

# VMware vSphere

Enterprise and Enterprise Plus Editions

## AT A GLANCE

Designed for organizations that want to virtualize their entire datacenters and deliver IT as a service, VMware® vSphere® Enterprise and Enterprise Plus editions include the full range of vSphere features for transforming datacenters into dramatically simplified cloud computing environments that can deliver the next generation of flexible, reliable IT services.

## KEY BENEFITS

- **Efficiency through utilization and automation** – Achieve consolidation ratios of 15:1 or more and improve hardware utilization from 5–15 percent to as much as 80 percent or more—without sacrificing performance.
- **Dramatically lower IT costs** – Reduce capital expenditures by up to 70 percent and operational expenditures by up to 30 percent to achieve 20–30 percent lower IT infrastructure costs for each application running on vSphere.
- **Agility with control** – Respond quickly to changing business needs without sacrificing security or control, and deliver zero-touch infrastructure with built-in availability, scalability and performance guarantees for all business-critical applications running on vSphere.
- **Freedom of choice** – Use a common, standards-based platform to leverage existing IT assets alongside next-generation IT services, and enhance vSphere through open APIs with solutions from a global ecosystem of leading technology providers.

## What is VMware vSphere?

VMware vSphere is the industry-leading virtualization platform for building cloud infrastructures. It enables users to run business-critical applications with confidence and respond faster to business needs.

vSphere accelerates the shift to cloud computing for existing datacenters and also underpins compatible public cloud offerings, forming the foundation for the industry's only hybrid cloud model. With more than 250,000 customers worldwide and the support of more than 2,500 applications from more than 1,400 ISV partners, VMware vSphere is the trusted platform for any application.

## How is vSphere Used?

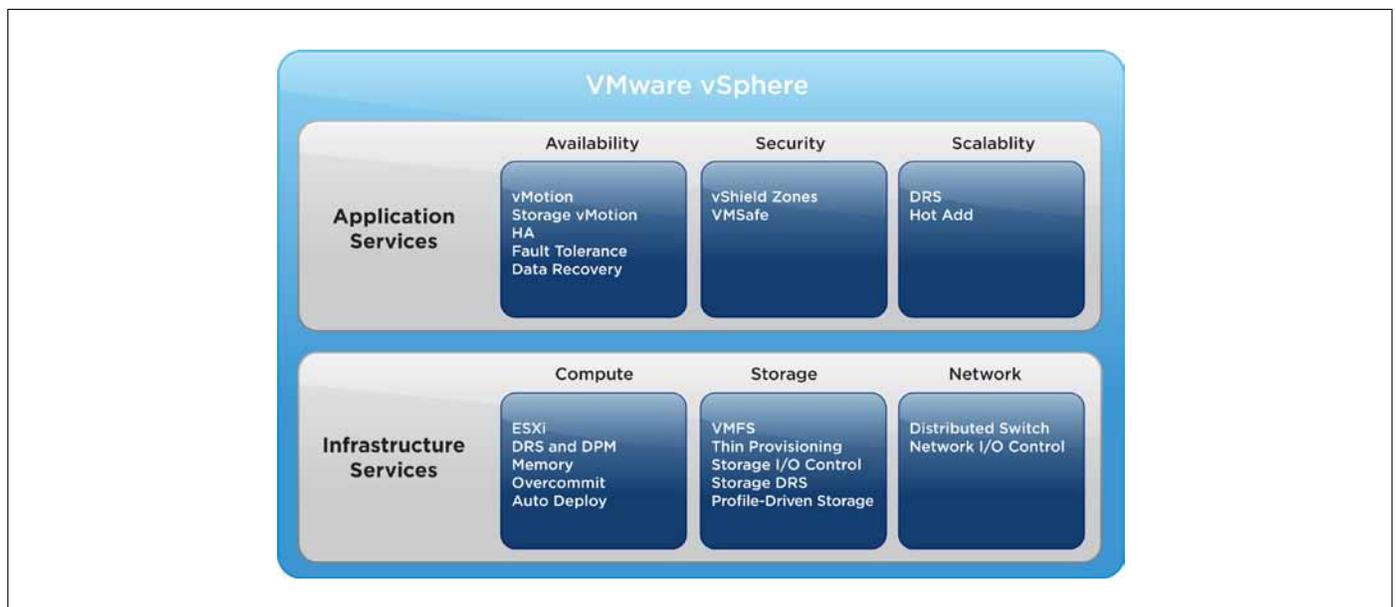
- **Consolidate and optimize IT hardware**—vSphere enables IT organizations to delay costly and disruptive datacenter expansion projects by making it possible to consolidate 15 or more virtual machines on a single physical server without sacrificing performance or throughput.
- **Improve business continuity**—vSphere helps organizations reduce the cost and complexity of business continuity and disaster recovery with always-on IT capabilities and layered protection against service outages and data loss.
- **Streamline IT operations**—vSphere lowers operational overhead and dramatically simplifies the management of large, geographically distributed development, quality assurance and production IT environments.
- **Deliver IT as a service**—vSphere is the only virtualization platform that gives customers the power to realize the benefits of cloud computing while maintaining security, compliance and complete control over corporate assets.

# Key Features and Components

## Infrastructure Services

- **VMware vSphere ESXi™ hypervisor architecture** provides a robust, production-proven, high-performance virtualization layer. It allows multiple virtual machines to share hardware resources with performance that can match (and in some cases exceed) native throughput.
- **vSphere Virtual Symmetric Multiprocessing (SMP)** enables the use of ultrapowerful virtual machines that possess up to 32 virtual CPUs.
- **VMware virtual hardware** can support 1TB RAM, and a variety of next-generation hardware, such as 3D graphics processors and USB 3.0 devices.
- **vSphere Auto Deploy** enables deployment in minutes and “on the fly” of additional VMware vSphere hosts running the ESXi hypervisor architecture. Once running, it pushes out update images, eliminating patching and the need to schedule patch windows.
- **vSphere Virtual Machine File System (VMFS) 5** allows virtual machines to access shared storage devices (Fibre Channel, iSCSI, etc.) and is a key enabling technology for other vSphere components such as vSphere Storage vMotion.
- **vSphere Storage APIs** provide integration with supported third-party data-protection, multipathing and disk-array solutions.

- **vSphere Distributed Resource Scheduler (DRS)** provides dynamic, hardware-independent load balancing and resource allocation for virtual machines in a cluster, using policy-driven automation to reduce management complexity while enhancing compliance with service-level agreements (SLAs).
- **vSphere Distributed Power Management (DPM)**, included with VMware vSphere DRS, automates energy efficiency in VMware DRS clusters by continuously optimizing server power consumption within each cluster.
- **vSphere vNetwork Distributed Switch** simplifies and enhances virtual-machine networking in vSphere environments and enables third-party distributed virtual switches such as the Cisco Nexus 1000V to be used in VMware vSphere environments.
- **vSphere vStorage Thin Provisioning** provides dynamic allocation of shared storage capacity, allowing IT organizations to implement a tiered storage strategy while reducing storage spending by up to 50 percent.
- **vSphere Storage I/O Control** sets storage quality-of-service priorities for guaranteed access to storage resources.
- **vSphere Storage DRS automated** load balancing uses storage characteristics to determine the best place for a given virtual machine’s data to reside both when it is created and when it is used over time.
- **vSphere Profile-Driven Storage** reduces the steps in the selection of storage resources by grouping storage according to a user-defined policy.
- **vSphere Network I/O Control** sets network quality-of-service priorities for guaranteed access to network resources.



VMware vSphere provides a complete virtualization platform with a comprehensive set of application and infrastructure services.

## Application Services

- **VMware vSphere vMotion** enables live migration of virtual machines between servers with no disruption to users or loss of service, eliminating the need to schedule application downtime for planned server maintenance.
- **vSphere Storage vMotion** enables live migration of virtual-machine disks with no disruption to users, eliminating the need to schedule application downtime for planned storage maintenance or during storage migrations.
- **vSphere High Availability (HA)** provides cost-effective, automated restart within minutes for all applications in the event of hardware or operating system failures.
- **vSphere Fault Tolerance (FT)** provides continuous availability of any application in the event of hardware failures—with no data loss or downtime.
- **vSphere Data Recovery** provides simple, cost-effective, agentless backup and recovery for virtual machines in smaller environments.
- **vSphere vShield Zones** simplifies application security by enforcing corporate security policies at the application level in a shared environment while maintaining trust and network segmentation of users and sensitive data.
- **vSphere VMsafe APIs** enable the use of security products that work in conjunction with the virtualization layer to provide higher levels of security to virtual machines than are possible even with physical servers.
- **Hot add** enables CPU and memory to be added to virtual machines when needed without disruption or downtime.
- **Hot plug** enables virtual storage and network devices to be connected to or disconnected from virtual machines without disruption or downtime.
- **Hot extend** of virtual disks allows virtual storage to be added to running virtual machines without disruption or downtime.

## Management Services

- **VMware vCenter Agent** allows vSphere hosts to connect to vCenter Server for centralized management of all host and virtual machines.
- **Host profiles** help IT administrators simplify host deployment and compliance by creating virtual machines from configuration templates.
- **Virtual Serial Port Concentrator** enables network connections via the serial port concentrator to the serial port console on any server.
- **vSphere Update Manager** automates tracking, patching and updating for vSphere hosts, and for applications and operating systems running in VMware virtual machines.

- **VMware vCenter Converter** allows IT administrators to rapidly convert physical servers and third-party virtual machines into VMware virtual machines.
- **vSphere Web Client** enables IT administrators to manage the essential functions of vSphere from any browser anywhere in the world.

## Customer Success Stories

**Campbell Clinic**, one of the leading centers of orthopedic teaching and practice in the United States, uses vSphere to consolidate server hardware, reduce overhead and ensure high availability.

Read the Campbell Clinic success story:

[http://www.vmware.com/go/customer\\_success/campbell\\_clinic](http://www.vmware.com/go/customer_success/campbell_clinic)

**Financial Technologies India Ltd. (FTIL)**, owner and operator of 10 international financial exchanges in Africa, India, the Middle East and Southeast Asia, adopted vSphere to maximize its existing real estate and infrastructure, achieving 50:1 consolidation ratios while running SAP and Microsoft applications in production environments.

Read the FTIL success story:

[http://www.vmware.com/go/customer\\_success/ftil](http://www.vmware.com/go/customer_success/ftil)

**Marshall University**, the oldest public institution of higher learning in West Virginia, has leveraged vSphere to extend the life of an overcrowded datacenter while reducing IT expenditures and accelerating server provisioning time.

Read the Marshall University success story:

[http://www.vmware.com/go/customer\\_success/marshall\\_u](http://www.vmware.com/go/customer_success/marshall_u)

**Southwestern/Great American**, an employee-owned corporation founded in 1855, relies on vSphere to run a rock-solid SAP enterprise resource planning (ERP) infrastructure.

Read the Southwestern success story:

[http://www.vmware.com/go/customer\\_success/southwestern\\_great\\_american](http://www.vmware.com/go/customer_success/southwestern_great_american)

**SonicWALL**, a leader in unified threat management security, has virtualized 95 percent of its customer-facing applications with vSphere.

Read the SonicWALL success story:

[http://www.vmware.com/go/customer\\_success/sonicwall](http://www.vmware.com/go/customer_success/sonicwall)

## VMware vSphere Editions

### VMware vSphere Enterprise

VMware vSphere Enterprise edition includes capabilities such as high availability, data recovery, VMware vSphere vMotion, hot add, VMware vSphere vShield Zones, fault tolerance, VMware vSphere Storage vMotion, VMware vShield DRS, VMware vSphere DPM, Virtual Serial Port Concentrator, and VMware vSphere Storage APIs for array integration and multipathing.

### VMware vSphere Enterprise Plus

VMware vSphere Enterprise Plus includes all the capabilities of vSphere Enterprise, along with an expanded memory entitlement, 32-way VMware vSphere Virtual SMP, VMware vSphere Distributed Switch, VMware Host Profiles, VMware vSphere Auto-Deploy, VMware vSphere Storage I/O Control, VMware vSphere Network I/O Control, VMware vSphere Profile-Driven Storage and VMware vSphere Storage DRS.

## Additional vSphere Products and Add-ons

**VMware vCenter Server**—vCenter Server provides unified management for the entire virtual infrastructure and enables many key vSphere capabilities such as live migration. vCenter Server can manage thousands of virtual machines across multiple locations and streamlines administration with features such as rapid provisioning and automated policy enforcement.

**Note: vCenter Server is a required element of a complete vSphere implementation and is licensed separately on a per-instance basis.**

**Cisco Nexus 1000V**—This pure-software network switch integrates with vSphere to deliver virtualization-aware network services. It is available for purchase as an add-on product for use with vSphere Enterprise Plus.

### Support and Professional Services

VMware offers global subscription and support (SnS) services to all VMware vSphere customers. For customers requiring additional services, VMware also offers professional services engagements on best practices and getting started with your vSphere deployment, both directly and through an extensive network of certified professionals.

<http://www.vmware.com/services/>

### How to Buy

To purchase VMware vSphere, use the online VMware Partner Locator to find an authorized reseller in your area:

<http://partnerlocator.vmware.com/>

You can also visit the online VMware Store to determine which kit or edition of vSphere is right for your organization: <http://www.vmware.com/vmwastore/datacenter-products/>

If you are an existing VMware vSphere or VMware Infrastructure 3 customer, visit the vSphere Upgrade Center to determine the appropriate upgrade path for your organization:

<http://www.vmware.com/products/vsphere/upgrade-center/>

For organizations that are new to virtualization, VMware offers solution bundles called vSphere Acceleration Kits that combine a VMware vSphere edition with VMware vCenter Server. They are available for up to 30 percent off the list price:

<http://www.vmware.com/vmwastore/buyvsphere-acceleration-kits.html>

## Learn More

For information or to purchase VMware products, call 877-4-VMWARE (outside of North America dial 650-427-5000), visit <http://www.vmware.com/products>, or search online for an authorized reseller. For detailed specifications and systems requirements, refer to the VMware vSphere documentation.

