Oracle VM Server for x86 Virtualization and Management

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VM

Oracle VM Server for x86 is a free server virtualization and management solution that makes enterprise applications easier to deploy, manage, and support. Backed worldwide by affordable enterprise-quality support for both Oracle and non-Oracle environments, Oracle VM facilitates the deployment and operation of your enterprise applications on a fully certified platform to reduce operations and support costs while simultaneously increasing IT efficiency and agility.

ORACLE'S SERVER VIRTUALIZATION AND MANAGEMENT

KEY FEATURES AND BENEFITS

· Complete server virtualization and management with no license costs

· Speeds application deployment with Oracle VM Templates and software assemblies

· Modern, low overhead architecture for leading price/performance

· Full Oracle VM Manager command-line interface (CLI) and Web Services API (WS-API) allow greater automation and interoperability

· Included secure live migration, VM high-availability (HA), distributed resource scheduler (DRS), distributed power management (DPM), physical-to-virtual (P2V) and virtual-to-virtual (V2V) conversion, and other advanced features

The Virtualization Platform for Enterprise Workloads

You are facing the challenges of a rapidly expanding data center—increased operating costs, inefficient resource utilization, and an eye toward cloud computing. Your virtualization solution has to increase datacenter flexibility, meet your price/performance needs, and make applications easier to deploy, manage, and support.

Oracle VM delivers:

- **High performance, high scalability.** Low-overhead architecture with the Xen® hypervisor provides scalable performance under increasing workloads to meet the most aggressive performance requirements; supports up to 240 physical CPUs and 4TB memory; each guest VM supports up to 128 virtual CPUs and 2,000,000 MB memory to accommodate enterprise and cloud workloads.

- **Advanced management for zero extra cost.** Includes Oracle VM Manager for centralized, browser-based management of your resource pools; includes policy-based, dynamic resource scheduling; dynamic capacity and power management. A rich, dynamic html UI provides ease of use. Also includes comprehensive event tracking. Support for tight integration with Oracle Enterprise Manager provides for the ability to manage virtual and physical environments across the full stack.

- **Latest hardware support.** Leverage the new hardware features from Intel® Xeon® and AMD® Opteron® processors for higher performance and more efficient power management.

- **Ready for OpenStack:** Users can also install the Oracle OpenStack for Oracle Linux with Oracle VM 3.3 environments and the latest version of Oracle Linux.

- **Oracle VM Manager Web Services API (WS-API).** Beginning with 3.3 release, Oracle VM Manager exposes a fully supported Web Services API that offers both SOAP and REST interfaces to program any action supported within Oracle VM, enabling more automation and interoperability.

- **Oracle VM Manager native SSH Command Line Interface (CLI).** The new Command Line Interface can be used to perform the same functions as the Oracle VM Manager Web Interface. The CLI commands can be scripted and run securely in conjunction with the Web Interface, thus bringing more flexibility to help you deploy and manage an Oracle VM environment

- **Storage configuration and management.** Includes centralized storage configuration to manage storage in an automated, uniform way. Storage Connect plug-ins for GUI access to advanced storage functionality available from Oracle and 3rd party partners. Thin

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provisioning and cloning for storage efficiency.

- **Network configuration and management.** All Oracle VM Server logical network configuration and management is now performed using Oracle VM Manager, for example, NIC port bonding, and configuring VLAN Networks.
- **Faster software deployment with Oracle VM Templates.** Download and import pre-configured virtual machines containing pre-installed Oracle enterprise applications or other software to get up and running in hours not weeks.
- **OVF support.** Oracle VM Manager supports Open Virtualization Format (OVF) based software assemblies produced by Oracle to accelerate application deployment.
- **Rapid VM provisioning and cloning.** Sparse file support in OCFS2 enables significantly faster virtual machine provisioning and cloning; allows users more control over data allocation, improving performance and storage efficiency. OCFS2 also provides "instant" cloning capabilities to create copy-on-write clones and that can be immediately started modified on any machine in a server pool independent of the clone "source" VM.
- **Secure live VM migration.** Completely eliminate service outages associated with planned maintenance or scale up your resources quickly by migrating running VMs to other servers over secure SSL links, without interruption. Create dedicated Live Migration networks to eliminate impacts on other network traffic.
- **High availability.** Reliably and automatically restart failed VMs on other servers in the server pool after unexpected server or individual VM outage.
- **Physical-to-virtual / virtual-to-virtual machine conversion.** Quickly convert existing physical servers or non-Oracle VM virtual machines (i.e. VMDK, VHD, etc.) to Oracle VM virtual machines to reduce license expenses.
- **Virtual CPU scheduling priorities and caps per VM.** Control access to CPU between multiple VMs to align with IT/business priorities.
- **Solaris, Linux, and Windows support.** Run Solaris, Linux and Windows guest operating systems on Oracle VM to support your entire data center.
- **Send message to virtual machine.** Oracle VM allows users to send a message into a guest and retrieve it within the guest using Oracle VM guest additions. Users can use this mechanism to create custom changes inside their virtual machines.
- **Object tagging, search and filter to assist user managing large deployments.** Object tagging allows users to tag virtual machines and servers and filter by using those tags; this can help administrators to better manage a large-scale environment. Oracle VM also allows users to search for an object in their environment and jump straight to it to increase efficiency.
- **Virtual machine console access.** Redesigned to use JavaScript and HTML5 features so that there is no requirement to install or run software locally on the client computer. This change reduces complexity and provides a more reliable console tool.
- **Official certification based on real-world testing.** Certified for use with the most sophisticated enterprise workloads under real-world conditions.
- **Affordable, full-stack enterprise-class support.** Worldwide support from Oracle for the entire virtualization environment and workloads together.

Integrated Server Virtualization and Management

Consisting of Oracle VM Server for x86, open source server software, and an integrated web browser-based management console, Oracle VM Manager, Oracle VM provides an easy-to-use, feature-rich graphical interface for creating and managing virtual server pools, running on x86 based systems across the enterprise.

Users can create and manage virtual machines (VMs) that exist on the same physical server but that can behave independently, with each VM having its own virtual CPUs, network interfaces, storage, and operating system.

Oracle VM supports the following guest operating systems:

- Oracle Linux
- Oracle Solaris
- Red Hat Enterprise Linux
- SuSE Linux Enterprise Server
- CentOS
- Microsoft Windows (learn more about Windows PV Drivers)

Please refer to the product documentation for complete information on supported guest operating system configurations.

Oracle VM Server installs on physical, "bare-metal" servers from a single CD or from a network in about one minute to provide the environment for hosting guest virtual machines. Virtual machines can be created, configured, and managed on hundreds of servers to be managed centrally from a browser using the included Oracle VM Manager software.

Advanced VM Management

Creating and configuring guest VMs is only the beginning. With Oracle VM's included management solution (Oracle VM Manager), administrators can enable advanced functionality to load-balance across resource pools and automatically reduce or eliminate outages associated with server downtime.

Beginning with Oracle VM Manager 3.2, users can create SPARC server pools, virtual machines, as well as manage networking and storage in the same way this is done for x86 environments. From Oracle VM Manager the user can track and manage the two types from the same Oracle VM Manager instance .

Full Stack Management with Oracle Enterprise Manager

Oracle Enterprise Manager provides an integrated and cost-effective solution for complete physical and virtual server lifecycle management. By delivering comprehensive provisioning, patching, monitoring, administration, and configuration management capabilities via web-based user interface, Oracle Enterprise Manager significantly reduces the complexity and cost associated with managing Oracle VM, Linux, Solaris, and Windows operating system environments. Oracle Enterprise Manager helps customers to accelerate the adoption of virtualization and cloud computing to optimize IT resources, improve hardware utilization, streamline IT processes, reduce costs.

Quickly Configure and Provision Multi-Tier Applications onto Virtualized and Cloud Environments

Oracle Virtual Assembly Builder makes it possible for administrators to quickly configure and provision entire multi-tier application topologies onto virtualized and cloud environments. It provides a framework for capturing the configuration of existing software components and packaging them as self-contained building blocks known as appliances. These appliances can then be easily connected to form application blueprints known as assemblies. This innovative

approach makes it practical for complex enterprise applications to easily be customized and provisioned in their entirety with minimal to no manual intervention onto virtualized and cloud environments, powered by Oracle VM.

System Requirements

Please refer to the product documentation for specific software and hardware requirements, and other pertinent information.

Oracle VM Server is supported on Oracle and non-Oracle x86 systems. Please refer to this list of Oracle Linux and Oracle VM certified hardware to see which systems are certified to run with Oracle VM 3.

The Certified and Supported Virtualization Environment for Oracle

Oracle performs real-world testing on its broad portfolio of products with Oracle VM to ensure bulletproof reliability and streamlined support. All new Oracle product releases are certified by default, but consult Support Note 464754.1 on the My Oracle Support website for information on exact product versions certified.

Oracle VM Support: The Complete Stack, One Call Worldwide

Oracle's world-class support organization offers Oracle VM Premier Support including:

- Access to patches, fixes, and updates delivered via a subscriber network, the Unbreakable Linux Network

- 24x7 global support

Oracle VM software is available for free download. Support for Oracle VM can be purchased via Oracle VM Store.

Pricing for Oracle VM support is calculated on a per system basis: Consult Oracle's pricing guide for further details.

For Oracle x86 systems, Oracle VM support is included with Oracle Premier Support for Systems.

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Hardware and Software, Engineered to Work Together

Oracle is committed to developing practices and products that help protect the environment