vmware®

VMware ESX Server
Mainframe-Class Virtual Machines for the Most Demanding Environments

What Is VMware ESX Server?

VMware® ESX Server™ is virtual machine software for partitioning and consolidating systems in the most demanding environments. It is a cost-effective, highly scalable virtual machine platform with advanced resource management capabilities.

## How Is VMware ESX Server Used in the Enterprise?

Ideally suited for enterprise data centers, VMware ESX Server minimizes the total cost of ownership (TCO) of computing infrastructure by increasing resource utilization, expanding computing capacity and maximizing server manageability.

VMware ESX Server allows you to:

- **Implement server consolidation.** VMware ESX Server consolidates applications and infrastructure services running on diverse operating systems onto fewer highly scalable, reliable enterprise-class servers, including blade servers.

- **Deliver high availability and guarantee service levels.** VMware ESX Server allows clustering of virtual machines inside the same system for development and test purposes, or between systems for high availability. VMware ESX Server guarantees server resources for CPU, memory, network bandwidth, and disk I/O at optimum performance levels, improving service to internal and external customers.

- **Streamline testing and deployment.** VMware ESX Server encapsulates virtual machine images so that they can easily be moved from environment to environment, enabling software testers and quality assurance engineers to build more realistic tests in less time with less hardware.

- **Scale hardware and software infrastructure.** VMware ESX Server now includes support for VMware Virtual SMP™, enabling enterprises to run all their mission-critical applications in flexible, secure, and portable virtual machines.

"VMware ESX Server is a critical technology for our IT operation. We've been able to prepare for a highly cost-effective rollout of Exchange 2003 to our other business units because we only needed to buy two physical servers to provide a central directory, instead of eighteen. We expect the new Virtual SMP capability of ESX Server 2 to help us get even more benefits from virtualization as we apply this technology to more of our environments."

Josh Heller
Senior Technical Specialist, Black & Decker Corporation
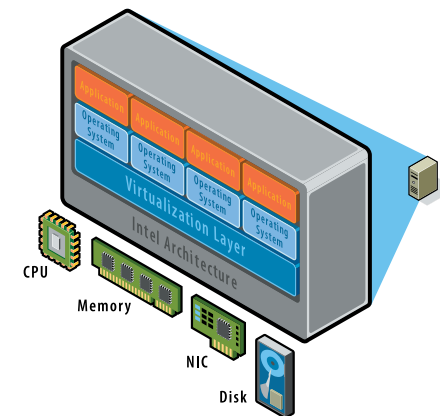
VMware ESX Server runs directly on your system hardware to provide a secure, uniform platform for easily deploying, managing, and remotely controlling multiple operating systems.

How Does VMware ESX Server Work?

VMware ESX Server transforms physical systems into a pool of logical computing resources. Operating systems and applications are isolated in multiple virtual machines that reside on a single piece of hardware. System resources are dynamically allocated to any operating system based on need, providing mainframe-class capacity utilization and control of server resources.

VMware ESX Server simplifies server infrastructure by partitioning and isolating server resources in secure and portable virtual machines. VMware ESX Server enables these server resources to be remotely managed, automatically provisioned, and standardized on a uniform platform. Advanced resource management controls allow IT administrators to guarantee service levels across the enterprise.

VMware ESX Server runs directly on the system hardware to provide a secure, uniform platform for deploying, managing, and remotely controlling multiple virtual machines.

With VMware ESX Server:

- Applications running on dedicated systems can be moved into separate virtual machines on a single, more reliable and scalable system.

- Servers can be remotely managed from any location, simplifying server maintenance.

- Service levels can be guaranteed with advanced resource management controls.

- Common monitoring and management tasks are scriptable.

- Capacity can be increased without adding new physical systems.

KEY FEATURES

- Mainframe-class dynamic logical partitioning for server consolidation

- Maximum server utilization, stability and security

- Advanced resource management controls for guaranteed service levels

- Runs directly on hardware for optimum performance levels and high scalability

- Support for a broad range of enterprise-class operating systems and applications

- Support for large storage configurations up to 64TB

- Support for VMware Virtual SMP

- Support for industry-leading blade servers

- Management User Interface to simplifies administrative tasks

NEW IN VMWARE ESX SERVER 2.1

- PXE support for guests allows you configure and install operating systems in virtual machines over the network

- VLAN (802.1q) support enhances security and leverages your existing network security infrastructure

- Hyperthreading support leverages your hardware to its fullest potential

- New graphical installer makes it more efficient and easy to install ESX Server on a set of blades or regular racks – all in one step

Why Use VMware ESX Server?	
USAGE SCENARIOS	**BENEFITS**
Server consolidation Consolidate applications and infrastructure services onto fewer highly scalable, highly reliable enterprise-class servers	• Reduced TCO across computing infrastructure • Built-in headroom for expansion and scaling • Maximum hardware utilization • Simplified system management
Streamline testing and deployment Encapsulate virtual machine images so that they can be easily moved from environment to environment, enabling more realistic tests in less time with less hardware	• Shorter deployment cycles and compressed set-up time for complex testing projects • Better project quality and lower project costs • Reduced hardware requirements
Deliver high availability and guarantee service levels Protect critical data in secure virtual machines and isolate multiple servers that run together at near-native performance levels on standard Intel-based hardware	• Protection against non-hardware errors and single point of failure for higher availability • Run IT as an enterprise service provider, delivering better service levels to customers • More control over IT performance metrics
Scale hardware and software infrastructure Run resource-intensive SMP applications such as Oracle® 9i, SQL Server®, Microsoft® Exchange server, SAP, Siebel®, Lotus Notes, BEA WebLogic, and Apache	• Increased hardware utilization rates • Improved flexibility and portability of SMP applications • Increased performance of applications running in virtual machines

SPECIFICATIONS

Provides virtual machines that include:

Processor
- Virtual Intel® IA-32 based uniprocessor system
- Virtual Intel® IA-32 based 2-way system (with VMware Virtual SMP add-on module)

Memory
- Up to 3.6GB of usable memory per vm

IDE Drives
- IDE-CD-ROM

SCSI Devices
- Up to four virtual SCSI adapters and up to 15 SCSI disks or pass-through devices per adapter
- Support for SCSI devices, including DAT and DLT SCSI tape and SCSI CD-R/RW drives

BIOS
- PhoenixBIOS™ 4.0 Release 6-based BIOS

Networking
- Up to four virtual Ethernet NICs
- Each virtual NIC may be high-performance VMware virtual NIC or AMD® PCnet™-PCI II compatible virtual NIC
- Supports any protocol that guest OS supports over Ethernet
- Multiple high-performance Ethernet-compatible virtual networks

Guest Operating Systems
- Microsoft® Windows® Server 2003
- Microsoft® Windows® XP Professional
- Microsoft® Windows® 2000: Server, Advanced Server, Terminal Services Edition
- Microsoft Windows NT®: 4.0 Server, Service Pack 4 and higher
- Red Hat 7.3, 8.0, and 9.0; Advanced Server 2.1
- SuSE Linux 8.2 and SuSE Linux Enterprise Server 8.0

SYSTEM REQUIREMENTS

Go to:
www.vmware.com/products/server/esx_specs.html for a full list of supported devices

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