



| GUIDE

Ceph Storage Support

Ceph Integration Support Add-on

The **Ceph Integration Support Add-on** extends the OpenNebula Subscription to cover the deployment, scaling, and operational use of Ceph clusters as storage backends for OpenNebula. The **focus of this service is the infrastructure layer**: storage configuration, datastore lifecycle operations, image handling, and the integration points connecting OpenNebula with a customer's Ceph environment.

What the Add-on Includes

The Ceph Integration Support Add-on provides comprehensive support for **integrating and consuming Ceph-based storage within OpenNebula**, covering only the Ceph versions and configurations officially certified in the OpenNebula Release Notes. Specifically, it includes:

- ✓ **Technical assistance for the integration between Ceph and OpenNebula**, covering configuration of datastores, image and snapshot workflows, RBD provisioning, and storage lifecycle management.
- ✓ **Incident response for issues affecting storage access from OpenNebula**, including performance degradation, connectivity problems, and operational failures in the interaction between both systems.
- ✓ **Support for OpenNebula's storage subsystem**, including drivers, transfer mechanisms, and monitoring components used to provision and manage storage resources backed by Ceph.
- ✓ **Guidance on recommended architectures**, covering cluster layout, pool design, replication/erasure coding strategies, performance tuning, and capacity planning aligned with OpenNebula's best practices.
- ✓ **Coordinated support for the integrated stack**, ensuring that issues affecting the storage layer as consumed by OpenNebula can be diagnosed and resolved without involving multiple vendors.

What the Add-on Excludes

The Ceph Integration Support Add-on **does not include support for Ceph itself** as a storage product or for components outside OpenNebula's integration scope. Specifically, it excludes:

- ✓ **Upstream Ceph support**, maintenance, debugging, or patch delivery for Ceph itself remains under the responsibility of the customer's Ceph vendor or the community distribution used.
- ✓ **Standalone support for external Ceph components** (e.g., RGW, NFS-Ganesha, or custom plugins) when not tied to their use through OpenNebula.
- ✓ **Support for non-certified storage plugins or custom modifications** that fall outside the versions documented in each OpenNebula release.
- ✓ **Intervention in Ceph cluster administration** beyond what is required to validate or maintain the integration with OpenNebula (e.g., OSD replacement, MON quorum recovery, object repair).
- ✓ **Immediate fixes or enhancements** for upstream Ceph issues; these are escalated to the relevant project or vendor, with OpenNebula tracking progress and providing workarounds when feasible.

Complementarity with Ceph Vendor Support

If a bug is identified during a support request and no fix is yet available, the issue will be reported to the upstream project. OpenNebula Systems will track its resolution and may provide a temporary workaround when possible. While the add-on provides full support for the OpenNebula–Ceph integration layer, it does not include support for the Ceph software itself. Customers may rely on community-supported Ceph if they choose, or they may obtain a separate **subscription from a Ceph vendor** (e.g., Red Hat Ceph Storage, Canonical Ceph, or another supported distribution) for official maintenance, patching, and runtime support for the Ceph cluster.

It is important to note that the correct operation, performance, and availability of the Ceph cluster remain the sole responsibility of the customer. In order to operate a Ceph-backed OpenNebula environment effectively, customers are strongly encouraged to maintain an **internal team with Ceph administration** and storage expertise, ensuring cluster health, stable performance, and safe validation of updates and configuration changes.

Pricing

The **Ceph Integration Support Add-on** is licensed per OpenNebula host consuming Ceph storage. This model reflects the fact that OpenNebula's Ceph driver, datastore workflows, monitoring components, and integration logic operate at the hypervisor level, enabling each host to provision, access, and manage Ceph-backed storage resources. As a result, support is tied directly to the number of OpenNebula hosts that rely on Ceph for image management, persistent storage, or VM operations.



OpenNebula Systems USA

1500 District Ave
Burlington, MA 01803, USA

OpenNebula Systems Europe

Paseo del Club Deportivo 1 – Edificio 4 Planta 1
Parque Empresarial La Finca
28223 Pozuelo de Alarcón, Madrid, Spain

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Reference: Ceph Storage Support - Rev20251215