OpenNebula versus Nutanix: Competitive Pricing Review

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Scope

This report compares the pricing of OpenNebula with that of Nutanix Cloud Manager and Cloud Infrastructure, 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 80% cost savings when using AWS bare-metal instances to build the cloud. We show that OpenNebula is advantageous for businesses not only financially, thanks to its lower capital and operational costs, but that it also provides flexibility and efficiency with no vendor lock-in and simplicity of use.

What are Nutanix Cloud Manager and Nutanix Cloud Infrastructure?

Nutanix Cloud Manager[1] **(NCM)** is a hybrid multi-cloud management platform for building a cloud operating model. It provides advanced features like intelligent operations for infrastructure management (formerly Prism), self-service with provision and orchestration across clouds (formerly Calm), cost governance with financial accountability (formerly Beam), and security with intelligent analysis and regulatory compliance (formerly Security Central). These features are offered under three licenses (Starter, Pro, and Ultimate). NCM works on top of the virtualization, networking, and storage services offered by the Nutanix Cloud Infrastructure (NCI) on VMware vSphere, Microsoft Hyper-V, VMware on Nutanix AHV (based on KVM) for on-premises deployment, and uses **Nutanix Cloud Clusters**[2] **(NC2)** for the automatic deployment of cloud clusters on bare-metal cloud providers for hybrid cloud computing.

Nutanix Cloud Infrastructure[3] **(NCI)** is a hyperconverged infrastructure environment for the entire datacenter stack, including data protection, storage management, disaster recovery, integrated security, virtual networking, virtualization, and management services. Its aim is to replace legacy infrastructure with industry-standard servers with direct-attached storage drives, distributing all operating functions across the cluster for superior performance and resilience, and enabling seamless scalability. Depending on the use case, customers can choose from Starter, Pro, and Ultimate editions.[4] NCI Starter includes the core feature-set for basic deployments, NCI Pro includes features suited to most workloads, and NCI Ultimate includes the full suite of Nutanix HCI Software capabilities.

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[1] https://www.nutanix.com/products/cloud-manager
[2] https://www.nutanix.com/products/nutanix-cloud-clusters
[3] https://www.nutanix.com/products/nutanix-cloud-infrastructure
[4] https://www.nutanix.com/products/cloud-platform/software-options

What is OpenNebula?

OpenNebula[5] is a **simple, but powerful, open source management platform to build and operate enterprise private, hybrid, or edge cloud infrastructures**. It combines virtualization and container technologies with multi-tenancy, self-service, automatic provision, and elasticity under a single user interface to offer on-demand applications and services.

OpenNebula provides an easy-to-use, 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 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 open cloud architecture to orchestrate compute, storage, and networking driven by software.
- **Any Cloud**: Combine your private cloud with infrastructure resources from third-party virtual and bare-metal cloud providers to operate hybrid, edge, and multi-cloud environments under a single control panel and interoperable layer.
- **Any Time**: Add and remove new clusters automatically in order to meet peaks in demand, or to implement disaster recovery, application mobility, and on-demand capacity strategies.

A standard OpenNebula Cloud Architecture consists of the **Cloud Management** Cluster, with the Front-end master node(s), and the **Cloud Infrastructur**e, made of one or several workload Clusters. These can be located at multiple geographical locations, with different configurations and technologies to better meet your needs, wherever you are in your process of digital transformation. In general, there are three types of cluster models that can be used with OpenNebula:

- **Edge Clusters** that are based on a simple configuration and can be automatically deployed both on premise and on public cloud or edge providers to enable true hybrid environments.
- **Open Cloud Clusters** that are based on certified combinations of third-party storage and networking technologies.
- **VMware Clusters** that use existing VMware infrastructure.

Our experience working with hundreds of customer engagements shows that the Edge Clusters meet the needs of 90% of their deployments. OpenNebula offers a **single vendor experience** by providing one-stop support and services for your entire cloud stack.

Value of OpenNebula Subscription

OpenNebula Subscriptions[6] 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 the **Nutanix Support Program**,[7] OpenNebula offers a number of material benefits, including:

[5] https://support.opennebula.pro/hc/en-us/articles/360036935791-OpenNebula-Overview-Datasheet
[6] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide
[7] https://www.nutanix.com/support-services/product-support/product-support-programs

- ✔ 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 for new implemented features in future versions.
- ✔ Operating expenses (OpEx) charged via subscription.
- ✔ Subscription sold per host with any number of sockets (CPUs), and combination of memory and storage capacity.

OpenNebula also offers a **Mission Critical**[8] support add-on with mission-critical SLA, live support, senior-level technical assistance, premium upgrade assistance, additional licensing/support for a staging (pre-production) environment, and extended life support. This extension is available for Cloud/Edge, NFV/Edge, and Telco Cloud environments.

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 running on bare-metal AWS. Customers are responsible for costs associated with AWS bare-metal instances and services. Prices below are list prices (Nutanix[9] and OpenNebula[10]) only. Discounts would be applied depending on volume, length of contract, and other factors.

Nutanix

Nutanix offers the NC2 (Nutanix Cloud Clusters) under on-demand Pay-as-you-Go (PAYG) and Cloud Commit (CC) models. In this study we assume that we can predict the variability of the workload and therefore we use the cheaper CC-100 engagement with an upfront payment amount of $100,000 and a discounted consumption for one year.

While the pricing of OpenNebula is per host (server), the pricing of Nutanix varies according to the type of server instance and its combination of CPU, memory, storage, and networking capacity. In our analysis we have used i3.metal[11] instances (36 cores, 512GiB memory, 13.82TiB NVMe SSD storage).

Our analysis only includes the pricing of the license and support for the NC2 cluster with a full-featured Ultimate license. The estimation does not include the pricing of the NCP manager.

Nutanix Cloud Cluster (AWS i3.metal / CC-100)	Annual Cost
10 x **Nutanix - AOS Nodes** - Ultimate SLA	$121,301.40
TOTAL	**$121,301.40**

OpenNebula

Now let's 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 and the combination memory

[8] https://support.opennebula.pro/hc/en-us/articles/12980032925213-Mission-Critical-Support-Guide
[9] https://www.nutanix.com/products/nutanix-cloud-clusters/pricing
[10] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide
[11] https://aws.amazon.com/ec2/instance-types/i3/

and storage capacity in the host.[12] OpenNebula subscriptions include the support for the KVM hypervisor and the Operating System (Ubuntu) in the managed nodes, the network stack, and OneStor, a basic distributed storage solution. OpenNebula also offers extensions to include support for **embedded Red Hat Enterprise Linux** and **Ceph storage**. These extra fees are not included in this cost analysis.

OpenNebula provides a variety of ways for Virtual Machines and containers to access storage.[13] 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) solutions** like Ceph, StorPool, and LINSTOR, that allow you to create and scale elastic pools of storage and **hyperconverged deployments**.

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

This case study reveals savings of more than **$97K per year (x5**) by using OpenNebula to build your cloud on bare-metal cloud infrastructure. And if you are planning to use instances with more capacity, pay-as-you-go licensing models, or more than 10 servers, you will see that **the savings increase dramatically**. For example, in the same case using i3en.metal instances, the savings would be more than **$170K per year (x8)**. The costs associated with the lock-in nature of Nutanix's licensing and support, and the licensing model based on server capacity, can actually result in many enterprises seeing their TCO inflate significantly over time.

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**[14] 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 $15,000 for small-scale infrastructures.

Key Differentiators

Subscription Cost → Compared with Nutanix, OpenNebula delivers a much lower TCO and helps to reduce OpEx budget pressure and concerns.

Maintenance Cost → An organization needs to evaluate how many employees are required to operate the cloud, which will impact its ongoing OpEx costs. OpenNebula is very easy to install, upgrade, and maintain. Your cloud will run for years with little maintenance. We have users running very large-scale clouds with

[12] https://support.opennebula.pro/hc/en-us/articles/208381403-OpenNebula-Subscription-Guide
[13] https://support.opennebula.pro/hc/en-us/articles/360019581717-Choosing-the-Right-Storage-for-Your-Cloud-Report
[14] https://support.opennebula.pro/hc/en-us/articles/360000202703-Deployment-Services-Guide

thousands of hosts managed by a single administrator. Your IT staff will move on to business-oriented projects, doing less of the day-to-day management tasks.

Vendor Lock-In → OpenNebula integrates with the most widely used open-source virtualization, storage, and networking technologies to allow you to design, integrate, deploy, and operate the best cloud architecture for your workload, processes, and IT infrastructure environment.

Simplicity → Easy to install, upgrade, and maintain, with self-service, point and click graphical interfaces.

Scalability → In terms of scalability, both platforms are scalable. OpenNebula and Nutanix have different architectures, with OpenNebula relying on a virtualization layer for compute, storage, and networking services, and Nutanix operating as a hyper-converged infrastructure platform. OpenNebula provides a more traditional virtualization approach, while Nutanix's HCI approach provides a more integrated infrastructure.

Flexibility → OpenNebula is considered more flexible in terms of the supported underlying infrastructure services, policies, and models, including hyperconverged deployments.

Summary

Both platforms have their advantages and disadvantages, so the choice ultimately depends on the unique needs of the organization. However, if budget and simplicity are the main considerations, OpenNebula may be the better choice. Using OpenNebula to build clouds can have **significant economic benefits** for any enterprise and will improve both infrastructure flexibility and business agility. The economic value proposition is compelling — this study indicates that Nutanix customers can reduce software license and support costs by 80% by switching to OpenNebula. OpenNebula provides the most demanded management features to build clouds for enterprises and service providers, matching most of the features offered by the Nutanix Cloud Platform at a fraction of its cost. The main advantage of OpenNebula is the strategic path to openness as you move beyond virtualization toward an enterprise cloud. OpenNebula **avoids future vendor lock-in**, grants you more **control over your infrastructure**, and **strengthens the negotiating position of your company**. Have a look at our **Case Studies**[15] to learn more from our users and customers about how they are putting OpenNebula to work.

[15] https://opennebula.io/case-studies/

Ready for a Test Drive?

You can evaluate OpenNebula and build a cloud in just a few minutes by using **miniONE**,[16] our deployment tool for quickly installing an OpenNebula Front-end inside a Virtual Machine or a physical host, which you can then use to easily add remote Edge Clusters.

miniONE

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

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MANAGED SERVICES

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

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[16] https://minione.opennebula.io