



| GUIDE

Kubernetes Platform Support

The OpenNebula Kubernetes offering is built on three internal components included and supported through the standard **OpenNebula Enterprise Subscription**:

- **OpenNebula Cluster API:** Provides the API used to deploy, scale, and manage Kubernetes clusters on OpenNebula's virtual infrastructure, offering unified lifecycle operations and seamless integration with OpenNebula's provisioning framework.
- **OpenNebula CSI (Container Storage Interface):** Enables dynamic provisioning and lifecycle management of persistent volumes for Kubernetes workloads using OpenNebula datastores, ensuring consistent and scalable block or file storage.
- **OpenNebula Cloud Provider:** Exposes infrastructure resources—such as load balancers, networking, and storage—directly to Kubernetes, enabling native cloud-like automation for resource allocation and service exposure.

Two external components are supported through optional add-ons: the **Kubernetes Integration Support Add-on** and, when full Kubernetes runtime support is needed, the **SUSE Rancher Prime Embedded Add-on**:

- **Kubernetes Management:** Manages the end-to-end lifecycle of Kubernetes clusters—provisioning, upgrades, monitoring, and termination—via OpenNebula's unified interface, with Rancher currently recommended as the management layer.
- **Kubernetes Runtime:** The validated Kubernetes distribution used for production clusters, with **RKE2** recommended for reliability, security, and compatibility.

Kubernetes Support in the OpenNebula Subscription

The **OpenNebula Enterprise Subscription** includes support for Cluster API, CSI, and Cloud Provider interfaces, covering only the OpenNebula components responsible for provisioning and managing the virtual machines and storage that host Kubernetes nodes. This subscription does not cover any part of Kubernetes itself or its internal operation. It does not include support for the Kubernetes control plane or worker nodes, container networking or storage inside the cluster, Kubernetes add-ons, or any workloads running within Kubernetes. In short, the Enterprise Subscription supports only the OpenNebula platform components involved in hosting Kubernetes—not Kubernetes integration, internals, or runtime behavior.

While OpenNebula's Cluster API implementation enables a vendor-neutral, infrastructure-agnostic approach—supporting different Kubernetes runtimes, tools, and workflows—OpenNebula also offers enterprise support for customers adopting RKE2 and Rancher. In this model, OpenNebula supports the platform and its integration with these components, whereas and **embedded SUSE Rancher Prime subscription** provides the actual Kubernetes runtime support when required.

Kubernetes Integration Support Add-on

The **Kubernetes Integration Support Add-on** provides support for the integrated use of Rancher and RKE2 within the OpenNebula platform. It does not include additional software and relies on the open-source versions of Rancher and RKE2 or, when applicable, on SUSE Rancher Prime packages acquired directly or through the embedded option. In all cases, support follows the official SUSE/Rancher documentation and support matrices. OpenNebula does not provide upstream support for these third-party components beyond their integration, certification, and validated operation inside OpenNebula.

What the Add-on Includes

Infrastructure-level support for deploying and operating Kubernetes clusters on OpenNebula, covering only the Kubernetes versions and configurations officially certified in the OpenNebula Release Notes and following the RKE2 Support Matrix, including:

- ✓ Cluster provisioning automation (Cluster API workflows, VM templates, metadata, cloud-init).
- ✓ Infrastructure diagnostics related to VM lifecycle, networking, storage, and identity services.
- ✓ Performance tuning at the hypervisor and infrastructure layer.
- ✓ Support for CNI/CSI configurations as long as they comply with the RKE2 Support Matrix.
- ✓ Guidance on cluster topology (HA frontends, node sizing, placement).
- ✓ Support for Rancher agents and CAPI components inside OpenNebula-managed VMs.
- ✓ Design and integration best practices for running RKE2 clusters on OpenNebula.
- ✓ Coordination with SUSE for runtime issues when the customer has Rancher Prime embedded.

What the Add-on Excludes

The add-on **does not cover Kubernetes runtime internals** or the RKE2 distribution itself, including:

- ✓ Kubernetes control-plane troubleshooting (API server, scheduler, controller-manager).
- ✓ Issues with kubelet, container runtime (containerd), or node agent behavior.
- ✓ CVE fixes, patching, security hardening, or compliance for Kubernetes.
- ✓ RKE2 upgrades or Kubernetes version transitions.
- ✓ Debugging CNI/CSI plugin bugs (Calico, Cilium, Canal, Multus, Longhorn).
- ✓ Bug fixes, backports, or upstream contributions.
- ✓ Rancher Manager internals (fleet, UI backend, provisioning engine).
- ✓ Support for custom CNIs/CSIs, custom builds, or unsupported OS versions.
- ✓ Anything outside the official RKE2 and Rancher Support Matrix.

SUSE Rancher Prime Embedded Add-on

As a complement to the Kubernetes Integration Support Add-on add-on, OpenNebula Systems has an agreement with SUSE that enables OpenNebula to embed Rancher Prime subscriptions directly into OpenNebula subscriptions. Through this ISV partnership, OpenNebula now offers the **SUSE Rancher Prime Embedded Add-on**, which includes a built-in subscription as part of an integrated product.

From a software perspective, the add-on provides access to **SUSE Rancher Prime** — a fully enterprise-grade Kubernetes platform. Unlike the upstream open-source versions of Rancher and RKE2, SUSE Rancher Prime delivers a hardened, security-enhanced Kubernetes distribution that SUSE actively develops, certifies, and maintains. This includes validated versions of RKE2, certified CNIs and CSIs, tested upgrade paths, lifecycle tooling, security patches, and long-term maintenance. In other words, it is a complete, vendor-supported Kubernetes, not just access to community software.

From a support perspective, OpenNebula Systems provides **support for the overall integrated solution**, handling all infrastructure- and runtime-level issues, deployment, and platform integration. SUSE provides Level 3 Support to OpenNebula Systems for all Kubernetes-runtime components—including RKE2 and Rancher internals. This guarantees coordinated escalation paths, fast resolution of issues, and unified assistance. Customers receive a **seamless end-to-end support experience**, with OpenNebula as the primary contact and SUSE as the specialized Kubernetes runtime expert.

What the Add-on Includes

If the customer also purchases the embedded SUSE Rancher Prime subscription, they receive **full vendor-backed Kubernetes runtime support**, including:

- ✓ Support for RKE2 Kubernetes runtime (control plane + kubelet).
- ✓ Support for CNI/CSI plugins shipped with RKE2 (Calico, Cilium, Canal, Multus, Longhorn).
- ✓ Support for upgrades and patching of RKE2/Kubernetes.
- ✓ Support for security updates, CVEs, and hardened configurations.
- ✓ Support for Rancher Manager internals (fleet, provisioning logic, authentication, UI).
- ✓ Access to SUSE engineering for bug fixes and upstream escalations.
- ✓ Full coverage of the RKE2 + Rancher Support Matrix (validated OS, versions, add-ons).
- ✓ SLA-backed support for Kubernetes runtime issues.

Embedded Subscription Model

The built-in Rancher Prime subscription, included in the **OpenNebula Enterprise Subscription – Rancher Prime Edition**, is provided for special-purpose use as an integral component of the OpenNebula integrated platform. It must be installed and operated exclusively on OpenNebula virtual machines, serving solely to support integration with the OpenNebula management platform. Customers are not authorized to deploy, or use Rancher Prime independently, nor for any purpose other than its designated integration within OpenNebula.

Kubernetes Platform Support Pricing

To run Kubernetes on top of OpenNebula with full enterprise support, customers first need the **OpenNebula Enterprise Subscription**, which is always required, licensed per host, and includes support for Cluster API, CSI, and Cloud Provider interfaces.

Organizations that want to deploy and operate Kubernetes clusters using Rancher and RKE2 on OpenNebula must then add the **Kubernetes Integration Support Add-on**, also licensed per host, which covers all infrastructure-level automation, Cluster API workflows, and the integration of Rancher and RKE2 within the OpenNebula platform.

If full Kubernetes runtime support is required—including RKE2 internals, Rancher Manager components, upgrades, CVEs, and control-plane troubleshooting—customers additionally need the **SUSE Rancher Prime Embedded Add-on**, licensed per vCPU of the Kubernetes nodes. Together, these components form a complete, integrated, and enterprise-grade Kubernetes solution on OpenNebula.



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