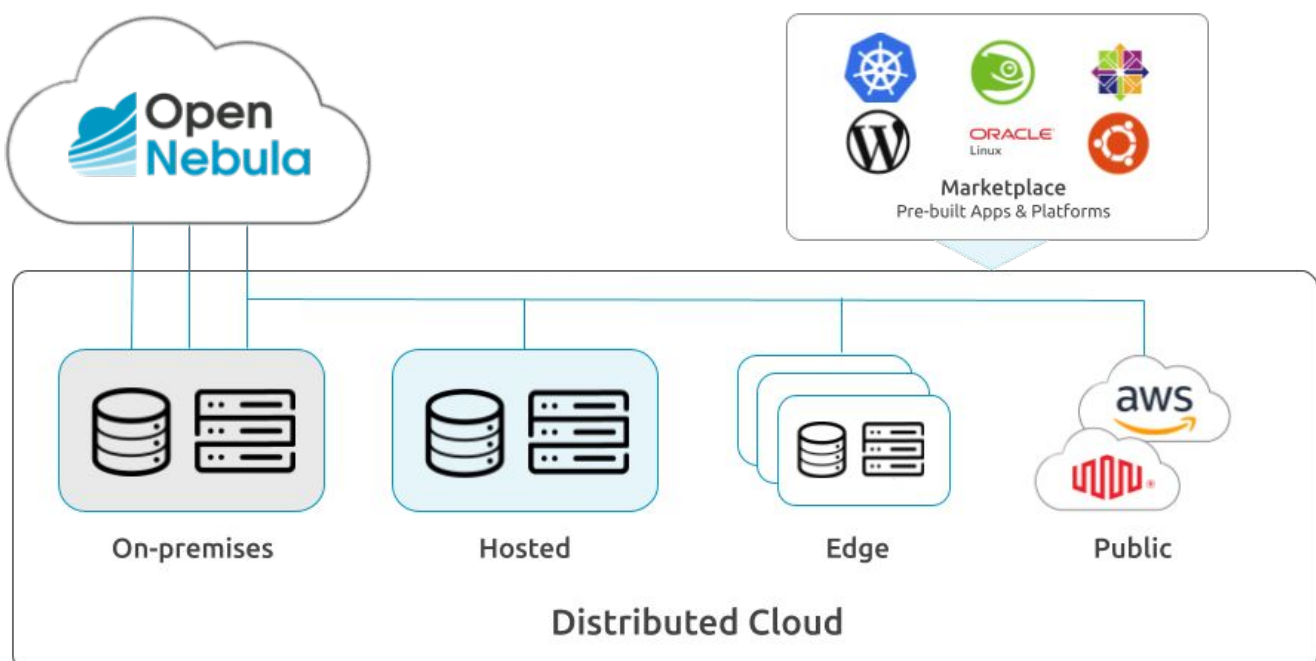# OpenNebula Overview

OpenNebula 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.

- It supports both containers with virtual machine workloads in a common shared environment to get 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 over a decade of software releases and thousands of enterprise deployments, being widely used by industry and research leaders.

One Cloud to Rule Them All

Interfaces	❏ 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	❏ 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
Appliance Marketplace	❏ **Public Marketplace** with pre-built applications (PaaS, K8S, CI/CD…) ❏ Build your **private Marketplace** to share and distribute applications ❏ Integration with the public **Linux Containers** image repository
Chargeback	❏ Fine-grained **accounting** and **monitoring** ❏ **Showback** capability enabling the integration with **chargeback** and **billing** systems
Capacity and Performance Management	❏ **Fine-grained ACL**s 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 workfload in different locations
High Availability and Business Continuity	❏ **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	❏ 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	❏ Dynamically grow your private cloud with **remote cloud providers** ❏ **Automatic provision of remote resources**
Platform	❏ Fully **platform independent** ❏ Broad support for commodity and **enterprise-grade infrastructure platforms** ❏ Packages for major **Linux distributions**
Security	❏ **Fine-grained ACLs** and **user quotas** ❏ Powerful **user, group and role management** ❏ Integration with **enterprise and open-source user management services** ❏ **Fine-grained auditing** and support for **isolation at different levels**
Integration With Third-Party Tools	❏ **Modular** and **extensible** architecture ❏ **Customizable** plug-ins for integration with any third-party data center service ❏ **API** for integration with higher level tools such as billing, self-service portals…
Licensing	❏ **Fully open-source software** released under Apache license
Upgrade Process	❏ **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	❏ Internal **quality assurance process** ❏ Technology matured through an **active and engaged large community** ❏ Scalability, and performance tested on **many massive scalable deployments**
Product Support	❏ Best-effort community support ❏ **SLA-based commercial support** directly from the developers