OpenNebula versus VMware: Competitive Pricing Review

Version 1.2 – February 2023

Scope

This report compares the pricing of OpenNebula and VMware cloud management platforms, namely vCloud and vRealize, and highlights OpenNebula's key differentiators that are asked about most frequently. OpenNebula exceeds the cloud management requirements of most enterprise and service provider users, and in the particular case analyzed, it can result in up to 60% and 80% cost savings when using 2- or 4-CPU servers respectively. We show how OpenNebula not only benefits the business' value thanks to its lower capital and operational costs, but also provides increased flexibility with no vendor lock-in and simplicity of use, as well as multiple features not offered by VMware. These include native support for both VMs and containers without requiring additional management layers, automatic provision of remote clusters for simple Multi-site, Hybrid and Edge cloud computing, and broader hypervisor support (from fully virtualized to system containers and serverless deployments with microVMs).

What are vCloud and vRealize?

vRealize Suite[1] is a VMware cloud management platform for managing a heterogeneous, hybrid enterprise cloud. It proactively addresses health, performance, and capacity management of IT services across heterogeneous and hybrid cloud environments to improve efficiency, performance, and availability. VMware offers three vRealize Suite editions (Standard, Advanced, and Enterprise) which each provide different functionality at different price points, and require vSphere (Standard or Enterprise Plus editions) and vCenter Server.

vCloud Suite[2] is a package that includes VMware's vSphere (Enterprise Plus edition) hypervisor and vCenter with VMware vRealize Suite. There is an additional discount applied for customers who purchase vCloud Suite as opposed to customers purchasing vSphere and vRealize Suite separately. vCloud Suite is intended for enterprise customers who are interested in purchasing a cloud management platform solution and expanding their vSphere capacity.

vCloud Director[3] is VMware's cloud service-delivery platform intended for service providers. It is a cloud provisioning and management interface for any VMware-based environment, forming a pervasive cloud fabric that can bring any vSphere endpoint under its management umbrella. vCloud Director has certain core capabilities, including one-click deployment, multi-site management capabilities, multi-tenant operational efficiencies, Kubernetes support, and workflow automation.

---

[1] https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/products/vrealize-suite/vmware_vrs_datasheet.pdf
[2] https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vcloud-suite-pricing-packaging-whitepaper.pdf
[3] https://cloudsolutions.vmware.com/assets/blte433bab4d3d0872b/What_s_New_with_vCloud_Director_10.pdf

What is OpenNebula?

OpenNebula[4] is a **simple, but powerful, open source solution to build and manage Enterprise Clouds**. It combines virtualization and container technologies with multi-tenancy, automatic provision and elasticity to offer on-demand applications and services.

OpenNebula provides a single, feature-rich and flexible platform with **unified management of IT infrastructure and applications** that **avoids vendor lock-in** and **reduces complexity, resource consumption and operational costs**. OpenNebula manages:

- **Any Application**: Combine containerized applications from Kubernetes and Docker Hub ecosystems with Virtual Machine workloads in a common shared environment to offer the best of both worlds: mature virtualization technology and orchestration of application containers.
- **Any Infrastructure**: Unlock the power of a true hybrid, edge and multi-cloud platform by combining your private cloud with infrastructure resources from third-party virtual and bare-metal cloud providers such as AWS and Equinix Metal.
- **Any Virtualization**: Integrate multiple types of virtualization technologies to meet your workload needs, including KVM Virtual Machines for fully virtualized clouds, LXC system containers for containerized clouds, and Firecracker microVMs for serverless deployments.
- **Any Time**: Add and remove new clusters automatically in order to meet peaks in demand, or to implement fault tolerance strategies or latency requirements.

Value of OpenNebula Subscription

OpenNebula subscriptions[5] provide the assurance of having the OpenNebula experts steadily involved, under SLA guidelines—standard 9-to-5 or premium 24/7—backing your cloud. On top of this, they unlock additional benefits for corporate users, including gaining access to an enterprise repository with maintenance and LTS versions of the OpenNebula Enterprise Edition and Enterprise Tools, knowledge base and notifications about critical issues, as well as access to exclusive services provided by OpenNebula consultants and engineers.

When comparing the OpenNebula Subscription to VMware licensing,[6] OpenNebula offers a number of material benefits, including:

- ✔ Significantly lower total cost of ownership (TCO).
- ✔ No capital expenses (CapEx), OpenNebula is fully open source, so there are no licensing costs as with proprietary software deployments.
- ✔ Operating expenses (OpEx) charged via subscription.
- ✔ Subscription sold per host with any number of sockets (CPUs)—VMware licenses and support are sold per single socket.

Simple Case Pricing Review

As a simple case study, we will compare the annual cost of the licensing and 24x7 support of the software needed to build a private cloud on a single cluster with 10 servers, each having two CPUs. Prices below are list prices (VMware[7] and OpenNebula[8]) only. Discounts would be applied depending on volume, length of contract and other factors.

---

[4] https://support.opennebula.pro/hc/en-us/articles/360036935791-OpenNebula-Overview-Datasheet
[5] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide
[6] https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/whitepaper/vrealize-suite-licensing-pricing-packaging.pdf
[7] https://store-us.vmware.com
[8] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide

A VMware solution requires vSphere hypervisors, managed by one vCenter instance as a single cluster, and vRealize for cloud management. Now let us evaluate the three-year TCO of the complete stack for low entry Standard, which is VMware's least expensive option with limited functionality that does not include automation features, and Production[9] 24x7 SLA support.

VMware Platform Infrastructure	3-year TCO	Average Annual Cost
10 **vSphere Standard** x 2 sockets - Production SLA	$36,954.40	$12,318.13
1 **vCenter Standard** - Production SLA	$10,251.16	$3,417.05
1 **vRealize Standard** for 20 CPUs - Production SLA	$143,180.00	$47,726.67
TOTAL	$190,385.56	$63,461.85

A CPU is the equivalent of a VMware PLU ("Portable License Unit") [10]

Now let us evaluate the annual cost of the complete stack with **OpenNebula's** full-featured distribution. OpenNebula uses a per-host pricing model, regardless of the number of CPUs inside the host.[11] OpenNebula subscriptions include the support of the KVM hypervisor and the Operating System (Ubuntu, or AlmaLinux) in the managed nodes, the network stack and OneStor, a basic distributed storage solution supported by OpenNebula.

OpenNebula provides a variety of ways for Virtual Machines and containers to access storage[12]. It supports multiple traditional storage models including NAS, SAN, NFS, iSCSI, and Fiber Channel (FC), which allow virtualized applications to access storage resources in the same way as they would on a regular physical machine. It also supports distributed Software-Defined Storage (SDS) models like Ceph, GlusterFS, StorPool, and LINSTOR, that allow you to create and scale elastic pools of storage and hyperconverged deployments.

OpenNebula Platform Infrastructure	Average Annual Cost
10 **OpenNebula - Managed Nodes** - Premium SLA	$11,000.00
1 **OpenNebula - Single Front-End** - Premium SLA	$13,750.00
TOTAL	$24,750.00

This case study reveals savings of more than **$39K per year (x2.5)** by using OpenNebula to build your cloud. And if you are using servers with more than two CPUs, or building a cloud with more than 10 servers, you will see that **the savings increase dramatically.** For example, in the same case using four-CPU servers, the savings would be more than **$102K per year (x5)**. The costs associated with the lock-in nature of VMware's licensing and support, and the per-CPU licensing model, can actually result in many enterprises seeing their TCO inflate significantly over time.

---

[9] https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/support/vmware-production.pdf
[10] https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/products/vrealize/vmware-portable-license-unit.pdf
[11] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide
[12] https://support.opennebula.pro/hc/en-us/articles/360019581717-Choosing-the-Right-Storage-for-Your-Cloud-Report

Consulting Services

Although the simplicity and flexibility of creating an enterprise private cloud using OpenNebula cannot be matched by any competitor in the market, some customers with no previous experience with OpenNebula may need assistance with designing and deploying their cloud. OpenNebula Systems offers a **Cloud Deployment Service**[13] that provides a well-tuned working implementation of OpenNebula on the reference architecture, sample Virtual Machines to evaluate features, and reference material for post review—Architecture Design Report, Implementation Guide, and a Verification Checklist. Time and pricing depend on the size, heterogeneity, and complexity of the infrastructure, starting with a minimum of three days for the Engineering Phase and $8,750 for small-scale infrastructures.

Although organizations can perform the initial deployment of VMware on their own, its complexity usually requires the need for consulting services at a very high price. Moreover, a successful deployment is just the beginning of the journey. Organizations have to maintain the entire platform on a daily basis. As VMware does not offer managed services for vRealize, its customers have to hire and train dedicated staff. This makes operational costs unpredictable and hard to evaluate.

Key Differentiators

Lower TCO → Compared with VMware, OpenNebula delivers a lower TCO and helps to reduce OpEx budget pressure and concerns.

No Vendor Lock-In → Once you have built your cloud with OpenNebula, you can then add new resources based on open source hypervisors—like KVM, LXC or Firecracker—and hence use OpenNebula as a migration framework to the open cloud.

Simplicity → Very easy to install, upgrade, and maintain, with easy-to-use graphical interfaces.

Flexible → Completely open, customizable and modular, so it can be adapted to your needs and components.

Multi-site and Hybrid → You can manage a distributed collection of clusters across multiple data centers with a single OpenNebula instance, federate OpenNebula instances, and connect your cloud to public cloud providers.

Summary

Using OpenNebula to build clouds can have **significant economic benefits** for any enterprise and will improve both infrastructure flexibility, business agility, and the bottom line. OpenNebula provides the most demanded management features to build clouds for enterprises and service providers, matching most of the features offered by vCloud Director and vRealize at a fraction of their cost. The main advantage of OpenNebula is the strategic path to openness as you move beyond virtualization toward an enterprise cloud. By adopting OpenNebula, you take a step toward **liberating your stack** from vendor lock-in. Being a platform independent software, you can gradually migrate to other virtualization platforms. OpenNebula avoids future vendor lock-in, gains more control over your infrastructure, and strengthens the negotiating position of your company. Have a look at our **Case Studie**s[14] to learn more from our users and customers about how they are putting OpenNebula to work.

---

[13] https://support.opennebula.pro/hc/en-us/articles/360000202703-Deployment-Services-Guide
[14] https://opennebula.io/case-studies/

Ready for a Test Drive?

You can evaluate OpenNebula on your VMware vCenter environment and build a cloud in only five minutes by downloading **vOneCloud**,[15] an easy-to-deploy evaluation tool that contains all required OpenNebula front-end services within a single virtual appliance based on AlmaLinux.

vOneCloud

LET US HELP YOU DESIGN, BUILD, AND OPERATE YOUR CLOUD

CONSULTING & ENGINEERING

Our experts will help you design, integrate, build, and operate an OpenNebula cloud infrastructure

OPENNEBULA SUBSCRIPTION

Get access to our Enterprise Edition and to our support and exclusive services for Corporate Users

MANAGED SERVICES

Our team of experts can fully manage and administer your OpenNebula cloud for you

Sign up for updates at OpenNebula.io/getupdated

Rev1.2_20230213

---

[15] https://vonecloud.opennebula.io