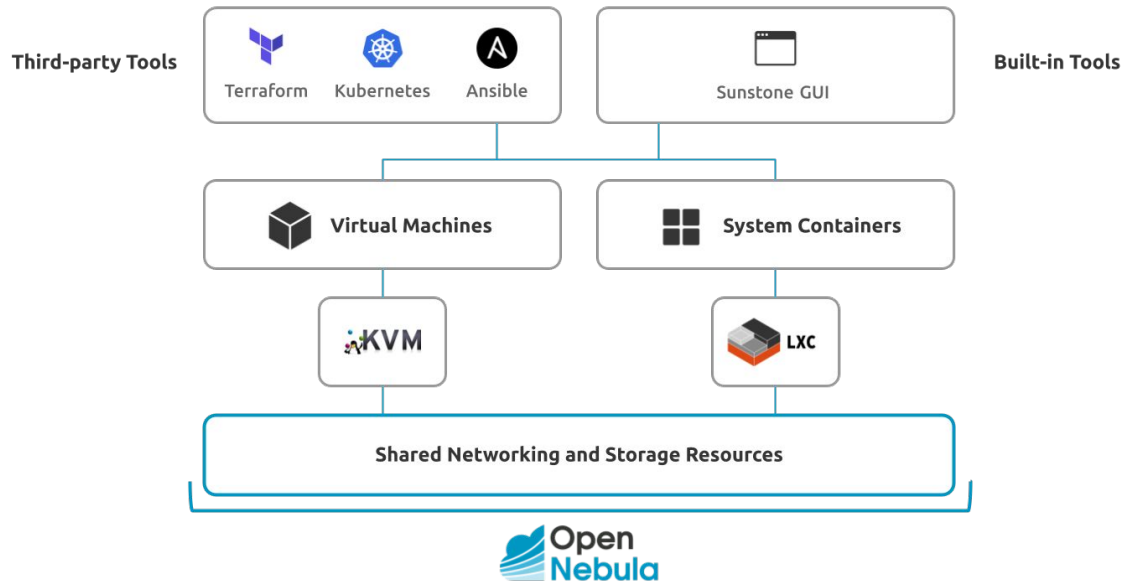




| DATASHEET

OpenNebula Overview

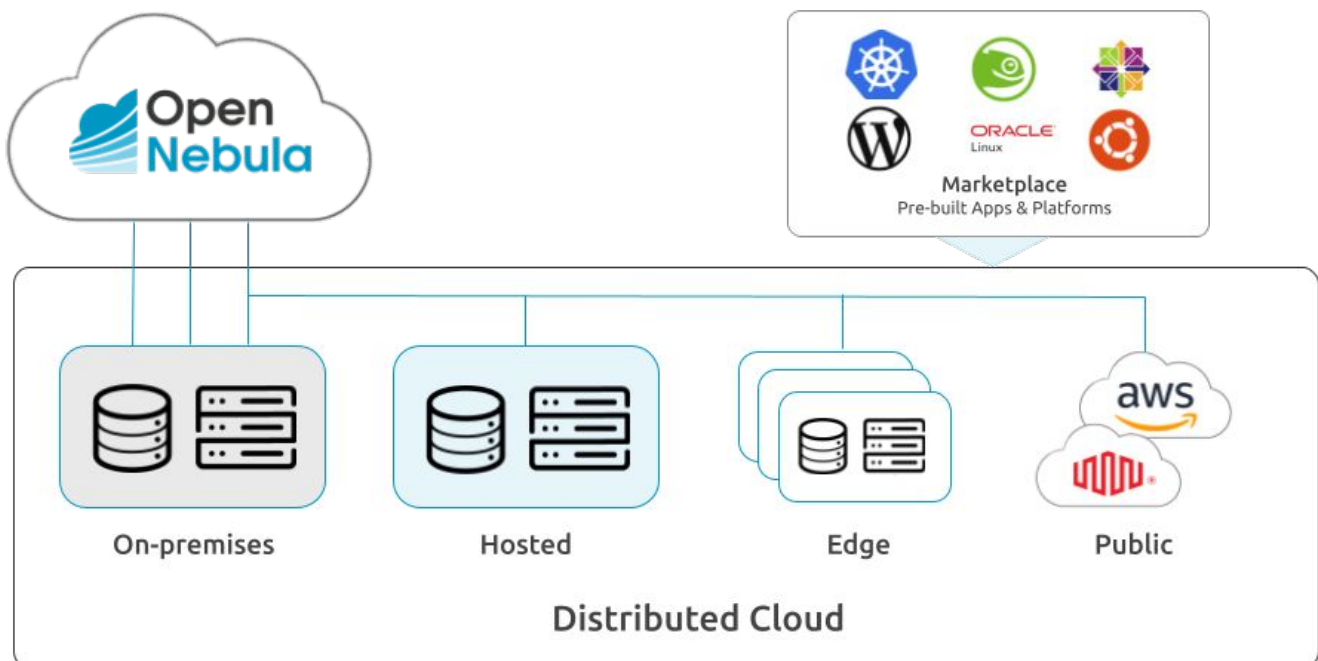


OpenNebula is a simple, but powerful, open source solution to build and manage Enterprise Clouds. It combines existing virtualization with advanced features for multi-tenancy, automatic provision and elasticity to offer on-demand applications and services.

- It supports containerized applications from Kubernetes with Virtual Machine workloads in a common shared environment to offer the best of both worlds.
- It provides an open cloud architecture to orchestrate compute, storage, and networking driven by software.
- It can easily deploy hybrid and edge environments with resources from AWS and Equinix Metal.

OpenNebula’s maturity builds on more than a decade of software releases and thousands of enterprise deployments, being widely used by industry and research leaders.

One Cloud to Rule Them All



The OpenNebula Model for Cloud Infrastructure Deployment

A Cloud Architecture consists of a Cloud Management Cluster with the Front-end master nodes and a Cloud Infrastructure with the components needed for offering cloud computing. The Cloud Infrastructure comprises one or several workload Clusters—which may reside at multiple geographical locations—the hypervisor nodes and the storage system, all interconnected by multiple networks for internal storage and node management, and for private and public guest communication.

An OpenNebula Cloud Infrastructure can combine multiple clusters with different configurations to better meet your needs, wherever you are in your process of digital transformation. In general, there are two types of cluster models that can be used with OpenNebula:

Two Types of Cluster Models:

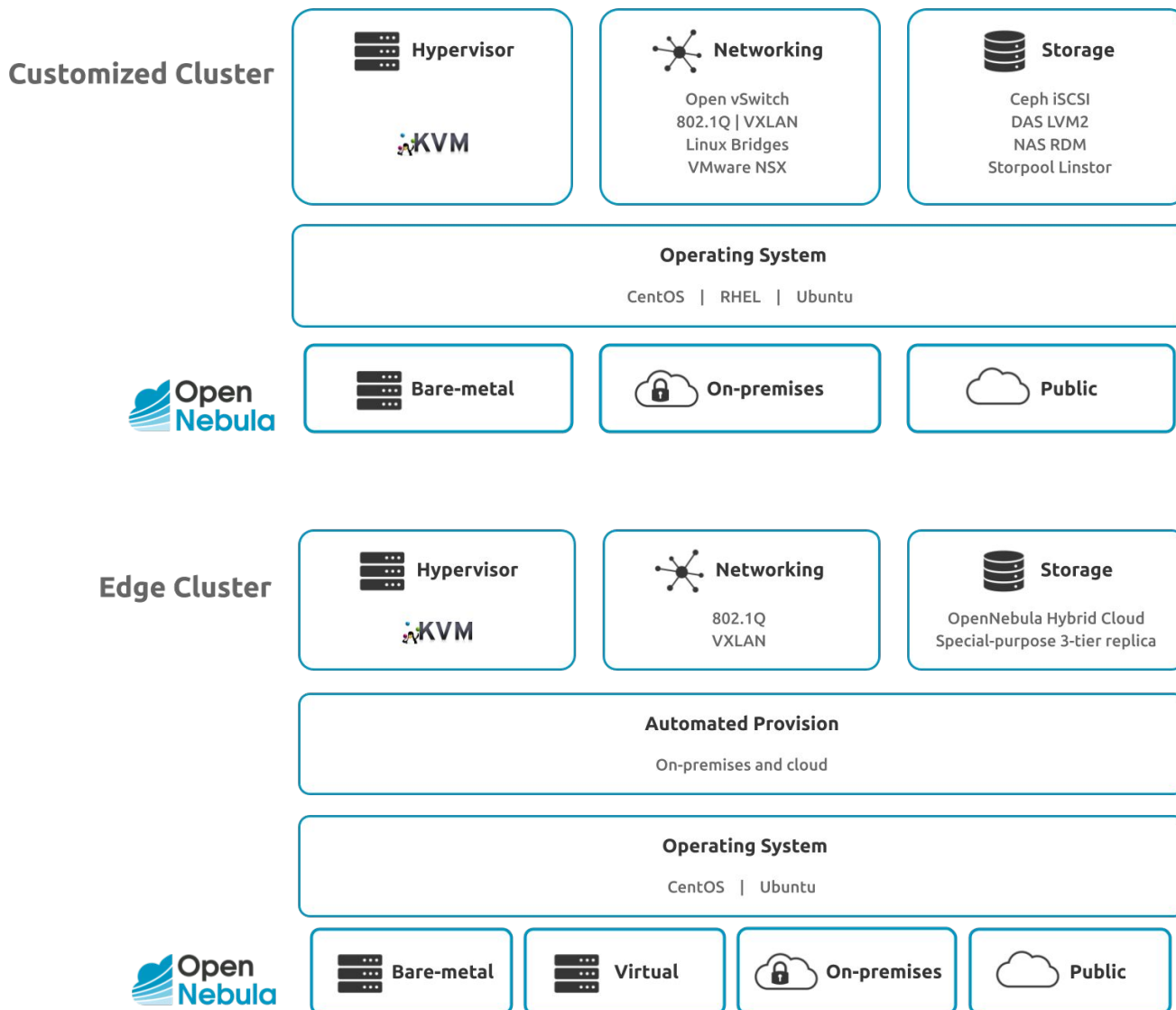
Customized Cluster

OpenNebula is certified to work on top of multiple combinations of hypervisors, storage, and networking technologies. In this model you need to install and configure the underlying cloud infrastructure software components first, and then install OpenNebula to build the cloud. The clusters can be deployed on-premises or on your choice of bare-metal cloud or hosting provider. While we support OpenNebula and can troubleshoot the cloud infrastructure as a whole, we cannot provide vendor support for its components.

Edge Cluster

OpenNebula brings its own Edge Cloud Cluster configuration that is based on solid open source storage and networking technologies, and is a much simpler approach than those of customized cloud architectures made of more complex, general-purpose and separate infrastructure components. Edge Cloud Clusters can be deployed on-demand on physical and virtual resources—both on-premises and on your choice of cloud provider—and are fully supported end-to-end by OpenNebula Systems.

Two Types of Cluster Models:



Which is Right for You?

Our users' needs are in constant evolution, and we believe they should be able to choose the cloud infrastructure configuration—or combination of configurations—that does the most to accelerate and enhance their business. Our experience working with hundreds of customer engagements shows that the Edge Cloud Architecture meets the needs of 90% of their deployments. It implements enterprise-grade cloud features for performance, availability and scalability with a very simple design that avoids vendor lock-in and reduces complexity, resource consumption and operational costs. Moreover, it enables seamless true hybrid cloud deployments that are natively integrated into public clouds.

OpenNebula offers a single vendor experience by providing one-stop support and services for your entire cloud stack.

Interfaces	<ul style="list-style-type: none"> ❑ Simple, clean, intuitive GUI for users and admins with different views ❑ Powerful CLI that resembles typical UNIX commands applications ❑ API in multiple languages
Application Management and Catalog	<ul style="list-style-type: none"> ❑ Easy self-provision of containerized and virtualized workflows from a catalog ❑ Secure sharing of applications with other cloud users ❑ Multi-tier applications with auto-scaling ❑ Gain insight into applications to query their status and metrics, and use them in auto-scaling
Appliance Marketplace	<ul style="list-style-type: none"> ❑ Public Marketplace with pre-built applications (PaaS, K8S, CI/CD...) ❑ Build your private Marketplace to share and distribute applications within your organization ❑ Integration with the public Linux Containers image repository
Chargeback	<ul style="list-style-type: none"> ❑ Fine-grained accounting and monitoring ❑ Showback capability enabling the integration with chargeback and billing systems
Capacity and Performance Management	<ul style="list-style-type: none"> ❑ Fine-grained ACLs for resource allocation ❑ Resource Quota Management to track and limit resource utilization ❑ Dynamic creation of Clusters as pools of hosts ❑ Dynamic creation of Virtual Data Centers as fully-isolated virtual environments ❑ Federation of multiple Zones for scalability, isolation or multiple-site support ❑ Powerful and flexible Scheduler - deploy your workload in different locations
High Availability and Business Continuity	<ul style="list-style-type: none"> ❑ High-availability architecture ❑ Persistent database backend with support for high-availability configurations ❑ Configurable behavior in the event of failure for cost-effective failover solutions
Virtual Infrastructure Management	<ul style="list-style-type: none"> ❑ Virtual infrastructure management adjusted to enterprise data centers ❑ Complete life-cycle management of virtual resources ❑ Powerful hooking system ❑ Full control, monitoring and accounting of virtual infrastructure resources ❑ Fine-grained multi-tenancy
True Hybrid and Edge Cloud	<ul style="list-style-type: none"> ❑ Dynamically grow your private cloud with remote cloud providers ❑ Automatic provision of remote resources
Platform	<ul style="list-style-type: none"> ❑ Fully platform-independent ❑ Broad support for commodity and enterprise-grade infrastructure platforms ❑ Packages for major Linux distributions
Security	<ul style="list-style-type: none"> ❑ Fine-grained ACLs and user quotas ❑ Powerful user, group and role management ❑ Integration with enterprise and open-source user management services ❑ Login token functionality ❑ Fine-grained auditing and support for isolation at different levels
Integration With Third-party Tools	<ul style="list-style-type: none"> ❑ Modular and extensible architecture ❑ Customizable plugins for integration with any third-party data center service ❑ API for integration with higher-level tools such as billing, self-service portals...
Licensing	<ul style="list-style-type: none"> ❑ Fully open-source software released under an Apache license
Upgrade Process	<ul style="list-style-type: none"> ❑ Automatic import of existing environments ❑ All key functionalities for enterprise cloud in a single install ❑ Long-term stability & performance through a single patching and upgrade process
Quality Assurance	<ul style="list-style-type: none"> ❑ Internal quality assurance process ❑ Technology matured through an active and engaged large community ❑ Scalability, and performance tested on many massive scalable deployments
Product Support	<ul style="list-style-type: none"> ❑ Best-effort community support ❑ SLA-based commercial support directly from the developers



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Reference: OpenNebula Overview - Rev20241203