PRODUCT DATASHEET

VMware ESX Server

Data Center-Class Virtual Infrastructure for Mission-Critical Environments

What Is VMware ESX Server?

VMware® ESX Server is virtual infrastructure software for consolidating and managing systems in mission-critical environments. ESX Server speeds service deployments and adds management flexibility by partitioning x86 servers into a pool of secure, portable and hardware-independent virtual machines.

How Is VMware ESX Server Used in the Enterprise?

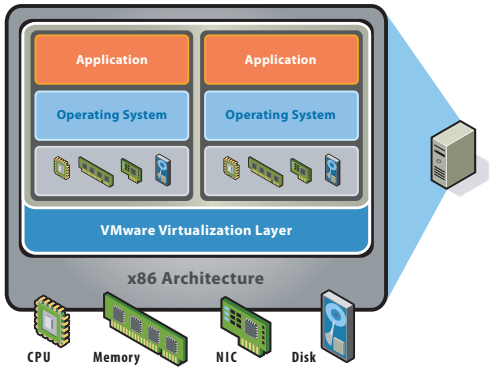
Ideally suited for enterprise data centers, ESX Server minimizes the total cost of ownership (TCO) of computing infrastructure by increasing resource utilization, minimizing maintenance downtime and maximizing server manageability.

VMware ESX Server allows you to:

- **Implement server consolidation.** ESX Server consolidates applications and infrastructure services such as Exchange, SQL Server, Notes and Oracle, running on diverse operating systems onto fewer highly scalable, reliable enterprise-class servers, including blade servers.
- **Respond faster with virtual infrastructure.** VMware Virtual Infrastructure Nodes (comprising ESX Server, VMware Virtual SMP™, VMotion™ and a VirtualCenter Agent) can be deployed and managed with VMware VirtualCenter to transform your IT infrastructure into a virtual infrastructure. VMware virtual infrastructure allows IT organizations respond faster to business demands with instant provisioning of virtual machines and dynamic resource allocation to those virtual machines as business needs change.
- **Dramatically improve and lower the cost of disaster recovery capability.** Deploying ESX Server and VirtualCenter creates a unified disaster recovery (DR) platform that allows many production servers to be recovered on a single DR server, without the need for costly one-to-one mapping of production and DR servers. Hardware-independent ESX Server virtual machines eliminate the need to maintain identical hardware at production and DR sites.

"Once we introduced VMware ESX Server, it caught on faster than I could have imagined. Even more amazing than the product's efficiency was the way it reduced our costs. VMware probably saved us several hundred thousand dollars this year on hardware purchases alone. As QUALCOMM grows, we anticipate even greater savings."

Paul Poppleton
IT Manager, QUALCOMM



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?

ESX Server uses a unique bare-metal architecture that inserts a small and highly robust virtualization layer between the x86 server hardware and the virtual machines, transforming physical systems into pools of logical computing resources.

ESX Server can host multiple differing operating systems and applications that run concurrently in isolated virtual machines. System resources are dynamically allocated to each virtual machine based on need and configured service-level guarantees, providing mainframe-class control and capacity utilization of x86 servers.

Its bare-metal design gives ESX Server complete control over the server and avoids the performance overhead, availability concerns and costs of server virtualization architectures built on a host operating system.

With VMware virtual infrastructure built on ESX Server you can:

- Streamline data center operations and reduce hardware requirements with server consolidation ratios commonly exceeding eight virtual machines per physical processor.
- Guarantee service levels to applications and dynamically change system resource allocations.
- Instantly provision new virtual servers using hardware independent templates as business needs demand.
- Use the optional VMotion feature for migrating live virtual machines between physical servers for dynamic load balancing and zero-downtime maintenance on live systems.
- Manage ESX Servers and their virtual machines remotely from any location using the management applications you already own or tools from VMware.

KEY FEATURES

- Data center-class dynamic logical partitioning for server consolidation
- Unique bare-metal architecture puts a compact and highly secure virtualization layer directly on the hardware for optimum performance levels, maximum reliability and high scalability
- Virtual machine I/O passes directly through to host devices for performance exceeding hosted virtualization technologies
- VMware Virtual SMP option supports enterprise workloads in multi-processor virtual machines
- Resource controls for virtual machine CPU, memory, disk, and network usage support service level guarantees
- Advanced memory management features permit overcommitment of memory resources for cost-effective scalability
- Supports most common x86 server and blade systems
- Encapsulates virtual machines in easily managed hardware-independent container files
- Revolutionary VMotion technology (optional) allows zero-downtime migrations when managed by VMware VirtualCenter
- Built-in support for NIC teaming, SAN multipathing and VLANs provides data center-level availability

NEW IN VMWARE ESX SERVER 2.5

- Boot ESX Server hosts directly from Storage Area Networks (SANs)
- SAN transparency lets virtual machines use native SAN storage with the same ease and flexibility as virtual disk files
- Use SAN-based utilities for virtual machine backup and replication
- Support for scripted and automated ESX Server host installations
- Common Information Model (CIM)-compliant API and object model for monitoring of ESX Server host and virtual machine storage resources from any CIM-aware client or management tool

Why Use VMware ESX Server?

USAGE SCENARIOS	BENEFITS
Implement Server consolidation Consolidate branch office and data center mission-critical applications and infrastructure services onto fewer highly scalable, highly reliable enterprise-class servers. Virtualizing blade servers is an especially effective approach.	• Achieve up to 60-80% server utilization • Reduce TCO across computing infrastructure • Improve scaling with built-in headroom for expansion • Simplify system management
Improve Flexibility and Responsiveness Use VirtualCenter to deploy and manage ESX Server Virtual Infrastructure Nodes and manage your hardware resources as a single pool of compute, storage and networking power. Dynamically load balance workloads across the pool, and avoid planned downtimes.	• Provision new applications in tens of seconds, not days • Respond to system change requests in minutes • Conduct zero-downtime hardware maintenance without waiting for maintenance windows
Deliver High Availability and Guarantee Service Levels Protect critical data in secure virtual machines that can be clustered with physical and virtual systems. Precisely control system resources granted to virtual machines and run them across multiple processors with Virtual SMP (optional).	• Create low-cost virtual machine clusters providing hardware and software fault-tolerance • Run resource-intensive server workloads like Oracle, SQL Server, Exchange and SAP on multiprocessor virtual machines • Reliably meet IT performance metrics • Run IT as an enterprise service provider delivering better service levels to customers
Dramatically Lower the Cost of Disaster Recovery Capability Create a unified disaster recovery platform using ESX Server virtual machines as standby servers. A single x86 system can host multiple disaster recovery virtual machines maintained in a hot or cold state.	• Streamline disaster recovery management, increase availability, reduce recovery time and lower hardware and operational costs • Eliminate the need for costly one-to-one mapping of production and disaster recovery servers • Recover virtual machine images on any x86 hardware platform

SPECIFICATIONS

Provides virtual machines that include:

Processor
- Virtual Intel or AMD x86 based uniprocessor system
- Virtual Intel or AMD x86 based 2-way system (with VMware Virtual SMP add-on module)

Memory
- Up to 3.6GB per virtual machine

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
- Virtual disk sizes up to 9TB
- 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 network adapters
- Supports any protocol that guest operating system can support over Ethernet
- Multiple high-performance Ethernet-compatible virtual networks per ESX Server host

Guest Operating Systems
- Microsoft® Windows® Server 2003: Standard, Enterprise, Web Editions, and Small Business Server
- Microsoft® Windows® 2000: Server and Advanced Server
- Microsoft Windows NT®: 4.0 Server
- Microsoft® Windows® XP Professional
- Red Hat Linux 7.2, 7.3, 8.0, and 9.0; Red Hat Enterprise Linux 2.1 and 3
- SUSE Linux 8.2, 9.0 and 9.1; SUSE Linux Enterprise Server 8 and 9
- Novell NetWare 5.1, 6.0 and 6.5
- FreeBSD 4.9

SYSTEM REQUIREMENTS

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

VMware, Inc. 3145 Porter Drive Palo Alto CA 94304 USA Tel 650-475-5000 Fax 650-475-5001 www.vmware.com

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