ORACLE
Virtualization

Enterprise-grade server virtualization with predictable economics

Oracle Virtualization provides a high performance, cost effective, open source alternative to proprietary server virtualization solutions.

Oracle Virtualization is a proven enterprise-grade server virtualization solution that provides KVM virtualization and management capabilities and built-in disaster recovery features—with no license cost. All of this, plus access to automation, Oracle Ksplice for zero-downtime updates, and Oracle Linux are available via one cost-effective support subscription. There's no complex licensing, and you don't have to purchase multiple software products.

Core components of Oracle Virtualization

Oracle Linux KVM

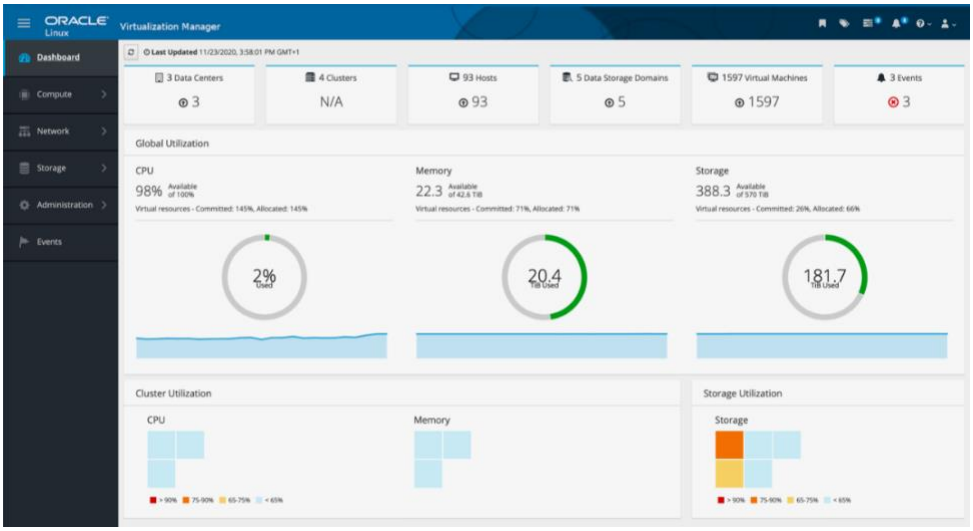
Oracle Linux KVM delivers leading performance and security for multicloud deployments. Users can take a previously deployed Oracle Linux system and turn the operating environment into a KVM host, or a KVM configuration can be set up from a base Oracle Linux installation. Oracle Linux KVM includes support for Intel VT-x and VT-d hardware extensions along with the Secure Encrypted Virtualization (SEV) for AMD-V enabled processors. In addition, Oracle Cloud Infrastructure uses Oracle Linux KVM by default, which facilitates moving workloads into Oracle Cloud.

Oracle Linux Virtualization Manager

Data center administrators can use Oracle Linux Virtualization Manager, built from the open source oVirt project, to manage and support multiple hosts running Oracle Linux KVM. The heart of this management solution is the ovirt-engine, which is used to discover KVM hosts and configure storage and networking for the virtualized data center.

Oracle Linux Virtualization Manager offers a modern web-based UI as well as a REST API to manage an Oracle Linux KVM infrastructure. Oracle Linux Virtualization Manager has a dashboard view which displays information about deployments (VM counts, host counts, clusters, storage), including the current status of each entity and key performance metrics.

Figure 1. Oracle Virtualization Single Pane of Glass Management



Flexible support options and more value

Support for Oracle Virtualization is offered through an Oracle Linux Premier Plus Support subscription. With this support subscription, a system can run as a physical or virtual instance. It is all included in the price of a single subscription. Users can run Oracle Linux KVM on the host and as many Oracle Linux guest instances as desired without additional cost.

Oracle Virtualization includes all the key features that are required to manage and run your workloads in your data center. And with Oracle Linux Premier Plus Support, you'll have coverage for Oracle Virtualization and much more.

Table 1. Oracle Linux Premier Plus Support: Key Attributes of Oracle Virtualization

Oracle Virtualization Key Attributes	Description / Business Use
Centralized Compute Management	Provides a single pane of glass able to supply full management for hosts, VMs, and VM templates.
Oracle Virtualization Scheduling Policies	Scheduling policies automatically distribute VMs for load balancing or power saving.
Virtual Machine High-Availability, Live-Migration, Storage Live-Migration	Secure live VM migration to reduce service outages associated with planned maintenance or scale up resources quickly by migrating running VMs to other servers without interruption. Perform storage live migrations for the virtual disks of running VMs.
Major OS Support	Supports Oracle Linux, Red Hat Enterprise Linux, AlmaLinux, Rocky Linux, SUSE Linux, Ubuntu, Microsoft Windows, and Oracle Solaris for x86 as guest operating system platforms for VMs.
Virtual Machine Affinity Rules	Allows the definition of anti-affinity rules to designate that two or more VMs never reside on the same host.
Role-Based Access Control for Virtualization Management	Allows different users with different access permissions to perform the tasks that are relevant to their role with full audit control.
Zero-Downtime Patching with Ksplice	Ksplice integration to patch kernel and user space libraries with no downtime or service interruption.
Centralized Storage Management	Create and manage storage domains (NFS/iSCSI/FC/Local) and virtual disks for VMs across Oracle Linux KVM compute nodes.
Centralized Network Management	Add logical networks (VLANs) for data, management, and Live Migration traffic, and attach them to Oracle Linux KVM compute nodes.

Oracle Virtualization Key Attributes	Description / Business Use
Oracle Virtualization with Unlimited Oracle Linux Virtual Machines Per Host	Oracle Linux Premier Plus Support covers an unlimited number of VMs for each Oracle Linux KVM server. Support for Oracle Linux running as a guest OS on VMs is included.
REST API Support	Offers a higher level of automation, interoperability, and integration, including integration with other management systems for backup and restore, monitoring, and configuration management services. Can also be used to automate repetitive tasks with Oracle Linux Automation Manager through ansible playbooks, infrastructure as a code through Terraform, or by manual scripts.
LDAP / Active Directory Integration	Allows users to connect Oracle Virtualization to external systems using their existing Active Directory credentials, simplifying user management and access control.
Embedded Monitoring and Observability	Grafana, a popular open source platform used for monitoring and observability, comes preinstalled with Oracle Virtualization. It helps teams understand how their systems are performing by visualizing metrics and setting up alerts based on defined thresholds.
VM Snapshot Support	Backup and restore using snapshots which create a consistent view of a running VM at a point in time.
Disaster & Recovery	Active-Active and Active-Passive disaster recovery solutions help keep applications running even if a disaster strikes.
Hard Partitioning Technology	Oracle Linux KVM may be used as hard partitioning technology for Oracle software licensing. With this technology, VMs can be pinned to specific physical cores on a server. Once pinned, the Oracle Database or application only needs to be licensed for the number of physical cores to which it is pinned. This can help lower licensing costs.

Table 2. Oracle Linux Premier Plus Support: Kubernetes and Container Services for Oracle Virtualization

Kubernetes and Container Services	Description / Business Use
Oracle Cloud Native Environment	Oracle Cloud Native Environment (Oracle CNE) is a fully integrated suite for the development and management of cloud-native applications built on a curated set of open source projects that are defined by the Cloud Native Computing Foundation (CNCF). Oracle CNE delivers a simplified framework for orchestrating microservices with enterprise support.
Standalone Container Runtime	Podman provides a lightweight utility to run and manage Open Container Initiative (OCI) compatible containers.

Table 3. Oracle Linux Premier Plus Support: Management Services for Oracle Virtualization

Management Services	Description / Business Use
Oracle Linux Automation Manager	Enables users across an organization to create, share, and manage infrastructure automation tasks.
OS Management Hub	Simplifies the lifecycle management for Oracle Linux Virtualization Manager, Oracle Linux KVM servers, and Oracle Linux VMs.

Table 4. Oracle Linux Premier Plus Support: High Availability Services for Oracle Virtualization

High Availability Services	Description / Business Use
Oracle Clusterware	Provides a high availability solution for Oracle Linux VMs running virtualized on Oracle Virtualization.
Corosync and Pacemaker	Used to create a high availability (HA) cluster that delivers continuous access to services that are running across multiple Linux nodes.

Simplified migration to Oracle Virtualization

Move existing virtual machines to Oracle Virtualization individually or in bulk with automated solutions.

- The open source virt-v2v utility is integrated with Oracle Linux Virtualization Manager to easily move VMs from other hypervisors to Oracle Linux KVM while converting the underlying storage.
- Import and export VMs in Open Virtualization Format (OVF) and Open Virtualization Archive (OVA) formats.

The Oracle Virtualization Professional Services team is experienced in migrating VMs and is available to assist you with these solutions or with partner migration solutions.

Oracle Virtualization partner ecosystem

Find software solutions and qualified server environments that can be used with Oracle Virtualization here:

- ISV Catalog
- Hardware Certification List

Oracle Virtualization documentation and training

In addition to the Oracle Virtualization documentation library, Oracle offers free and comprehensive resources such as learning paths, tutorials, hands-on labs, and videos to help customers gain proficiency in deploying, configuring, monitoring, and managing an Oracle Virtualization environment.

To get started with Oracle Virtualization, you can download the software for free from the Oracle Linux yum server.

Connect with us

Call **+1.800.ORACLE1** or visit oracle.com/linux. Outside North America, find your local office at: **oracle.com/contact**.

blogs.oracle.com/virtualization/ facebook.com/oraclelinux x.com/oraclelinux