Optimize Your IT Infrastructure with the Latest from VMware vSphere

The enterprise workload engine
for traditional and next gen apps

Get Started

Introduction: Overcome modern IT challenges with VMware vSphere

Today's IT landscape is becoming increasingly complex. Not only are workloads proliferating, they're being deployed in different locations based on different needs. As both your on-premises and public cloud workloads continue to grow, managing them efficiently and cost-effectively becomes more difficult. In addition, increased demand for the infrastructure services that support these growing workloads puts more strain on CPUs, leaving fewer compute cycles for the workloads themselves.

Meanwhile, you also need to provide your Platform Engineers and DevOps teams with fast, simple access to the tools they need to accelerate innovation and power your organization forward. Plus, you've got to figure out how to cost-effectively leverage new AI/ML technologies. And you need to do it all while staying within budget and maintaining the highest levels of security.

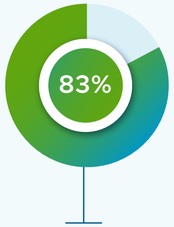
Impossible? Not with VMware vSphere® 8.

With innovative new features, vSphere 8 is designed to take your IT operations to the next level by enhancing operational efficiency, boosting workload performance, accelerating innovation, and elevating security across your entire infrastructure. What's more, vSphere is available as a core component of VMware Cloud Foundation and VMware vSphere Foundation in addition to two standalone editions, vSphere Standard and vSphere Enterprise Plus.

$36B by 2028

Expected aggregate revenue from Generative AI[1].

see public cloud costs as a major issue[2].



of CIOs plan to repatriate workloads from public cloud back to on-premises[3].

of customers concerned with privacy[4].

1. 451 Research. "Generative AI Software Market Forecast." 2023.
2. IDC FutureScape. "The Infrastructure and Cloud Impact 2024 Predictions." 2023.
3. Barclays. "1H24 CIO Survey: 2024 Outlook Sustained." 2024.
4. IDC. Business Value White Paper, sponsored by VMware by Broadcom. "The Business Value of VMware Cloud Foundation." August 2024.

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Harness the power of the enterprise workload engine

The latest innovations from vSphere provide a modern compute engine that helps you to overcome traditional and next-gen app challenges and drive your organization forward. Here's what this enterprise workload engine can help you do:

Enhance operational efficiency

Improve IT productivity and reduce operational expense by optimizing your IT environment, increasing availability, improving lifecycle management, and streamlining maintenance.

Accelerate innovation

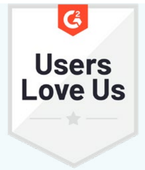
Empower Platform Engineers and DevOps teams with an enterprise-ready modern cloud interface that provides easy, self-service access to a robust set of infrastructure and platform services, and a built-in Kubernetes runtime to run containers alongside VMs.

Boost workload performance

Meet the throughput and latency needs of modern distributed workloads—including larger AI workloads—with industry-leading cloud infrastructure technology combined with DPU- and GPU-based acceleration.

Elevate security

Build, run, and manage apps on an intrinsically secure infrastructure platform that's secure out-of-the box and includes easy-to-implement hardening guidance for compliance.



Awarded by G2

#1 in Virtualization Software and Leader in Container Orchestration

"VMware vSphere Virtualization technology helps us in decreasing the cost of the physical infrastructure."

— Praveen K.
System Engineer, Government Agency

"vSphere impresses with its comprehensive feature set, providing a scalable and reliable platform for creating, managing, and securing virtualized infrastructures."

— Divyesh G.
Technical Team Lead

"The business problem it solves is server consolidation where we're able to consolidate multiple physical servers into a single host."

— Shanawaz A.
Senior DBA, Telecom Industry

In the following pages we'll take a closer look at how vSphere helps you realize each of these powerful benefits.

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Enhance operational efficiency

With vSphere 8, you can minimize IT maintenance times, optimize workload placement, and even measure the carbon impact of your workloads. Combined, the advanced capabilities of the enterprise workload engine help you reduce operational burdens, improve efficiencies, and get the most out of your IT infrastructure.

Minimize downtime by seamlessly patching and updating vCenter with minimal disruption, complete topology support, and automated switchover using vCenter Reduced Downtime Upgrade.

Save admin time by allowing VMware ESX components and patches to be applied without reboot or VM evacuation via Live Patching for VMware ESX.

Reduce the final size of the cluster images helping in remote site or edge use cases with Enhanced Image Customization.

Support optimal workload placement by factoring in memory bandwidth and latency requirements using the vSphere Distributed Resources Scheduler.

Optimize IT maintenance windows by pre-staging ESX image downloads prior to maintenance and performing simultaneous upgrades on hosts.

Track progress toward sustainability goals by monitoring energy consumed at the host and VM levels using vSphere Green Metrics.

Manage dual DPU instances with a single image via the Dual DPU Remediation feature of vSphere Lifecycle Manager.

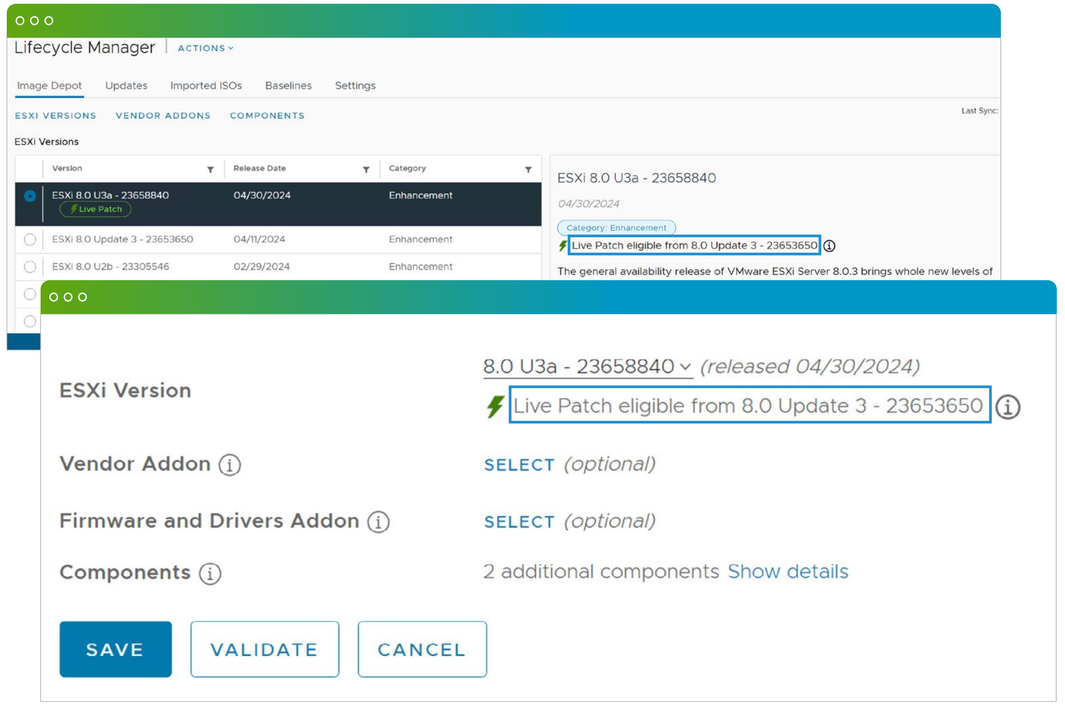

Figure 1: Live Patching for VMware ESX enables you to achieve faster updates without reboot and VM evacuation.

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Accelerate innovation

The latest updates to vSphere 8 add significant value for Platform Engineers and DevOps teams by enabling them to easily access the tools and services they need to quickly build and deploy modern apps and give your organization a competitive advantage.

Streamline access to IaaS services with vSphere Supervisor, offering a choice of integrated UI, a CLI (Command-Line Interface), and declarative APIs for infrastructure and workload management, tailored to different user personas.

Accelerate Kubernetes delivery to consumers through the vSphere Kubernetes Service (formerly known as Tanzu Kubernetes Grid Service), enabling quick deployment of new Kubernetes versions.

Provision and run VMs and Kubernetes clusters using one API via a Local Consumption Interface (LCI) when using VMware vSphere Foundation (VVF). For customers using VMware Cloud Foundation (VCF), a Modern Cloud Interface enables the full set of VCF Automation services.

Improve the resilience of containerized workloads through availability zones and support for VMware vSAN™ stretched clusters.

Empower developers and DevOps teams to publish and manage their own VM images within a content library for reuse via the VM Registry Service.

Simplify vSphere Kubernetes Service (VKS) cluster lifecycle and package management with API-driven Cluster Classes and Carvel to help DevOps teams build with confidence.

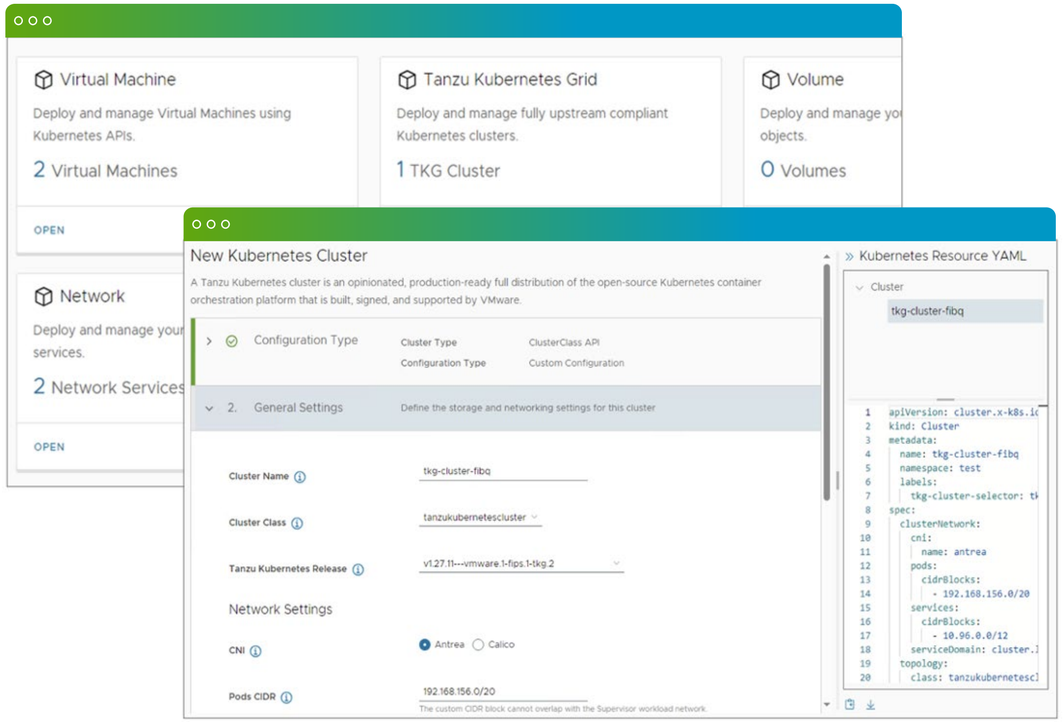

Figure 2: The new Local Consumption Interface (LCI) makes access to Supervisor services even easier.

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Boost workload performance

VMware vSphere 8 boosts workload performances with advanced GPU acceleration, DPU network offload, and NVIDIA NVSwitch technology, supporting up to 16 GPUs per VM and 32 GPUs in pass-through mode to meet the demands of modern AI/ML and HPC workloads. Flexible vGPU profiles and automatic GPU resource optimization maximize resource utilization and ROI, making vSphere an ideal platform for demanding applications.

Meet the throughput and latency needs of modern distributed workloads using vSphere on DPUs to offload and accelerate networking capabilities.

Reduce operational overhead of DPU lifecycle management with integrated vSphere workflows.

Enhance the performance of AI/ML workloads by utilizing NVIDIA NVSwitch technology, which enables you to interconnect each pair of GPUs at a staggering 900GB/s.

Protect against DPU failure or loss of uplink and gain twice the offload capacity per host with Dual DPU support via the vSphere Distributed Service Engine.

Automatically scale down underutilized Kubernetes nodes or scale up nodes when demand increases to continuously ensure the best performance.

Maximize GPU utilization by assigning workloads with different vGPU profile types or sizes to the same physical GPU, and by optimizing placement of AI workloads across available GPU resources.

Reduce AI/ML model training times and support higher complexity models by increasing available GPU or NIC resources.

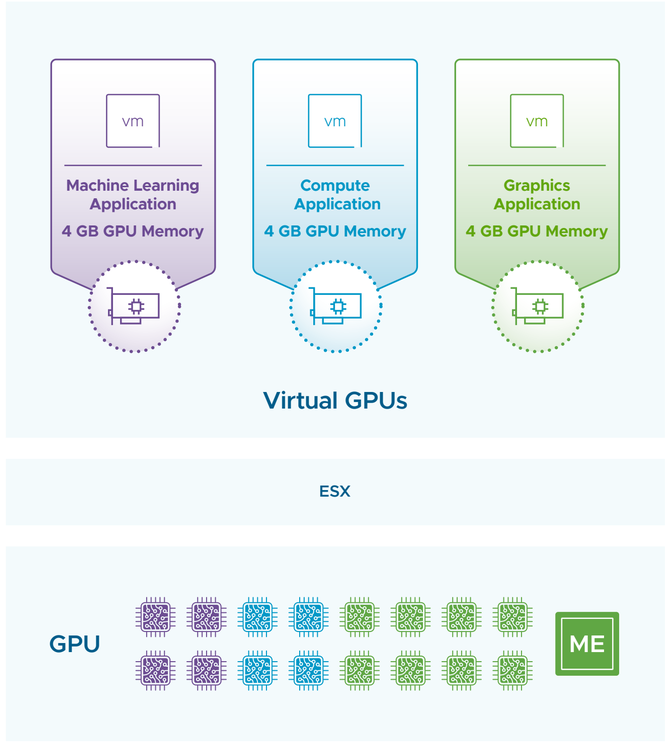
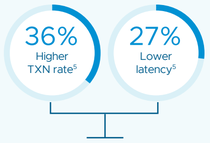


Figure 3: VMware vSphere 8 enables you to host different types and sizes of workloads on a single GPU.

vSphere 8 on DPUs:
Redis Performance Comparison

Drive **higher workload consolidation** by utilizing saved cores, with similar or better performance.



Supercharged performance by leveraging freed CPU cores and better cache locality to **drive more workload traffic**, while benefitting from vMotion and DRS.

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Elevate security

The enterprise workload engine provides a secure-by-default platform that ensures up-to-date security best practices and helps you maintain the data integrity of VMs, containers, and workloads throughout their lifespan. With vSphere 8, your organization can stay ahead of bad actors—and stay up and running no matter what.

Strengthen security with built-in features such as secure boot, hardware TPM, configuration encryption, VM sandbox, and CPU scheduler.

Leverage advanced encryption features such as data-at-rest encryption, encryption in motion, VM and vSAN encryption, and VM sandbox.

Enhance identity and access management with comprehensive support for enterprise identity federation providers such as Okta, ADFS, Entra ID, and PingFederate.

Quickly configure best practices for modern TLS ciphers using a profile-based approach via API, PowerCLI, or Configuration Profiles.

Improve security hardening with easy-to-understand configuration guides and baselines, including for vSAN services.

Maintain confidentiality and improve user access to data with features like VMware vCenter® host attestation, native key provider, trust authority, and secure multi-factor authentication.

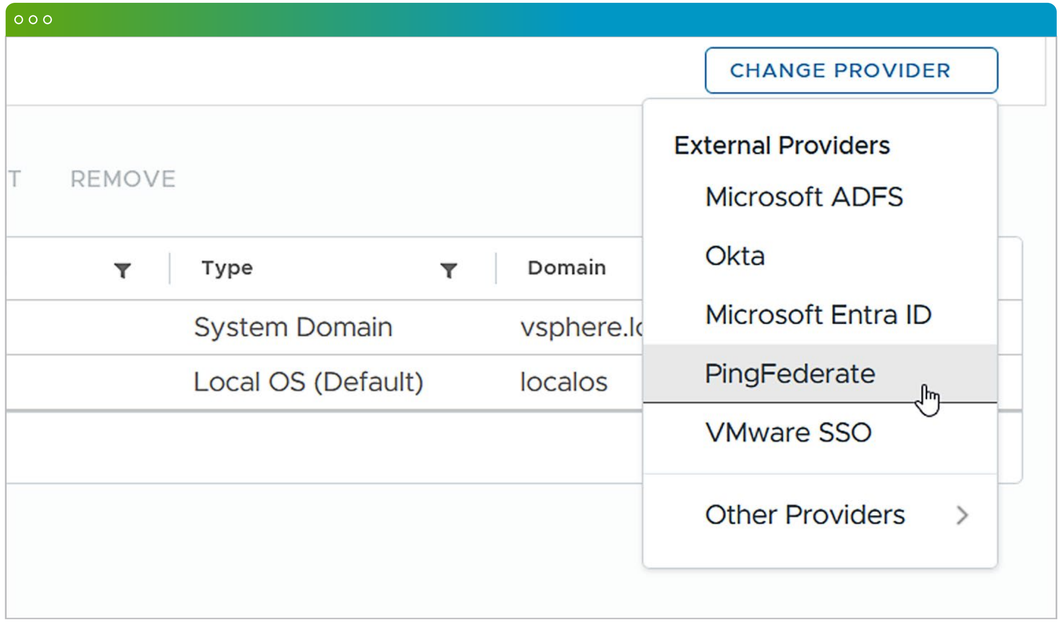

Figure 4: VMware vSphere 8 gives you maximum flexibility in identity management with support for third-party identity federation providers such as Okta, Microsoft ADFS, Microsoft Entra ID, and PingFederate.

Get started with the enterprise workload engine

Enhance operational efficiency. Accelerate innovation.
Supercharge workload performance. Elevate security.
Power your organization forward with VMware vSphere 8.
To learn more please visit:

WEBSITE | HANDS-ON LAB

vSPHERE EDITION COMPARISON

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