# vSphere with VCF 9.0 General FAQ

## vSphere Releases – Release 9.0

**Q1. What are the new features in release 9.0?**

A. Refer to the release notes (url link needed) for the definitive list including smaller features and bug fixes. The features listed below are the highlighted features for this release:

- NVMe memory tiering
- Native VPCs support in vCenter
- Monster VM support (increased scale)
- RDU (Reduction in Downtime for Upgrades) enhancements to reduce minimum downtime to under 5 mins
- Live Patching for ESX enhancements
- Secure-by-default TLS 1.3 support
- Out-of-the-box FIPS 140-2 compliance support
- Automatic renewal of certificates
- Faster vMotion for GPU workloads
- Independently upgradable Supervisor
- Support for minimal Supervisor configuration
- Automation support with Open API 3.0 and Unified platform SDKs

## General / Pricing and Packaging

**Q2. What is vSphere?**

A. vSphere is the enterprise workload engine that modernizes compute infrastructure, providing the best platform for modern workloads, while enabling security and compliance.

**Q3. Is the free ESX version still available for customers?**

A. With release 9.0, the free version of ESX is not made available to customers. They can however download Free ESX versions up to release 8.0U3.

## Hardware and scale

**Q4. What is NVMe memory tiering and what are its benefits?**

A. vSphere introduces Advanced Memory Tiering with NVMe allowing users to add memory capacity to a host by using an NVMe device as a secondary memory tier that is installed locally in a host, thus resulting in an increase of available memory within the ESX host.

NVMe tiering addresses core-to-memory imbalances, and helps in better VM consolidation. With a 19% reduction in cores and offloading 20-25% of memory accesses, these features can lead to up-to 40% reduction in TCO.

**Q5. What do users benefit from with native VPC support in vCenter?**

A. With native integration of NSX VPCs into vSphere UI, even with limited networking experience, VI admins can now effortlessly create and manage VPC networks and subnets directly from vSphere UI, API or CLI and expose those resources to the applications.

**Q6. What is the increase in scale with monster VM support?**

A. With this latest release, vSphere now supports AMD Turin/Venice and Intel Sapphire Rapids processors, scaling up to 960 cores per socket for unmatched performance. Monster VM capabilities now support up to 960 vCPUs and 16TB of memory, delivering the highest scale in the market for demanding workloads like SAP HANA.

## Security and Compliance

**Q7. What version of TLS does vSphere support?**

A. vSphere supports both TLS1.2 and TLS1.3. With this latest release, vSphere supports the TLS1.3 protocol by default. If needed, vSphere provides the ability to fall

back to TLS1.2 as well to support legacy product integration.

**Q8. What is new with FIPS compliance?**

A. vSphere now runs in FIPS-compliant mode by default, utilizing FIPS 140-2 certified cryptographic modules as recommended by the U.S. government. This ensures compliance with regulations, enhances data security by protecting sensitive information from breaches and cyberattacks, and fosters trust and confidence in the VMware software.

## Performance

**Q9.How does vSphere help improve performance of GPU workloads in release 9.0?**

A. For AI workloads, the downtime due to VM lifecycle management may be too long and unacceptable for production workloads. To overcome these challenges, with release 9.0 vSphere introduces the following capabilities, to lead to a 6x reduction in vMotion time:

- Faster GPU memory transmission
- Secure memory copies and transmission

## Kubernetes and Supervisor Services

**Q10. What is VMware vSphere Kubernetes Service?**

A. VMware vSphere Kubernetes Service (VKS) is the built-in Kubernetes runtime in VMware Cloud Foundation (VCF), designed to orchestrate Kubernetes clusters and run modern applications alongside traditional virtual machines.

**Q11. What are the key capabilities of VKS in VCF?**

A. They are:

- Async releases for vSphere Kubernetes Service (VKS) to align with upstream Kubernetes versions
- Support for N-2 Kubernetes versions for flexible deployment
- Upgradable independently from vSphere
- VKS Cluster Management and Service Mesh integration
- Service autoscaling to and from zero for worker nodes
- OS FIPS mode for compliance
- Easy integration of windows-based Kubernetes workloads
- Extended support for additional 12 months for minor releases (e.g., VKr1.33, 1.35, 1.37)

**Q12. What is vSphere Supervisor?**

A. vSphere Supervisor is a Kubernetes control plane built directly into VMware vSphere, enabling enterprises to run and manage both virtual machines and containerized workloads on a single, unified platform. vSphere Supervisor allows consumers to use one API to provision and manage both VMs and containers. The Supervisor supports vSphere Pods, offers policy-driven governance, and integrates with VMware's networking and storage solutions, providing a scalable, secure, and efficient environment for modern applications without disrupting existing vSphere operations.

**Q13. What are the key features of vSphere Supervisor?**

A. They are:

- *One API to manage both VMs and containers*: A single, consistent API allows users to create, deploy, and manage both VMs and Kubernetes clusters
- *Self-service access to cloud services with governance*: Through a role-based access model, platform engineers can leverage self-service capabilities to provision infrastructure resources on demand
- *Embedded, declarative API, CLI and UI access with vSphere Supervisor:* With vSphere in VCF 9.0, VCF offers a range of flexible interfaces that align with cloud admins' and platform teams' preferred workflows.

**Q14. Does vSphere support upstream conformant Kubernetes?**

A. Yes, VCF runs a fully conformant Kubernetes distribution that is certified by Cloud Native Computing Foundation (CNCF).

**Q15. Can I run different Kubernetes versions in VCF?**

A. Yes, vSphere Kubernetes Service supports the current Kubernetes release and the two previous major versions. This means that vSphere Kubernetes Service ensures compatibility across three Kubernetes versions at any given time.

### Q16. How does VCF ensure high security and resilience with Kubernetes?

A. Security is enforced through strong workload isolation using vSphere Pods, fine-grained RBAC, secure identity federation, and end-to-end encryption. NSX adds advanced network protection with micro-segmentation and distributed firewalls. On the resilience front, Kubernetes clusters benefit from built-in HA, vSphere's robust availability features like DRS and vMotion, and policy-driven storage with vSAN. Together, these capabilities provide a consistent, secure, and highly available environment for modern applications.

### Q17. What's VMware by Broadcom's contribution to the CNCF community?

A. VMware by Broadcom ranks among the top three contributors to the CNCF ecosystem over the past decade, demonstrating a deep and sustained commitment to open source and cloud-native innovation. Originating several key Kubernetes projects—such as Velero, Contour, Harbor, Antrea, and Pinniped—Broadcom has helped shape the Kubernetes ecosystem. The company also supports critical upstream projects including Cluster API, etcd, containerd, runc, and controller-runtime. Beyond code, Broadcom actively champions Kubernetes through advocacy and thought leadership: supporting CNCF and the Linux Foundation, organizing Kubernetes Community Days and Meetups, engaging in Special Interest Groups (SIGs) to drive innovation, and contributing to CNCF Technical Advisory Groups (TAGs).

## Miscellaneous

**Q18. Where can I get a definitive list of feature capabilities within vSphere?**

A. Please refer to the a) vSphere Version Comparison and b) vSphere Product Line Comparison and c) VCF Feature Comparison docs for a detailed description of which features are available with which versions of vSphere, VVF and VCF.


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