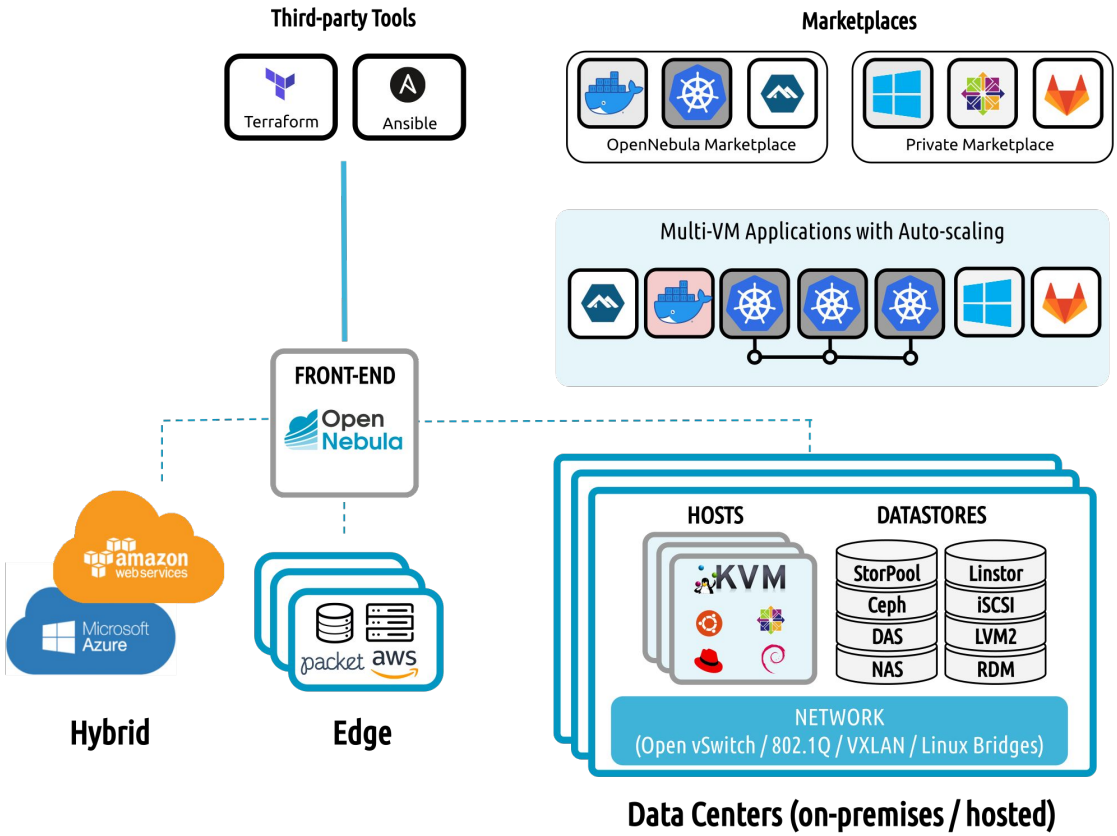
DATASHEET
KVM Cloud

AT A GLANCE

OpenNebula is a simple, yet powerful and flexible turnkey open source solution to build Private Clouds and manage Data Center virtualization on KVM. Its integration with AWS and Microsoft Azure offers flexibility in creating hybrid cloud infrastructures, as well as with bare-metal providers like Packet and AWS for trouble-free deployment of Elastic Private clouds that could include Edge Computing resources.

KEY BENEFITS

- Advanced features for **capacity management**, **resource optimisation**, **business continuity** and **high availability**.
- **Multi-tenant**, **cloud self-service provisioning** including **virtual data centers**, data center **federation** and **hybrid** cloud computing to connect in-house infrastructures with public clouds.
- **Mixed hypervisor environments** with KVM and VMware.



SYSTEM REQUIREMENTS

- Front-end: 2 CPU (4 cores) with 8GB memory, 200GB disk and 2 NICs
- Hypervisors: Depends on the expected workload, recommended to have at least 1GB per core

SCALABILITY

- Scalability tested with 10,000 VMs on 2,500 servers.
- Horizontally scale your cloud by adding new OpenNebula zones within a federated deployment to grow the size of your cloud beyond these limits.

miniONE

TRY IT NOW! Go to **https://minione.openebula.io**

In **just five minutes**, use **miniONE** to deploy a fully functional implementation to evaluate just how simple OpenNebula is.

Red Hat Technology Partner

ubuntu Software partner

More details about OpenNebula and its features at OpenNebula.io

OpenNebula Specs on KVM

On-Demand Self-Service Provisioning

Application Containers	❑	Full support for Docker using Kubernetes for container orchestration
Service Auto-scaling	❑	Define and manage services as a group of related VMs, including their interconnection networks and elasticity rules
Service Insight	❑	Monitor service-specific performance metrics and set elasticity rules based on them
Private Marketplaces	❑	Build your own private marketplaces based on S3 and HTTP protocols
Public Marketplaces	❑	Integration with OpenNebula Public Marketplace with pre-built and certified appliances with popular OSS components and OS like k8s, WordPress, Gitlab, Centos or Ubuntu
APIs	❑	Ruby, Python, Go and JAVA or XML-RPC
CLI	❑	Fully featured UNIX-like command line tools
GUI	❑	Sunstone, a modern and simple Web-UI for admins and advanced users. Cloud View, a simplified provision portal for end users. Remote access through VNC, SPICE and RDP is integrated in the GUI's

Resource Management

Authentication	❑	Built-in password-based, Active Directory, SSH, X509,LDAP, login tokens and 2FA
Multi-tenancy	❑	ACLs, users, groups, resource UNIX-like permissions and VDCs
Capacity Management	❑	Limit usage with user/group quotas. Fine-tune VM allocation with dynamic placement constraints and affinity rules. Automatically schedule virtual networks and datastores.
Observability	❑	Monitoring, accounting, showback and auditing/traceability
Networking	❑	Virtual routers, NIC hotplugging, security groups, SR-IOV interfaces and support for DPDK, IPv6 and IPAM modules
Host	❑	PCI-passthrough, GPUs/vGPUs, NUMA and CPU pinning
Storage	❑	Snapshots and disk resizing, hotplugging, persistency, VM and storage migration
Automation	❑	Hook system for tailoring and logging, programmable VM operations, and context to further customize VMs based on user input

Cloud Architectures

High Availability	❑	OpenNebula components HA-based on RAFT consensus and VM/host failover
Elastic Private	❑	Resource provisioning on bare-metal AWS and Packet
Edge Distributed	❑	Dynamic geo-distributed private clouds on public cloud resources
Hybrid Cloud	❑	Cloud bursting of VMs on AWS and Azure
Federated Cloud	❑	Federation of multiple OpenNebula zones for scalability, isolation or multiple-site support
Mixed Hypervisor	❑	Support for multi-hypervisor environments that use VMware, KVM, LXD and Firecracker

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