WHITE PAPER

VMware vSphere™ 4
Pricing, Packaging and Licensing Overview

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Introduction to VMware vSphere™ 4

VMware vSphere™ 4 is the industry's first cloud operating system, transforming datacenters into dramatically simplified environments to enable the next generation of flexible, reliable IT services.

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

This whitepaper outlines the various 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 vSphere on physical processors that contain up to six processing cores at no additional charge. vSphere Advanced and 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, vSphere is available in three main offerings targeted for various deployment scenarios: vSphere Standard, vSphere Advanced and vSphere Enterprise Plus[1].
- **VMware vSphere for small business**. For small businesses or small office environments looking for all-in-one solutions for small deployments, VMware offers two new packages: vSphere Essentials and vSphere Essentials Plus.
- **Centralized licensing mechanism**. VMware vCenter Server (purchased separately) provides central management of vSphere hosts and central management of 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 vSphere deployment and provides centralized management, provisioning, updating and orchestration of vSphere hosts. One instance is required to centrally manage and enable most features of vSphere. VMware vCenter Server is purchased separately.

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

What's New in VMware vSphere

The new features in 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 vSphere hosts by capturing a reference host configuration and ensuring compliance for resource, networking, storage and security settings.
- **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 vSphere environments. It also enables third-party distributed virtual switches such as the Cisco Nexus 1000v to be used in 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

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

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

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.

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[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.

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

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

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

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.

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

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

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.

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

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

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

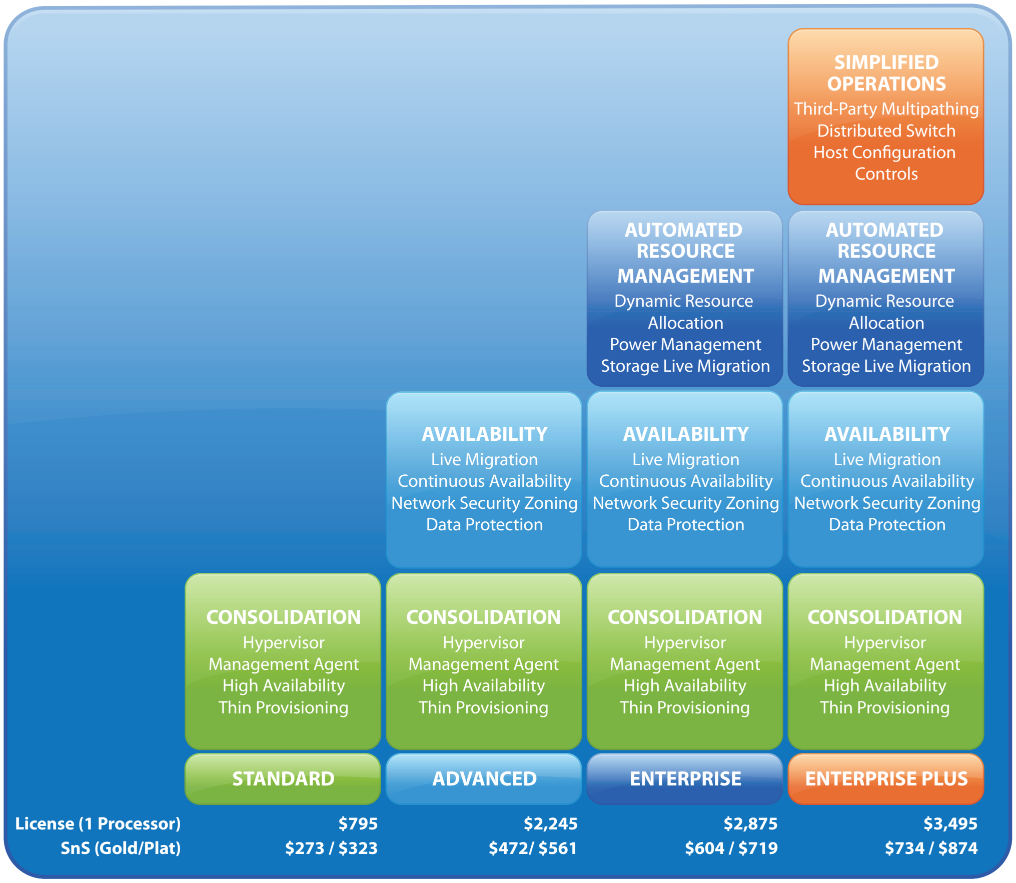
vSphere Enterprise Plus is available for USD$3,495 per one processor with up to 12 cores with no license limitation on the memory configuration.

Support and Subscription (SnS) is available for all the 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 vSphere features.

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

Figure 1 VMware vSphere Editions and Pricing


SIMPLIFIED OPERATIONS
Third-Party Multipathing
Distributed Switch
Host Configuration Controls
AUTOMATED RESOURCE MANAGEMENT
Dynamic Resource Allocation
Power Management
Storage Live Migration
AUTOMATED RESOURCE MANAGEMENT
Dynamic Resource Allocation
Power Management
Storage Live Migration
AVAILABILITY
Live Migration
Continuous Availability
Network Security Zoning
Data Protection
AVAILABILITY
Live Migration
Continuous Availability
Network Security Zoning
Data Protection
AVAILABILITY
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CONSOLIDATION
Hypervisor
Management Agent
High Availability
Thin Provisioning
CONSOLIDATION
Hypervisor
Management Agent
High Availability
Thin Provisioning
STANDARD
ADVANCED
ENTERPRISE
ENTERPRISE PLUS
License (1 Processor)
SnS (Gold/Plat)
$795
$273 / $323
$2,245
$472/ $561
$2,875
$604 / $719
$3,495
$734 / $874

VMware vSphere Editions for Small Business

vSphere Essentials and 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. Both editions are self-contained solutions and may not be decoupled or combined with other vSphere editions.

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.

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

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.

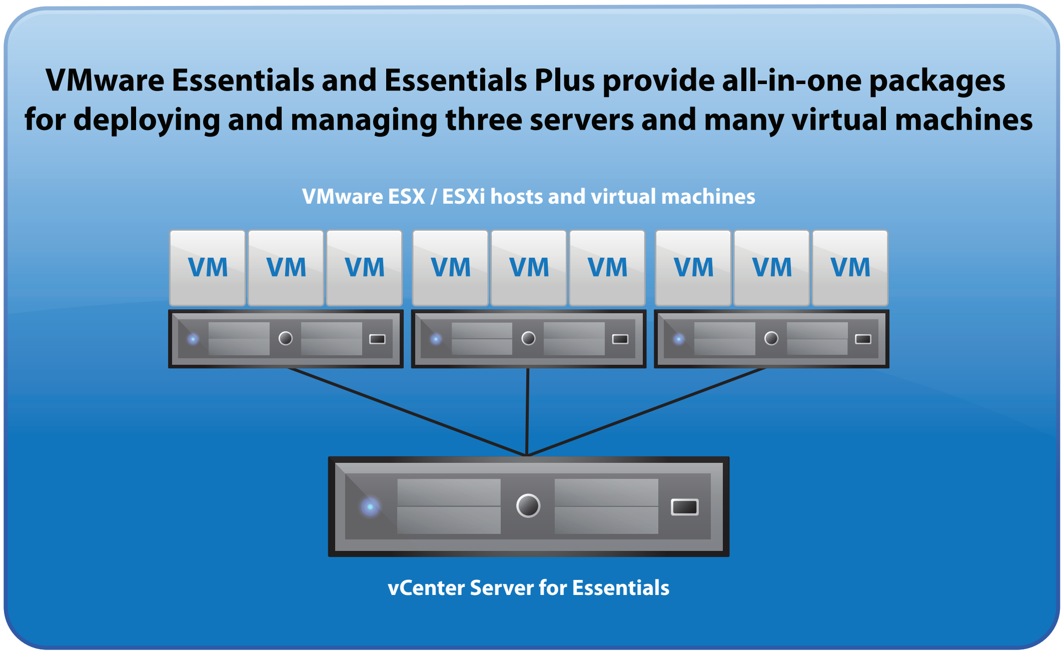
vSphere Essentials Plus provides an all-in-one solution for small offices to virtualize three physical servers to reduce hardware costs while ensuring superior application availability and data protection.

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

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.

Figure 2 VMware vSphere Essentials Deployment


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

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

Management Servers

VMware vCenter Server (previously 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 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 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 vSphere hosts) looking to rapidly provision, monitor and control virtual machines.

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

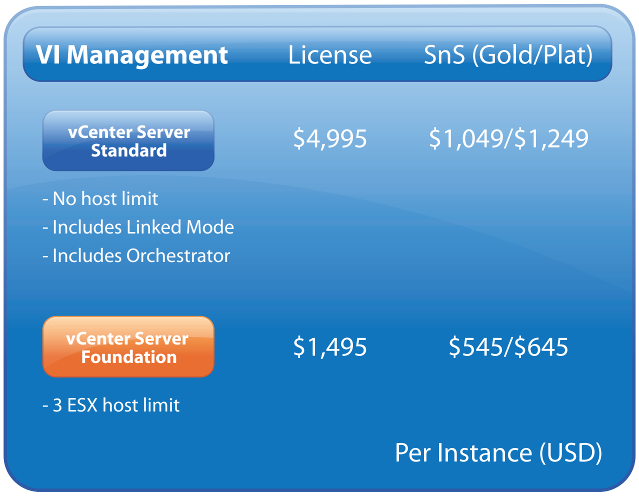
VMware vCenter Server Foundation, VMware vCenter Server Standard and VMware vCenter Server for Essentials include the following key components:

- 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 **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 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 - No host limit - Includes Linked Mode - Includes Orchestrator	$4,995	$1,049/$1,249
vCenter Server Foundation - 3 ESX host limit	$1,495	$545/$645

Per Instance (USD)

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

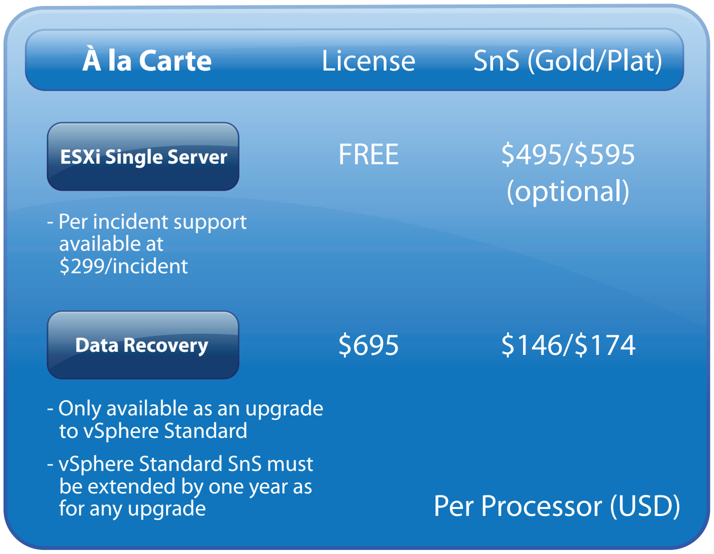
À la Carte Features

In contrast to VMware Infrastructure 3 packages, very few vSphere features are available for purchase individually. Most features are only available when purchased within one of the vSphere editions listed previously. However, two vSphere features are available separately: VMware ESXi and VMware Data Recovery.

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 vSphere Standard. Note that this add-on is treated as an upgrade to the vSphere Standard license. While Table 1 on the next page lists the incremental Support and Subscription (SnS) for VMware Data Recovery, the total SnS price will include extending the vSphere Standard contract by one year. See the section titled "Upgrades to VMware vSphere Editions."

Figure 4 À la Carte Pricing: VMware vSphere



À la Carte	License	SnS (Gold/Plat)
ESXi Single Server - Per incident support available at $299/incident	FREE	$495/$595 (optional)
Data Recovery - Only available as an upgrade to vSphere Standard - vSphere Standard SnS must be extended by one year as for any upgrade	$695	$146/$174

Per Processor (USD)

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 vSphere licenses at no extra charge, as outlined below:

Table 1 VMware vSphere SnS Entitlements

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

Upgrades to VMware vSphere Editions

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

When customers upgrade supported licenses to a higher 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 vSphere Standard to Advanced must buy at least one year of 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 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.

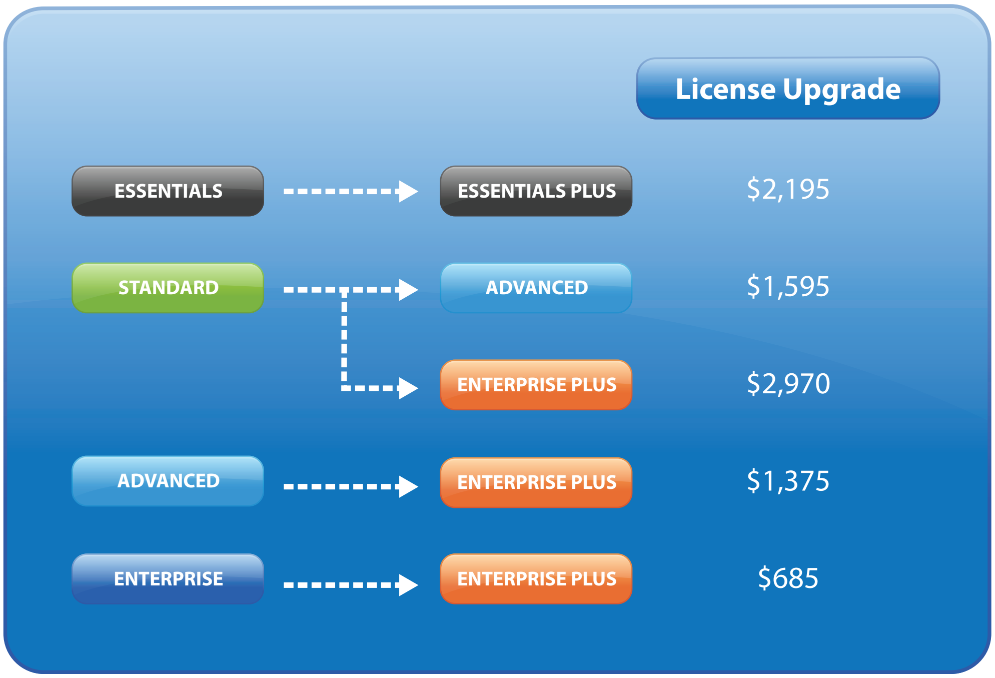
Customers who have an expired SnS must pay reinstatement fees to purchase supported upgrades.

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



VMware vSphere Acceleration Kits

VMware provides Acceleration Kits to simplify the initial purchase and deployment of vSphere and VMware vCenter Server. Each Acceleration Kit consists of a number of licenses for 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

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.

vSphere licenses are simple license keys (25-character alphanumeric strings) that contain the edition of 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 vSphere hosts, as long as the sum of physical processors on those hosts does not exceed the encoded processor quantity in the license key.

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

No single point of failure with centralized licensing. VMware vCenter Server is the recommended interface for license assignment to 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 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 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 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 vSphere, several changes provide customers with additional value and flexibility:

- Current customers will receive the new functionality in vSphere as part of their active SnS contracts.
- Upgrade paths among 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 vSphere.

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

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