

VMware vSphere Delivers Essential Services for the Modern Hybrid Cloud

The new **vSphere** has been rearchitected with native Kubernetes to run existing enterprise applications alongside modern containerized applications in a unified manner.

What's New in Version 7?

- Simplified Lifecycle Management- new tools for simplified upgrades, patching and configurations
- Intrinsic Security and Control- vSphere Trust Authority and Identity federation
- Application and Hardware Acceleration- Elastic infrastructure for AI/ML applications. Enhancements in DRS and vMotion for large and mission critical workloads

vSphere 7 with Kubernetes, available through **VMware Cloud Foundation**, delivers VMware Cloud Foundation Services and application-focused management for streamlined development, agile operations, and accelerated innovation. Applications can be deployed using any combination of virtual machines, containers and Kubernetes.

What's available in vSphere 7 with Kubernetes?

- All capabilities of Version 7 such as simplified lifecycle management, intrinsic security and control, and application and hardware acceleration to name a few.
- **VMware Cloud Foundation Services** – Newly introduced services for developers using vSphere with Kubernetes, which is available in VMware Cloud Foundation
- **Application-focused management**– Organize Kubernetes clusters, containers and virtual machines within vCenter server.

New features in vSphere 7

- **vSphere Lifecycle Manager**
 - **Next-Gen Infrastructure Image Management** Manage infrastructure images to patch, update or upgrade ESXi clusters using a desired state model
 - **vCenter Server Profiles** Desired state configuration management capabilities for vCenter Server. It helps the user to define/validate/apply configuration for multiple vCenter Servers
 - **vCenter Server Update Planner** Manage the compatibility & interoperability for vCenter Server for upgrade scenarios. We will allow users to generate the interoperability & pre-checks report, which will help them plan for upgrades
 - **Content Library** Added administrative control and versioning support. Provides simple and effective centralized management for virtual machine templates, virtual appliances, ISO images, and scripts.
- **Identity federation with ADFS** Secure access and account management
- **vSphere Trust Authority** Remote attestation for sensitive workloads
- **Dynamic DirectPath IO** Support for vGPU and DirectPath I/O initial VM placement
- **DRS** Redesigned with a more workload centric approach, DRS balances resources allocated to workloads in a vSphere cluster.
- **vSphere Bitfusion** Delivery of elastic infrastructure for AI/ML applications using cloud pools of hardware accelerators such as GPUs.¹
- **vMotion®** The recent enhancements in vMotion logic provides non-disruptive operations, irrespective of the size of VMs, specifically for large and mission critical workloads

Features of vSphere 7 with Kubernetes (available through VMware Cloud Foundation)

- **VMware Cloud Foundation Services** consists of two families of services - Tanzu Runtime Services and Hybrid Infrastructure Services. Powered by innovations in vSphere 7 with Kubernetes, these services enable a self-service experience through Kubernetes APIs.
 - **Tanzu Runtime Services** allow developers to build applications with freedom using the upstream conformant Kubernetes distributions.
 - **Hybrid Infrastructure Services** allow developers to provision and work with infrastructure such as compute, storage, and networking.
- **Tanzu Kubernetes Grid Service** The Tanzu Kubernetes Grid Service allows developers to manage consistent, compliant and conformant Kubernetes clusters
- **vSphere Pod Service** The vSphere Pod Service allows developers to run containers directly on the hypervisor for improved security, performance, and manageability
- **Storage Service** The Storage Service allows developers to manage persistent disks for use with containers, Kubernetes and virtual machines
- **Network Service** The Network Service allows developers to manage Virtual Routers, Load Balancers and Firewall Rules
- **Registry Service** The Registry Service allows developers to store, manage and secure Docker and OCI images

Key vSphere editions

EDITIONS	VSPHERE STANDARD	VSPHERE ENTERPRISE PLUS
Use Cases	Consolidate data center hardware and enable business continuity through server virtualization, VM-aware storage and live migration capabilities. Share data center resources across the boundaries of clusters. Get stronger virtualization security with enhanced endpoint protection.	VMware vSphere Enterprise Plus includes the full range of vSphere features for transforming datacenters into a simplified cloud operating environment providing the next generation of speed, security and simplicity.
License Entitlement	Per 1 CPU	Per 1 CPU
vSphere Edition	Standard	Enterprise Plus

Key vSphere features:

- vMotion
- Distributed Resource Scheduling
- Proactive High Availability
- VM-Aware Storage
- API and Policy Driven Storage Capabilities
- Support for 4K Native Storage
- vSphere Bitfusion¹
- vSphere Persistent Memory
- vCenter Hybrid Linked Mode
- Per-VM Enhanced vMotion Compatibility
- Live Migration of Workloads
- Protect VM and Data
- VM-level Encryption
- Support for TPM 2.0
- Virtual TPM 2.0
- FIPS 140-2 Compliance
- Ensure System Uptime
- Share Data Center Resources
- Endpoint Security
- Fault Tolerance
- Instant Clone
- Centralized Network Management
- Load Balancing
- Prioritize Resources to Virtual Machines
- Rapid Deployment and Provisioning
- Accelerated Graphics for Virtual Machines
- Elastic infrastructure for AI/ML applications using vSphere Bitfusion
- Support for Suspend, Resume, vMotion, multi- vGPU per VM and Snapshot for NVIDIA vGPUs
- Automated Discovery of Application Assets, Intent, and Communication
- Contextual Intelligence of Application State
- Orchestrated or Automated Responses to Security Threats
- Prioritized Vulnerability Reporting Across the Entire Data Center

For additional details on features in each vSphere edition and/or version, please refer to the technical resources below:

Document name
<u>vSphere 7 compare editions</u>
<u>vSphere 7 compare versions</u>
<u>vSphere 7 pricing and packaging whitepaper</u>

¹ vSphere Bitfusion is available through a new add-on for all Enterprise plus customers. Visit the vSphere pricing and packaging whitepaper for more details about the add-on for vSphere Bitfusion.

