

ORACLE VM SERVER VIRTUALIZATION & MANAGEMENT

OVERVIEW

ORACLE'S CERTIFIED VIRTUALIZATION SOLUTION

- Complete server virtualization and management with no license costs;
- Speeds application deployment with VM Templates;
- Modern, low overhead architecture for leading price/performance;
- Included Secure Live Migration, VM High-Availability, P2V and V2V conversion, Web Services API, and other advanced features.

Oracle VM is a free, next-generation 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.

The Virtualization Platform for Your Enterprise Server Workloads

You are facing the challenges of a rapidly expanding data center—increased operating costs, inefficient resource utilization and an appetite for real estate. But any solution also has to increase your flexibility, meet your price/performance needs, and make applications easier to deploy, manage, and support.

[Oracle VM](#) delivers:

- **Leading Performance** – Low-overhead architecture with the Xen® hypervisor provides scalable performance under increasing workloads to meet the most aggressive performance requirements;
- **Latest Hardware Support** – Leverage the new hardware features from Intel® Xeon® and AMD® Opteron® processors for higher performance and more efficient power management;
- **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;
- **Rapid VM Provisioning and Cloning** – Sparse file support in OCFS2 enables significantly faster virtual machine provisioning and cloning; allow users more control over data allocation, improving performance and storage efficiency;
- **Oracle VM Manager Command Line Interface (CLI) and Web Services API** – Enable integration of third party products with Oracle VM Manager;
- **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;
- **High Availability** – Reliably and automatically restart failed VMs on other servers in the server pool after unexpected server- or individual VM outage.

New, server pool master auto-failover feature eliminates any single point of failure for virtualization management;

- **Automatic or Manual Server Pool Load Balancing** – Guest VMs are automatically placed on the server with the most resources available in the pool at start-up, or can be started within a user-designated subset of servers;
- **Physical-to-Virtual / Virtual-to-Virtual Machine Conversion** – Quickly convert existing Linux or Windows physical servers or VMDK or VHD virtual machines 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;
- **Virtual Machine I/O Resource Management** – Set bandwidth cap for each virtual network interface and prioritize the virtual disks;
- **Importing Block Devices as Shared Virtual Disks** – Block devices can be assigned to VMs, greatly improving performance of applications such as Oracle Real Application Cluster (RAC);
- **Linux and Windows Support** – Linux and Windows guest operating systems;
- **Official Certification Based On Real-World Testing** – Supported for use with the most sophisticated enterprise workloads under real-world conditions;
- **Virtualization and Management: Zero License Costs, Zero License Keys** – Includes Oracle VM Manager for centralized, browser-based management of your resource pools;
- **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, 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 and x86_64 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 (both 32-bit and 64-bit):

- **Both paravirtualized- (PV, “virtualization aware”) and hardware-virtualized kernels:**
 - Enterprise Linux 4 and 5 (from Oracle or Red Hat®).
- **Hardware-virtualized kernels only (Virtualization support in hardware – Intel VT or AMD-V required):**
 - Red Hat Enterprise Linux 3 (32-bit PV drivers also available);
 - Windows 2008 SP1, Windows Vista, Windows 2003, Windows XP Pro

(32-bit and 64-bit PV drivers available);

- Windows 2000

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 a minute to provide the environment for hosting guest virtual machines. Virtual Machines can be created, configured, and managed from either the Oracle VM Server command-line, or hundreds of servers can 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.

The screenshot displays the Oracle VM Manager web interface. At the top, there is a navigation bar with tabs for Virtual Machines, Resources, Servers, Server Pools, and Administration. Below this, there is a search area with fields for Virtual Machine Name, Group Name, and Server Pool Name. The main content area shows a list of virtual machines under the 'LocalPool' server pool. The table below summarizes the visible VMs:

Select	Virtual Machine Name	Memory Size (MB)	Status	Owner	Group Name	Server Name	Server Pool Name
<input checked="" type="radio"/>	Win2008-64	705	Running	admin	My Workspace	worker-srv7	OCW-dsmg
<input type="radio"/>	OCW-OEL-5-32bit	512	Running	admin	My Workspace	worker-srv7	OCW-dsmg
<input type="radio"/>	OCW-OEL-5-64bit	705	Running	admin	My Workspace	worker-srv7	OCW-dsmg
<input type="radio"/>	Win2008-32	512	Running	admin	My Workspace	worker-srv1	OCW-dsmg
<input type="radio"/>	Show OracleVMManager	2,045	Running	admin	My Workspace	ovs-honpu	LocalPool
<input type="radio"/>	Show OracleVMTemplateBuilder	2,045	Running	admin	My Workspace	ovs-honpu	LocalPool

Figure 1. Oracle VM Manager Interface

[Oracle Enterprise Manager 10g Release 5](#) introduces the [Oracle VM Management Pack](#), which provides a comprehensive management solution for managing both the virtual machines and the operating systems and software running inside the virtual machines from a single product. The Oracle VM Management Pack provides integrated in-depth health and performance monitoring, configuration management, and lifecycle automation for both virtual- and physical infrastructure for maximum operational efficiency.

System Requirements

Two systems with static IP addresses are needed to install Oracle VM: one to install Oracle VM Server and the other to install Oracle VM Manager.

- Oracle VM Server installs directly on server hardware with x86 or x86_64 processors that support PAE (Physical Address Extension) and does not require a host operating system;
- Oracle VM Manager is a Java-based management server running on Linux; Oracle VM Manager uses an Oracle database as its management repository, which can be installed either on the management server or a separate server. Oracle Database Express Edition (XE), Standard Edition (SE), Enterprise Edition (EE), and Real Application Clusters (RAC) are supported as the management repository.
- Please refer to the [product documentation](#) for complete information on the system requirements.

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 [the Oracle VM Store](#).

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

More Information

For more information, visit oracle.com/virtualization



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

Copyright © 2009, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. 0609