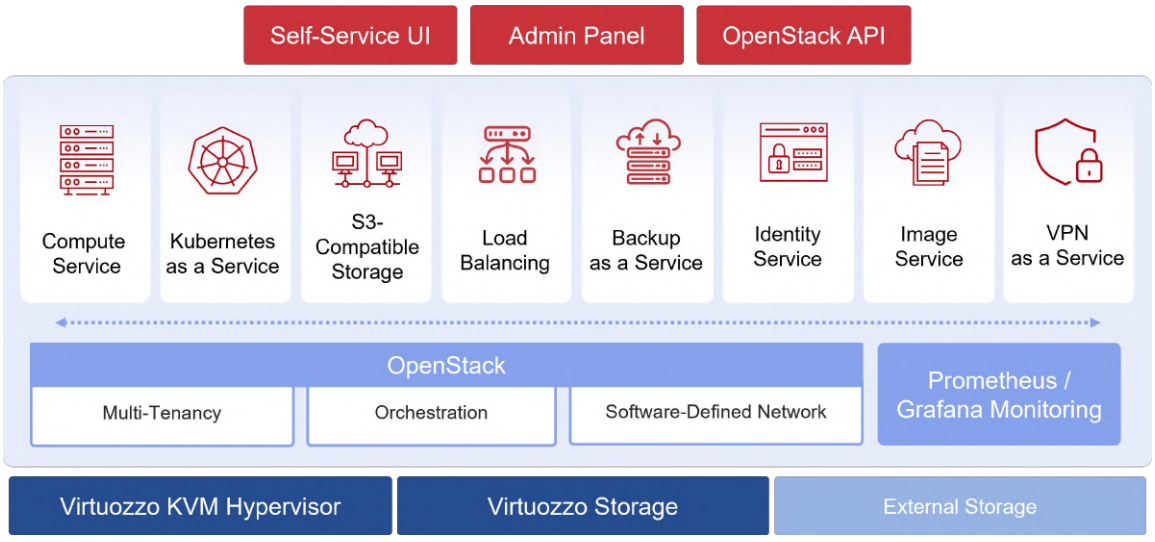
Key Takeaways

OpenStack stands out as a versatile solution for enterprises looking for a modern, cost-effective alternative to proprietary virtualization and private cloud solutions. The open nature of the OpenStack platform fosters innovation and adaptability, as well as eliminating the risk of vendor lock-in.

For smaller businesses, however, the skill and resource overhead of implementing, managing and maintaining OpenStack themselves may be prohibitive. This is where Virtuozzo's turnkey OpenStack platform provides the ideal solution.

Virtuozzo's commercial OpenStack platform complements OpenStack's strengths with enhanced support and streamlined deployment options, empowering businesses to harness the full potential of cloud infrastructure while ensuring operational efficiency and scalability.

It delivers equivalent capabilities to platforms such as VMware and Nutanix in a cost-effective solution for private cloud, without the complexity or lock-in of proprietary software platforms.



Learn more: virtuozzo.com/hybrid-infrastructure

Virtuozzo

Easy, accessible, affordable cloud

Virtuozzo is the alternative cloud platform leader, offering the low-cost, high-performance alternative to hyperscale public cloud, do-it-yourself cloud, and cloud based on legacy enterprise platforms such as VMware. Virtuozzo's hyperconverged cloud platform enables infrastructure- and platform-as-a-service for all public, private and hybrid cloud use cases.

Based on OpenStack, Virtuozzo solutions are tuned for rapid deployment, high performance and ease of use, enabling businesses to virtualize compute, storage and networking for today's workloads, and prepare for the future of ML and AI. Virtuozzo runs on a wide range of hardware, includes 24x7 support and offers flexible licensing to suit your business use case.

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