vSphere 7 delivers simplified lifecycle management, intrinsic security and application acceleration for traditional applications.

What’s New in Version 7?
- Simplified Lifecycle Management - new tools for simplified upgrades, patching and configurations
- Intrinsic security - vSphere Trust Authority and Identity federation
- Application acceleration - 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 application 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.
• 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

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<td>Use Cases</td>
<td>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.</td>
<td>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.</td>
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<td>License Entitlement</td>
<td>Per 1 CPU</td>
<td>Per 1 CPU</td>
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<td>vSphere Edition</td>
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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 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
- 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:

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