VMware vSphere™ 4

Pricing, Packaging and Licensing Overview

vmware®

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Introduction to VMware vSphere™ 4

VMware vSphere™ 4, the industry's most widely deployed virtualization platform, transforms datacenters into dynamic, simplified infrastructures for private, public and hybrid cloud environments.

VMware vSphere components include:

• VMware ESX® and VMware ESXi™

• VMware vCenter™ Server Agent, which allows central management using VMware vCenter Server

• VMware vStorage Virtual Availability Machine File System (VMFS), virtual SMP, VMware vCenter Update Manager, VMware vMotion™, VMware Storage vMotion, VMware High Availability (HA), VMware Distributed Resource Schedule (DRS) with VMware Distributed Power Management (DPM), VMware vStorage Thin Provisioning, VMware Data Recovery, VMware vShield Zones, VMware Fault Tolerance, VMware Host Profiles, VMware vNetwork Distributed Switch, VMware Hot Add, VMware vStorage APIs / VMware Consolidated Backup (VCB)

VMware vCenter Server is also a critical component of VMware vSphere deployments, enabling central management and providing access to many of the features of VMware vSphere. VMware vCenter Server is purchased separately.

This whitepaper outlines the various VMware vSphere and VMware vCenter Server editions and the latest changes to pricing, licensing, upgrade paths and Support and Subscription (SnS) entitlements.

Pricing, Packaging and Licensing Overview

VMware vSphere pricing, packaging and licensing simplify purchasing, deployment and ongoing support for customers.

• **Capacity pricing per populated processor socket.**
  VMware vSphere is licensed based on the number of processors on the physical host. Customers can purchase and deploy or redeploy any mix of servers, as required. Each processor in a socket may contain multiple cores. VMware customers may deploy VMware vSphere on physical processors that contain up to six processing cores at no additional charge. VMware vSphere Advanced and VMware vSphere Enterprise Plus editions provide an expanded core entitlement and allow customers to deploy on processors that contain up to 12 processing cores. Additional information may be found at
  http://www.vmware.com/download/eula/multicore.html

• **VMware vSphere editions.**
  To make the customer's decision-making and purchasing process easier, VMware vSphere is available in three main offerings targeted for various deployment scenarios: VMware vSphere Standard, VMware vSphere Advanced and VMware vSphere Enterprise Plus[1].

• **VMware vSphere for small businesses and branch offices.**
  For small businesses or small office environments looking for all-in-one solutions. VMware offers four new packages: VMware vSphere Essentials, VMware vSphere Essentials Plus, VMware vSphere Essentials for Retail and Branch Offices, and VMware vSphere Essentials Plus for Retail and Branch Offices.

• **Centralized licensing mechanism.**
  VMware vCenter Server (purchased separately) provides central management of VMware vSphere hosts and central management of VMware vSphere licenses as a native feature. No separate licensing mechanism (e.g., separate license server) is required.

VMware vCenter Server is a required component of a complete VMware vSphere deployment and provides centralized management, provisioning, updating and orchestration of VMware vSphere hosts. One instance is required to centrally manage and enable most features of VMware vSphere. VMware vCenter Server is purchased separately for Standard, Advanced, and Enterprise Plus editions, and "VMware vCenter Server for Essentials Plus" is integrated in the all-in-one Essentials and Essentials Plus package (including the Retail and Branch Office editions.).

What's New in VMware vSphere

The new features in VMware vSphere include:

• **VMware Data Recovery** – provides simple, cost effective, agentless backup and recovery for virtual machines.

• **VMware Fault Tolerance** – provides continuous availability, without any data loss or downtime, to any application, in the event of hardware failures.

• **VMware Hot Add** – enables CPU and memory to be added to virtual machines when needed without disruption or downtime.

• **VMware Host Profiles (available through VMware vCenter Server)** – standardizes and automates configuration of VMware vSphere hosts by capturing a reference host configuration and ensuring compliance for resource, networking, storage and security settings.

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1. VMware vSphere Enterprise will also be available for existing VMware Infrastructure 3 Enterprise customers during a transitional period.

All prices are suggested list prices for the United States. Local pricing may vary.

• **VMware vStorage Thin Provisioning** – provides dynamic allocation of storage capacity, allowing storage purchases to be deferred until they are really required, reducing storage spending by up to 50 percent.

• **VMware vNetwork Distributed Switch** – simplifies and enhances the provisioning, administration and control of virtual machine networking in VMware vSphere environments. It also enables third-party distributed virtual switches such as the Cisco Nexus 1000V to be used in VMware vSphere environments, providing network administrators with familiar interfaces to control quality of service at the virtual machine level.

• **VMware vShield Zones** – simplifies application security by enforcing corporate security policies at the application level in a shared environment, while still maintaining trust and network segmentation of users and sensitive data.

VMware vSphere Editions

VMware vSphere Standard provides an entry-level solution for basic consolidation of applications to slash hardware costs while accelerating application deployment.

VMware vSphere Standard includes:

• VMware ESXi and VMware ESX (deployment-time choice)[2]

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VMware Consolidated Backup (VCB)

• VMware vCenter Update Manager

• VMware HA

• VMware vStorage Thin Provisioning

VMware vSphere Standard is available for USD $795 per one processor with up to six cores for use on a server with up to 256GB of memory.

VMware vSphere Advanced provides a strategic consolidation solution that protects all applications against planned and unplanned downtime to provide superior application availability.

VMware vSphere Advanced includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VMware Consolidated Backup (VCB)

• VMware vCenter Update Manager

• VMware High Availability (HA)

• VMware vStorage Thin Provisioning

• VMware vMotion

• VMware Hot Add

• VMware Fault Tolerance

• VMware Data Recovery

• VMware vShield Zones

VMware vSphere Advanced is available for USD $2,245 per one processor with up to 12 cores for use on a server with up to 256GB of memory.

VMware vSphere Enterprise provides key features for minimizing downtime, protecting data and automating resource management.

VMware vSphere Enterprise includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VCB

• VMware vCenter Update Manager

• VMware HA

• VMware vStorage Thin Provisioning

• VMware vMotion

• VMware Hot Add

• VMware Fault Tolerance

• VMware Data Recovery

• VMware vShield Zones

• VMware Storage vMotion

• VMware DRS

• VMware DPM

2. VMware ESX and VMware ESXi are both enterprise-class hypervisors that provide the foundation for a vSphere deployment. Customers can choose to deploy either hypervisor. VMware ESXi is the next generation architecture with a small footprint and operating system independent design. VMware ESX maintains legacy compatibility with certain customer developed scripts and some third-party solutions.

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VMware vSphere Enterprise is available for USD $2,875 per one processor with up to six cores for use on a server with up to 256GB of memory.

VMware vSphere Enterprise Plus includes the full range of VMware vSphere features for transforming datacenters into dramatically simplified cloud computing environments providing the next generation of flexible, reliable IT services.

VMware vSphere Enterprise Plus includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Eight-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VCB

• VMware vCenter Update Manager

• VMware HA

• VMware vStorage Thin Provisioning

• VMware vMotion

• VMware Hot Add

• VMware Fault Tolerance

• VMware Data Recovery

• VMware vShield Zones

• VMware Storage vMotion

• VMware DRS

• VMware DPM

• VMware vNetwork Distributed Switch

• VMware Host Profiles

VMware vSphere Enterprise Plus is available for USD $3,495 per one processor with up to 12 cores with no license limitation on the memory configuration. VMware vSphere Enterprise Plus is also offered as a bundle with the Cisco Nexus 1000V. The price for this bundle is USD $3,995 per one processor with up to 12 cores with no license limitation on the memory configuration.

Support and Subscription (SnS) is available for all the VMware vSphere editions above. A minimum of one year of SnS is required for each license.

VMware vCenter Server is a required and separate purchase in order to centrally manage and enable many VMware vSphere features.

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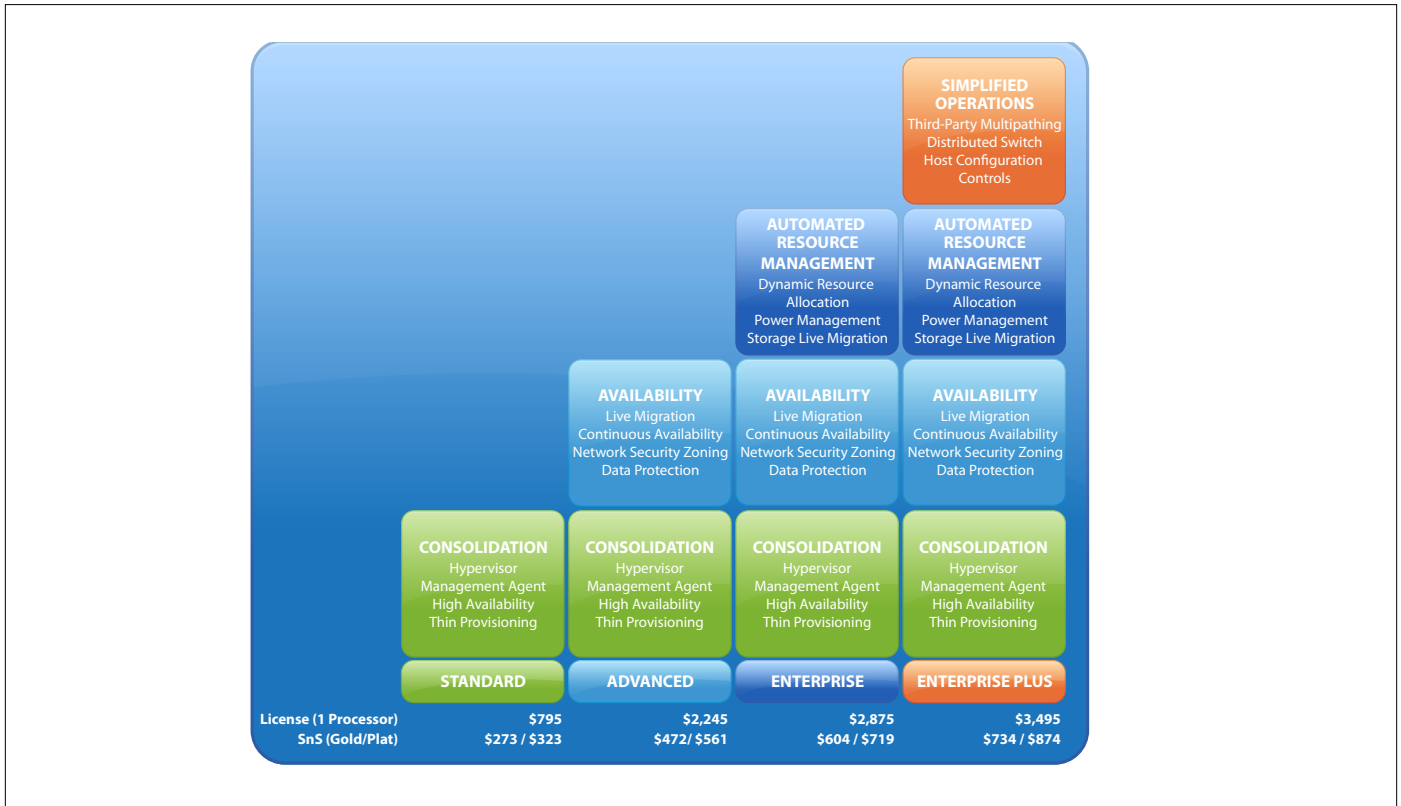
Figure 1 VMware vSphere Editions and Pricing

VMware vSphere Editions for Small Businesses and Branch Offices

VMware vSphere Essentials and VMware vSphere Essentials Plus are both targeted to smaller deployments. They provide all-in-one license solutions and include licenses for three physical servers (up to two processors each) and a central management server. All editions are self-contained solutions and may not be decoupled or combined with other VMware vSphere editions.

VMware vSphere Essentials provides an all-in-one solution for small offices to virtualize three physical servers for consolidating and managing applications to reduce hardware and operating costs with a low up-front investment.

VMware vSphere Essentials includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VCB

• VMware vCenter Update Manager

• VMware vCenter Server for Essentials

VMware vSphere Essentials is available for USD $995 including one year of subscription. Support is optional and available on a per incident basis.

All prices are suggested list prices for the United States. Local pricing may vary.

VMware vSphere Essentials Plus provides an all-in-one solution for small offices to virtualize three physical servers to reduce hardware costs while ensuring superior application availability and data protection.

VMware vSphere Essentials Plus includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way Virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VMware Consolidated Backup (VCB)

• VMware vCenter Update Manager

• VMware HA

• VMware Data Recovery

• VMware vCenter Server for Essentials

VMware vSphere Essentials Plus is available for USD $2,995. Support and Subscription (SnS) is sold separately. A minimum of one year of SnS is required.
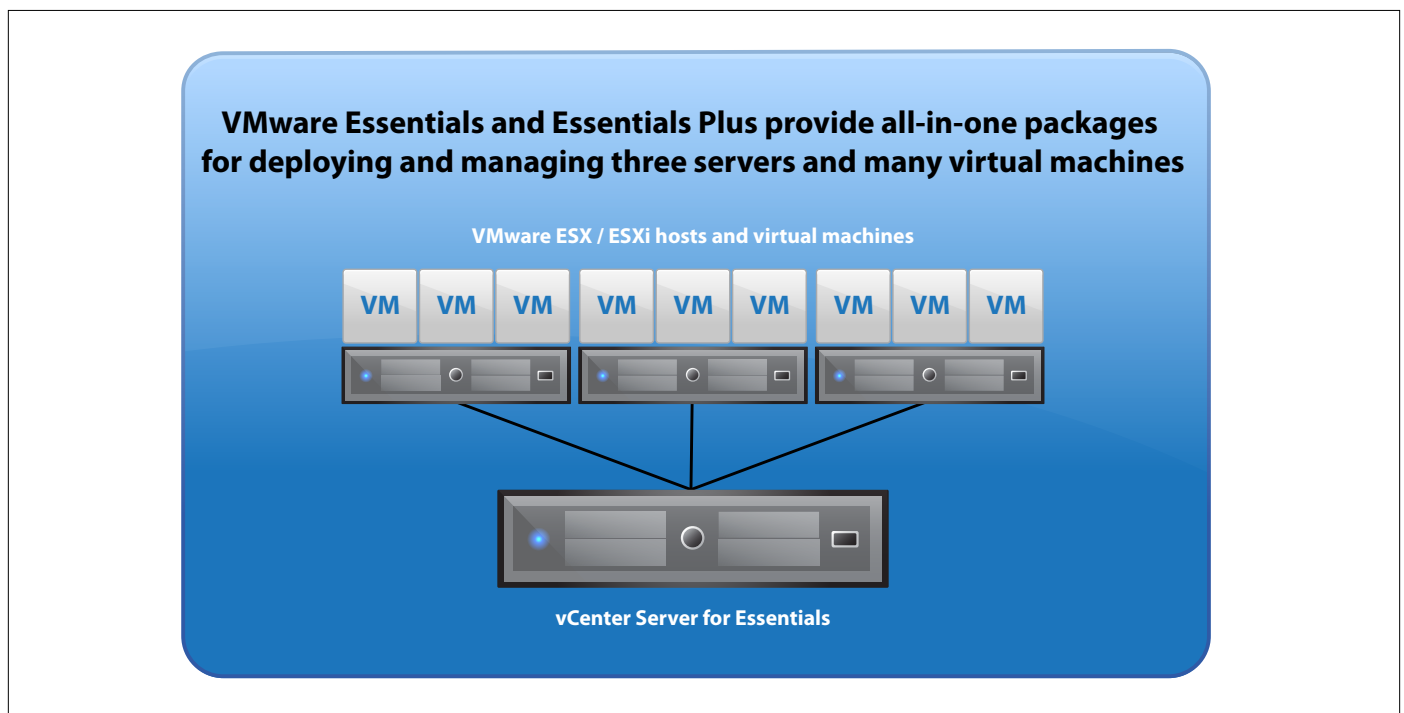

VMware Essentials and Essentials Plus provide all-in-one packages for deploying and managing three servers and many virtual machines

VMware ESX / ESXi hosts and virtual machines

VM VM VM VM VM VM VM VM VM

vCenter Server for Essentials

Figure 2 VMware vSphere Essentials Deployment

VMware vSphere Essentials for Retail and Branch Offices offers a package solution for each of an enterprise's branch offices to extend agility, security, and efficiency across the organization.

vSphere Essentials for Retail and Branch Offices includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VCB

• VMware vCenter Update Manager

• VMware vCenter Server for Essentials
  (VMware vCenter Server Standard available separately)

VMware vSphere Essentials for Retail and Branch Offices is available for USD$995 per package. Support and Subscription (SnS) is sold separately, and a minimum of one year of SnS is required. There is a maximum of three virtualized hosts per site, and a minimum initial order quantity of 10 packages.

All prices are suggested list prices for the United States. Local pricing may vary.

VMware vSphere Essentials Plus for Retail and Branch Offices provides a turnkey solution to transform all of an enterprise's branch offices into more agile, secure, and cost-effective businesses with superior application availability and data protection.

vSphere Essentials Plus for Retail and Branch Offices includes:

• VMware ESXi and VMware ESX (deployment-time choice)

• VMware vStorage VMFS

• Four-way virtual SMP

• VMware vCenter Server Agent

• VMware vStorage APIs / VMware VCB

• VMware vCenter Update Manager

• VMware HA

• VMware Data Recovery

• VMware vCenter Server for Essentials (vCenter Server Standard available separately)

VMware vSphere Essentials Plus is available for USD $2,995 per package. Support and Subscription (SnS) is sold separately, and a minimum of one year of SnS is required. There is a maximum of three virtualized hosts per site, and a minimum initial order quantity of 10 packages.

All prices are suggested list prices for the United States. Local pricing may vary.

Management Servers

VMware vCenter Server (formerly known as VMware VirtualCenter Server) is the central management tool for configuring, provisioning and managing distributed virtual IT environments. Purchased separately, it is required for managing VMware vSphere hosts and enabling many of the features. VMware vCenter Server is licensed per instance and environments comprising of ESX hosts that form one logical datacenter typically require only one instance of VMware vCenter Server. VMware vCenter Server is available in the following editions:

VMware vCenter Server Standard.
Provides large scale management of VMware vSphere deployments for rapid provisioning, monitoring, orchestration and control of virtual machines.

VMware vCenter Server Foundation.
Provides powerful management tools for smaller environments (up to three VMware vSphere hosts) looking to rapidly provision, monitor and control virtual machines.

VMware vCenter Server for Essentials.
Integrated into the VMware vSphere Essentials and Essentials Plus editions for small office deployments.

VMware vCenter Server Foundation, VMware vCenter Server Standard and VMware vCenter Server for Essentials include the following key components:

• A **management server**, the universal hub for provisioning, monitoring and configuring virtualized environments.

• A **database server** that stores persistent configuration data and performance information.

• A **search engine** that allows administrators to search the entire object inventory of multiple VMware vCenter Servers from one place.

• The **VMware vSphere Client** that provides administrators with a feature-rich console for accessing one or more VMware vCenter Servers simultaneously.

• The **VMware vCenter Web Access** portal that provides remote access from any system.

• **VMware vCenter APIs** and a **.NET Extension** that allow integration between VMware vCenter Server and other tools, and support customized plug-ins to the VMware vSphere Client.

VMware vCenter Server Standard includes the following additional features:

• **VMware vCenter Orchestrator**, an IT process automation engine that gives administrators the tools they need to better automate the environment.

• **VMware vCenter Server Linked Mode** that enables a common inventory view across multiple instances of VMware vCenter Server.

Figure 3 VMware vSphere Management Server Pricing

VI Management	License	SnS (Gold/Plat)
vCenter Server Standard	$4,995	$1,049/$1,249

- No host limit
- Includes Linked Mode
- Includes Orchestrator

vCenter Server Foundation	$1,495	$545/$645

- 3 ESX host limit

Per Instance (USD)

All prices are suggested list prices for the United States. Local pricing may vary.

À la Carte Features

In contrast to VMware Infrastructure 3 packages, very few VMware vSphere features are available for purchase individually. Most features are only available when purchased within one of the VMware vSphere editions listed above. However, two VMware vSphere features are available separately: VMware ESXi, and VMware Data Recovery. The Cisco Nexus 1000V is a third-party product that can be purchased separately for use exclusively with VMware vSphere Enterprise Plus.

VMware ESXi, a powerful, enterprise-class hypervisor, continues to be available for free with options for supplemental Support and Subscription.

VMware Data Recovery is available for purchase as an add-on module with VMware vSphere Standard. Note that this add-on is treated as an upgrade to the VMware vSphere Standard license. While the table below lists the incremental Support and Subscription (SnS) for VMware Data Recovery, the total SnS price will include extending the VMware vSphere Standard contract by one year. See the section titled "Upgrades to VMware VMware vSphere Editions" below.

Cisco Nexus 1000V is a software network switch that integrates with VMware vSphere to deliver virtual machines-aware network services and is available for purchase as an add-on product for use with VMware vSphere Enterprise Plus.

VI Add-ons	License	SnS (Gold/Plat)
ESXi Single Server - Per incident support available at $299/incident	FREE	$495/$595 (optional)
Data Recovery - Only available for sale with vSphere Standard	$695	$146/$174
Cisco Nexus 1000V - Only available for sale with vSphere Enterprise Plus	$695	$146/$174
		Per Processor (USD)

Figure 4 À la Carte Pricing: VMware vSphere

All prices are suggested list prices for the United States. Local pricing may vary.

VMware vSphere Support and Subscription Entitlements

One benefit of VMware Support and Subscription is the entitlement rights to new features and upgrades. Existing VMware Infrastructure 3 customers who have active Support and Subscription (SnS) contracts will receive new VMware vSphere licenses at no extra charge, as outlined below:

VMWARE INFRASTRUCTURE 3 (VI3)	VMWARE VSPHERE 4	ADDED FUNCTIONALITY
VI3 Foundation	vSphere Standard	vStorage Thin Provisioning High Availability
VI3 Standard	vSphere Standard	vStorage Thin Provisioning
VI3 Enterprise	vSphere Enterprise	vStorage Thin Provisioning Fault Tolerance Hot Add vShield Zones Data Recovery
VI3 Foundation + VMotion	vSphere Standard + VMotion + Storage VMotion	vStorage Thin Provisioning VMware HA
VI3 Standard + VMotion	vSphere Standard + VMotion + Storage VMotion	vStorage Thin Provisioning
VI3 Foundation + VMotion + VMware DRS	vSphere Enterprise	VMware HA vStorage Thin Provisioning Fault Tolerance Hot Add vShield Zones Data Recovery
VI3 Standard + VMotion + VMware DRS	vSphere Enterprise	vStorage Thin Provisioning Fault Tolerance Hot Add vShield Zones Data Recovery

Table 1 VMware vSphere SnS Entitlements

All prices are suggested list prices for the United States. Local pricing may vary.

Upgrades to VMware vSphere Editions

VMware vSphere customers with an active Support and Subscription (SnS) contract may purchase an upgrade to a higher VMware vSphere edition. For example, VMware vSphere Standard customers can upgrade to either VMware vSphere Advanced or VMware vSphere Enterprise Plus. Upgrade prices are listed in Figure 5 under "License Upgrade."

When customers upgrade supported licenses to a higher VMware vSphere edition, the original license key is deactivated and a new license key is issued for the upgraded edition. The SnS fee is calculated based on a minimum of one year of the new edition. That is, a customer upgrading from VMware vSphere Standard to Advanced must buy at least one year of VMware vSphere Advanced SnS. This new SnS contract will be extended by the value remaining on the base edition. In the previous example, the value of any unused SnS on the Standard license will be used to extend the new VMware vSphere Advanced SnS

contract. This process ensures that only a single license key exists which has a single SnS contract with a single termination date, simplifying renewals.

Customers who have an expired SnS must pay reinstatement fees to purchase supported upgrades.

Reinstatement fees are based on the following:

1. The applicable SnS fees for the current contract term, plus
2. The fees that would have been paid for the period of time that the customer's SnS contract was not active, plus
3. A 20 percent fee on the sum of the fees in #1 and #2 listed above

In cases where support and subscription has expired for an extended period, purchasing a new license may be more cost-effective than reinstating the expired services.

Figure 5 Upgrade Paths among VMware vSphere Editions

All prices are suggested list prices for the United States. Local pricing may vary.

VMware vSphere Acceleration Kits

VMware provides Acceleration Kits to simplify the initial purchase and deployment of VMware vSphere and VMware vCenter Server. Each Acceleration Kit consists of a number of licenses for VMware vSphere, along with a license for one instance of a VMware vCenter Server. The Acceleration Kits are often offered at promotional discounts. Visit www.vmware.com or contact your local reseller for more specific information on the latest available Acceleration Kits.

VMware vSphere Licensing Technology

VMware vSphere replaces the FlexNet licensing server used in VMware Infrastructure 3 with native license management in VMware vCenter Server. VMware vCenter Server allows customers to flexibly deploy products and manage their licenses.

VMware vSphere licenses are simple license keys (25-character alphanumeric strings) that contain the edition of VMware vSphere and the processor quantity as encrypted data. These license keys do not contain any server-specific information and are not tied to a specific piece of hardware. This means that the same license key can be assigned to multiple VMware vSphere hosts, as long as the sum of physical processors on those hosts does not exceed the encoded processor quantity in the license key.

No single point of failure with centralized licensing. VMware vCenter Server is the recommended interface for license assignment to VMware vSphere hosts. When VMware vCenter Server assigns a license key to a host, the license key is copied to the host and saved in a persistent format. In the event that the host becomes disconnected from VMware vCenter Server, the license key remains active on the host indefinitely, even after a host reboot. Only a deliberate licensing operation by the user can remove or replace a host license key.

Decentralized licensing option. Although the recommended licensing option is to assign all VMware vSphere licenses centrally from VMware vCenter Server, customers can also assign their license keys directly to individual hosts. There is no difference between license keys assigned directly and those assigned centrally. When a VMware vSphere host is added to the VMware vCenter Server inventory, any license key already on the host will become available for management, reporting and assignment in VMware vCenter Server, just as any license key added directly via VMware vCenter Server.

For more information on VMware vSphere licensing, visit www.vmware.com/support/licensing.html.

Summary

The pricing, packaging and licensing schema for VMware vSphere 4 is designed to simplify the experience of buying, deploying and managing VMware products. With VMware vSphere, several changes provide customers with additional value and flexibility:

• Current customers will receive the new functionality in VMware vSphere as part of their active SnS contracts.

• Upgrade paths among VMware vSphere editions provide a cost-effective way to upgrade to more advanced functionality.

• Capacity pricing and centralized license management provide customers with more flexibility and simplify how customers purchase and deploy VMware vSphere.

Features, product and service options, pricing, terms and conditions are subject to change. If you have additional questions regarding VMware vSphere pricing, packaging and licensing, please contact VMware sales, partners or authorized resellers.

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