ORACLE

Oracle Linux KVM and Virtualization Manager

Oracle Linux Virtualization Manager is a server virtualization management platform that can be easily deployed to configure, monitor, and manage an Oracle Linux Kernel-based Virtual Machine (KVM) environment. Oracle Linux KVM and Oracle Linux Virtualization Manager provide a modern, open source, high performance, zero licensing cost alternative to proprietary server virtualization solutions.

An Oracle Linux Premier Support subscription includes award-winning Oracle support resources for KVM and Oracle Linux Virtualization Manager as well as lifetime software support, all in a single cost-effective support offering. For customers with an Oracle Cloud Infrastructure subscription, Oracle Linux Premier support is included at no additional cost.
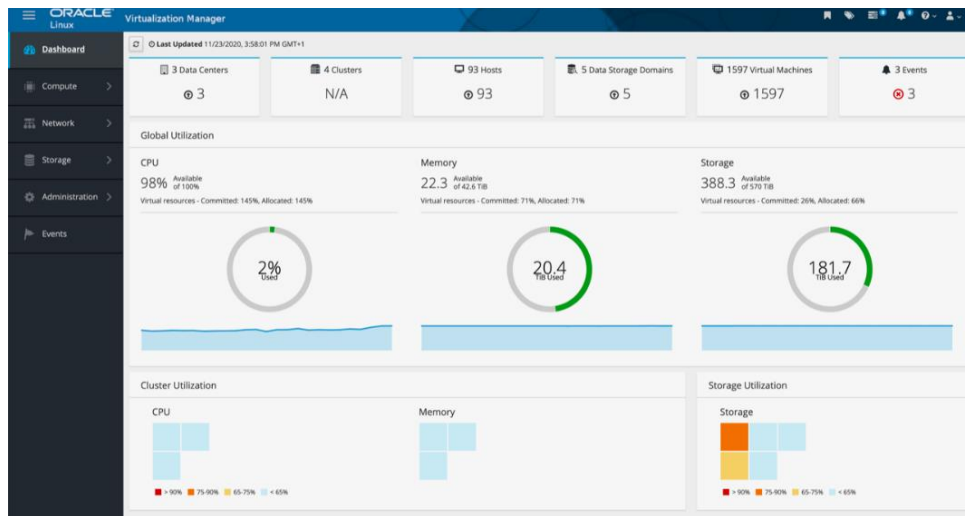
Oracle Linux KVM

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 KVM may be used as hard partitioning technology for Oracle software licensing. With this technology, virtual machines 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.

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.

The REST API allows users to integrate with other management systems for backup and restore, monitoring and configuration management services. In addition, the REST API can be used to automate repetitive tasks with Oracle Linux Automation Manager through ansible playbooks, infrastructure as a code through terraform or by manual scripts.

Software features

- Built with the Unbreakable Enterprise Kernel (UEK) for Oracle Linux, a modern high-performance kernel.
- The KVM hypervisor's low-overhead architecture remains performant even as workloads scale up. It supports servers with up to 2048 logical CPUs and 64 TB of memory, to accommodate the most demanding enterprise and cloud applications.
- Broad guest operating system support includes Oracle Linux, Red Hat Enterprise Linux, CentOS Linux, SUSE Linux Enterprise Server, Ubuntu, Oracle Solaris and Microsoft Windows.

Reliability and high availability

The self-hosted engine offers high availability management of a virtualized infrastructure.

- Reliably and automatically restart failed VMs on other servers in the cluster after unexpected outages.
- 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 virtual disks of running virtual machines.
- Ksplice integration to patch kernel, QEMU, and user space libraries with no downtime or service interruption.
- Backup and restore using snapshots which create a consistent view of a running VM at a point in time.
- Active-Active and Active-Passive disaster recovery solutions where primary and backup sites can be connected via stretched clusters (Active-Active) or in a failover configuration (Active-Passive) to keep applications running even when a disaster strikes.

Management options and ease of use features

Multiple management interfaces, automation options, and logical workflows that make it easier to deploy applications to end users.

- Rich, dynamic HTML-based web user interface provides ease of use, centralized management, and includes comprehensive event tracking and virtualized system health status. In addition to the main administration portal, a lightweight VM portal can be used by cloud consumers to manage VMs.
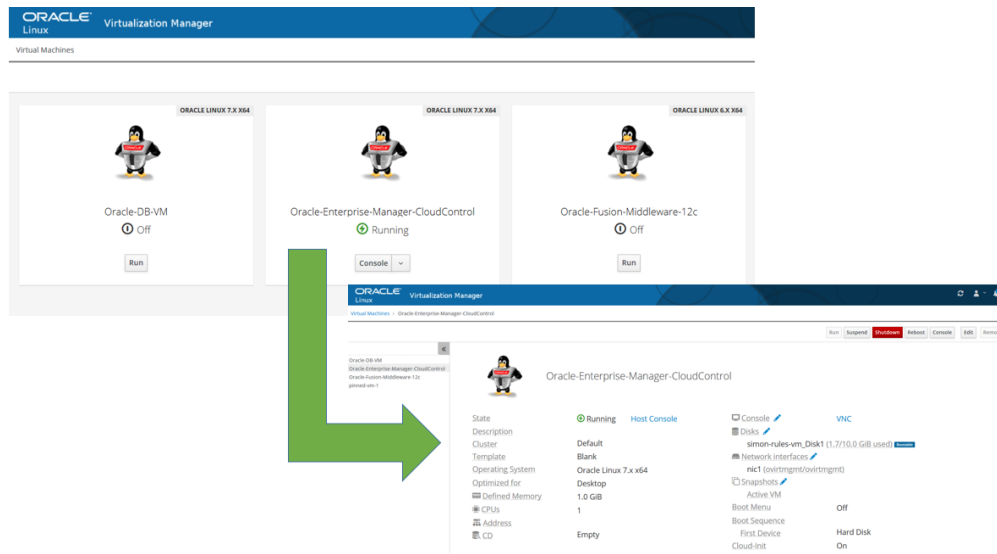
- REST API for a higher level of automation, interoperability, and integration.
- Oracle Linux KVM templates reduce installation, configuration, and ongoing maintenance costs, helping organizations achieve faster time to market and lower cost of operations.
- Download and import pre-configured virtual machines containing pre-installed Oracle applications or other software to get up and running in hours.
- Scheduling policies automatically distribute VMs for load balancing or power saving.
- Role-based access allows different users with different access permissions to perform the tasks that are relevant to their role with full audit control.
- Can be integrated with an external LDAP or Active Directory authentication system, to offer a secure VDI solution for end users.
- Integration with Grafana offers comprehensive monitoring capabilities.

Simplified migration to Oracle Linux Virtualization Manager

Move existing virtual machines to Oracle Linux Virtualization Manager 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 while converting the underlying storage.
- Import and export VMs in Open Virtualization Format (OVF) and Open Virtualization Archive (OVA) formats.
- Integrations with partner solutions to migrate running VMs to Oracle Linux Virtualization Manager.

For customers that are running Red Hat Enterprise Linux or CentOS Linux KVM hosts, they can also be migrated to Oracle Linux KVM and managed by Oracle Linux Virtualization Manager.

Oracle Linux Partner Ecosystem

The Oracle Linux and Virtualization ISV Catalog provides information about third-party software that ISVs have certified to run on Oracle Virtualization. The Hardware Compatibility Program helps ensure server hardware solutions are qualified with Oracle Linux KVM.

Flexible support options and more value

Oracle Linux KVM and Virtualization Manager can be downloaded, used, and distributed free of charge. Updates and errata are freely available, excluding certain updates and errata such as those released with Ksplice and Extended Support, which may require Oracle Linux Premier or Extended Support.

With an Oracle Linux Premier Support subscription there is no need to worry about whether a system will 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. And, when workloads need to move between different deployment models, for example Oracle Linux KVM on-premises to Oracle Linux KVM in the cloud, the transition can be nearly effortless.

In addition to documentation, 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 Linux KVM environment with enterprise-grade performance.

Established member of the Linux community

Oracle is a platinum member of the Linux Foundation and the Cloud Native Computing Foundation, and one of the industry's largest contributors to open source. Additionally, Oracle is a founding member of the Open Enterprise Linux Association (OpenELA), exemplifying Oracle's commitment to keep Linux open and free.

Supported hardware

- Oracle Linux KVM is supported on 64-bit Intel and AMD (x86-64) hardware architectures.
- Visit the Oracle Linux Hardware Certification List (HCL).

Related services

Support services for Oracle Linux

- Oracle Linux Support
- Oracle Premier Support for Systems
- Oracle Cloud Infrastructure

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