

How to Operate Smarter, Faster and More Securely

Harness the power of
VMware vSphere Foundation

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Understanding the modern IT landscape

With the continued proliferation of workloads across both public and private clouds, IT environments are more siloed than ever before. Meanwhile, priorities in IT spending are shifting to reflect an increase in cloud consumption and containerized app development. The complexity of managing these increasingly fractured and heterogeneous IT environments presents you with a number of pressing challenges.

- **Innovation**

How can IT accelerate innovation securely?

- **Cyberthreats**

How can you avoid costly ransomware attacks?

- **Sustainability**

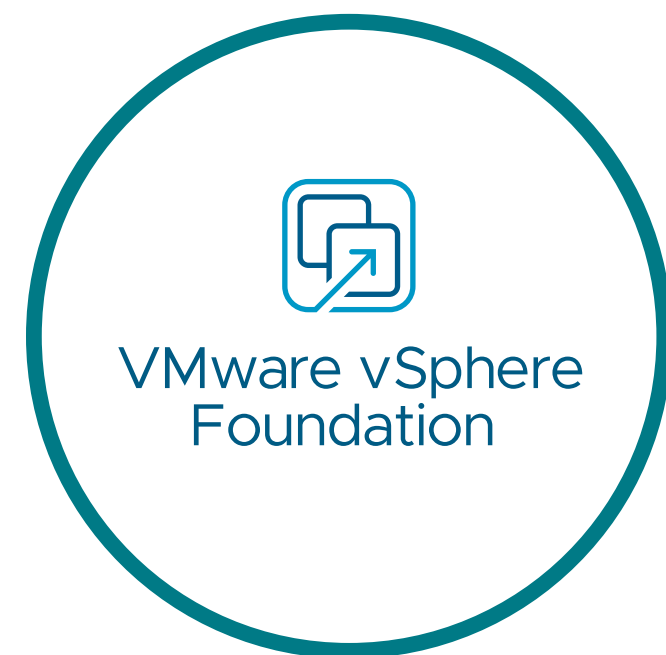
How can IT support net zero commitments?

- **Modernization**

How can you scale for new app demands like AI?

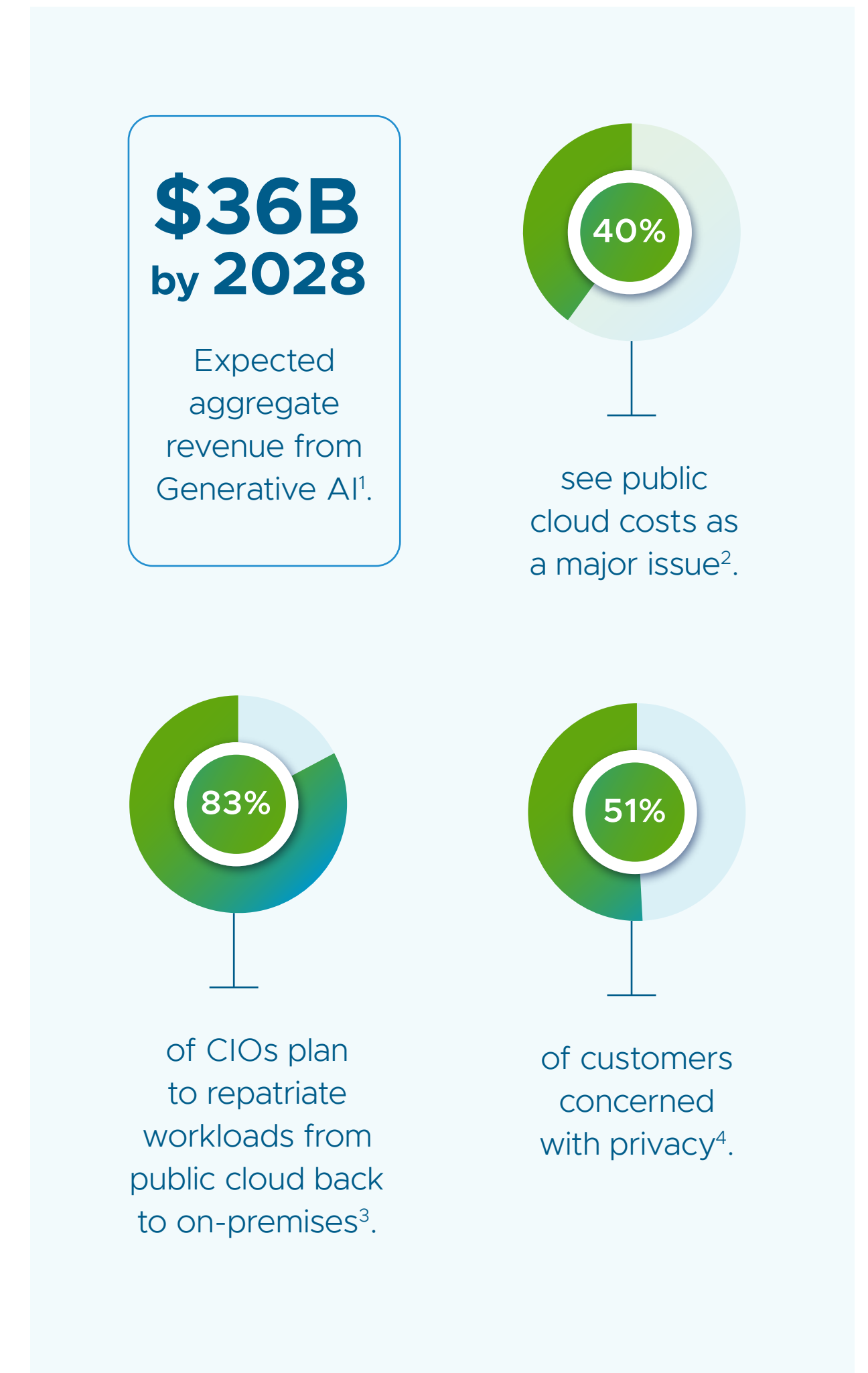
- **Cloud costs**

Why is your cloud spend exceeding your budget?



VMware vSphere Foundation (VVF) can help your organization overcome these challenges by standardizing on a consistent infrastructure stack that extends across your data center and private cloud, enabling you to operate more efficiently, securely, and with greater agility. By maximizing data center capacity utilization, improving lifecycle management, running modern applications on a unified platform, optimizing budget management, enhancing workload performance, and ensuring compliance, VVF empowers your organization to leverage the full potential of your private cloud environment. Read on to learn more.

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.



Laying the foundation for organizational success

VMware vSphere Foundation (VVF) is the enterprise workload engine for both traditional and next-gen apps. It can help your organization streamline and automate IT operations while enhancing security, reducing costs, and supporting high-performance demands for growth and future technologies.

With VMware vSAN modern storage software, VVF becomes an integrated, enterprise-class hyperconverged infrastructure (HCI) solution providing best-of-breed compute, storage, networking and intelligent operations management from a single pane of glass. And with a single platform for running workloads in VMs and Kubernetes, you can modernize applications at your own pace while leveraging the trusted VMware ecosystem.

By harnessing the power of the enterprise workload engine, your organization can achieve all of these benefits:

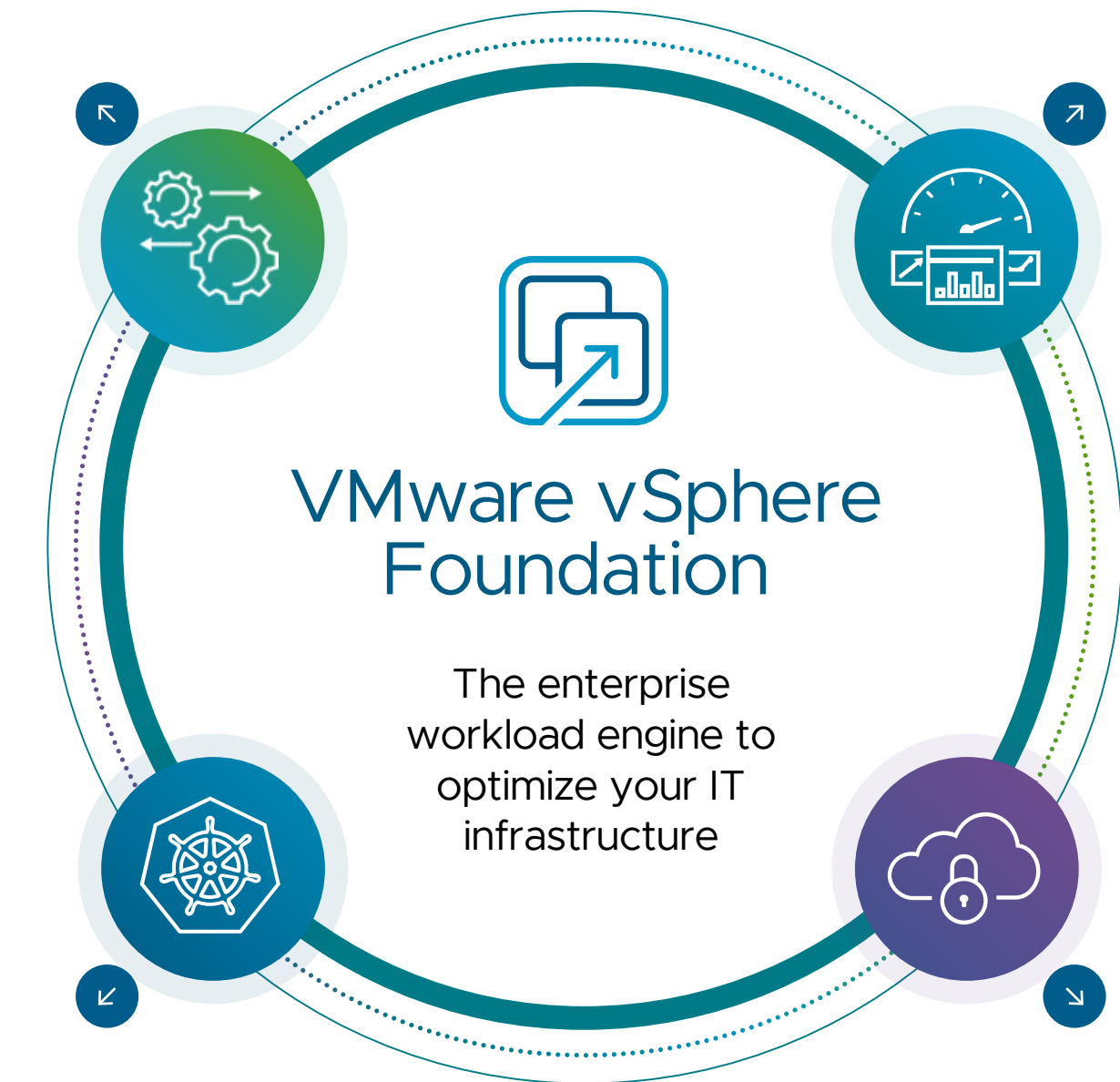
Boost operational efficiency
with advanced intelligent operations capabilities for maintenance, troubleshooting, compliance and governance, and more.
Accelerate innovation
with integrated Kubernetes, self-service capabilities, and unified management of VMs and K8s clusters.

Supercharge workload performance
with hardware accelerators such as GPUs to optimize AI/ML workloads, ensure peak performance, and enhance visibility for modern business needs.
Elevate security & maintain compliance
with built-in security features and out-of-the-box security configurations.

In the following pages, we'll explore these benefits in detail.

Boost Operational Efficiency
Intelligent operations management and analytics to get the most out of your infrastructure

Supercharge Workload Performance
Meet the throughput and latency needs of modern workloads

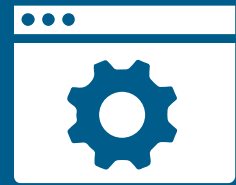


Accelerate Innovation
Easily discover, access and deploy DevOps services to run workloads with VMs and containers

Elevate Security & Maintain Compliance
Deliver secure-by-default infrastructure to safeguard data and ensure business continuity

Boost operational efficiency

VMware vSphere Foundation (VVF) empowers you to boost operational efficiency by resolving performance issues faster to meet SLAs, optimizing private cloud capacity to reduce costs, and streamlining lifecycle management for quick updates, all while leveraging advanced capabilities to maximize the value of your infrastructure. In addition, you can gain further efficiencies by leveraging vSAN and reaping the benefits of hyperconverged infrastructure (HCI).



Intelligent operations management and advanced analytics

These features help maximize visibility into your app and infrastructure operations and streamline issue remediation.

- **A single control plane** for global inventory, configuration management, and lifecycle management across all VVF components dramatically simplifies management of your operations.
- **Container and VM monitoring** helps ensure your VMs and containers are running properly by tracking performance, availability, and end-user experience.
- **Proactive troubleshooting and streamlined remediation** help you resolve issues faster to improve performance while lowering costs.



Cost and capacity management

With features to optimize consolidation, planning and procurement, VVF helps you maximize utilization while minimizing cost.

- **Access capacity and address shortfalls** with capacity projections driven by AI.
- **Reclaim capacity and automate cost savings** by identifying unused resources such as powered-off and idle VMs.
- **Improve infrastructure and workload planning** by defining scenarios with custom metrics to determine if resources can support current and future workloads.
- **Gain a holistic view of TCO** by mapping individual LOBs to resources and costs.



Enhanced lifecycle management

VVF helps you further maximize efficiencies by drastically reducing IT maintenance windows.

- **Achieve faster updates** without reboot or VM evacuation via Live Patching for ESX™.
- **Enable host configuration at a cluster level** and easily copy configurations for all hosts when new clusters are created.
- **Upgrade VMware vCenter instances with minimal disruption** and easily roll back updates if necessary.



vSAN/HCI

Leverage vSAN/HCI to consolidate resources, automate storage provisioning, and streamline IT operations for faster time to market.

- **Reduce complexity and admin overhead** by managing compute, storage and Kubernetes from a single interface.
- **Maximize resource utilization** by pooling storage resources across hosts with vSAN, eliminating waste and ensuring optimal efficiency.
- **Scale seamlessly** by adding hosts or drives without disrupting workloads or requiring complex configurations.
- **Ensure uptime** with automated storage policies and streamlined lifecycle management.

Accelerate innovation

VMware vSphere Foundation (VVF) provides a quick and efficient way to adopt Kubernetes, helping your organization modernize existing workloads while building and running new applications to meet evolving business needs.

With VMware vSphere Kubernetes Service (formerly Tanzu Kubernetes Grid) integrated directly into the platform, IT teams can seamlessly manage Kubernetes clusters alongside traditional VMs. The service includes fully upstream-compliant Kubernetes, ensuring compatibility with the latest tools and frameworks to support modern application development.

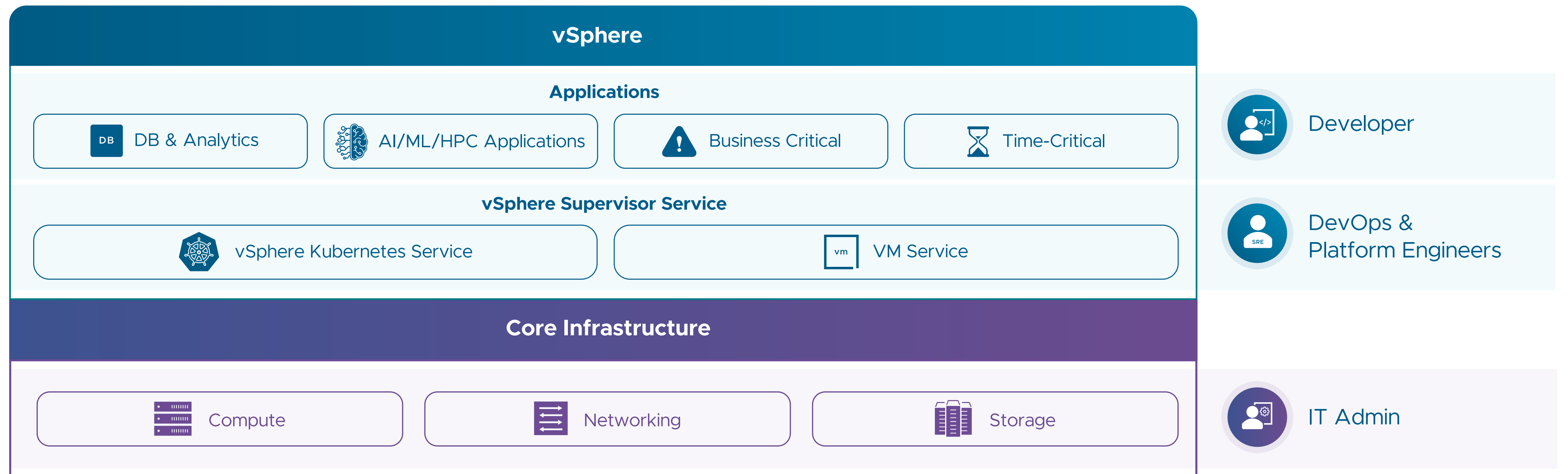


Figure 1: VVF provides a single platform to run VMs and Kubernetes clusters.

Self-service access to infrastructure resources for DevOps and platform teams helps speed time-to-market, giving your organization a competitive edge. Services include the following:

- **Independent vSphere Kubernetes Service** helps you quickly deliver new versions of Kubernetes to consumers.
- **VM service** allows consumers to provision and deploy VMs with all available hardware configurations, including GPUs.
- **Supervisor services** enable admins to extend the platform capabilities with additional services required by consumers.

In addition, a new **VMware vSphere Service management interface**, integrated with vSphere Supervisor, allows users to provision and manage VMs and Kubernetes clusters, configure load balancers and persistent volumes, and access essential infrastructure services directly within each Namespace. It supports advanced configurations for VMs and Kubernetes clusters, and generates YAML files for users who prefer API-based interaction.

“VMware vSphere with Kubernetes allows us to ship code very, very quickly, which helps product innovation. We can also add in more environments based on our development pipeline, so it gives us a lot of flexibility.”

Hasan Ayaz

Head of Platform Engineering - Telenor Microfinance Bank

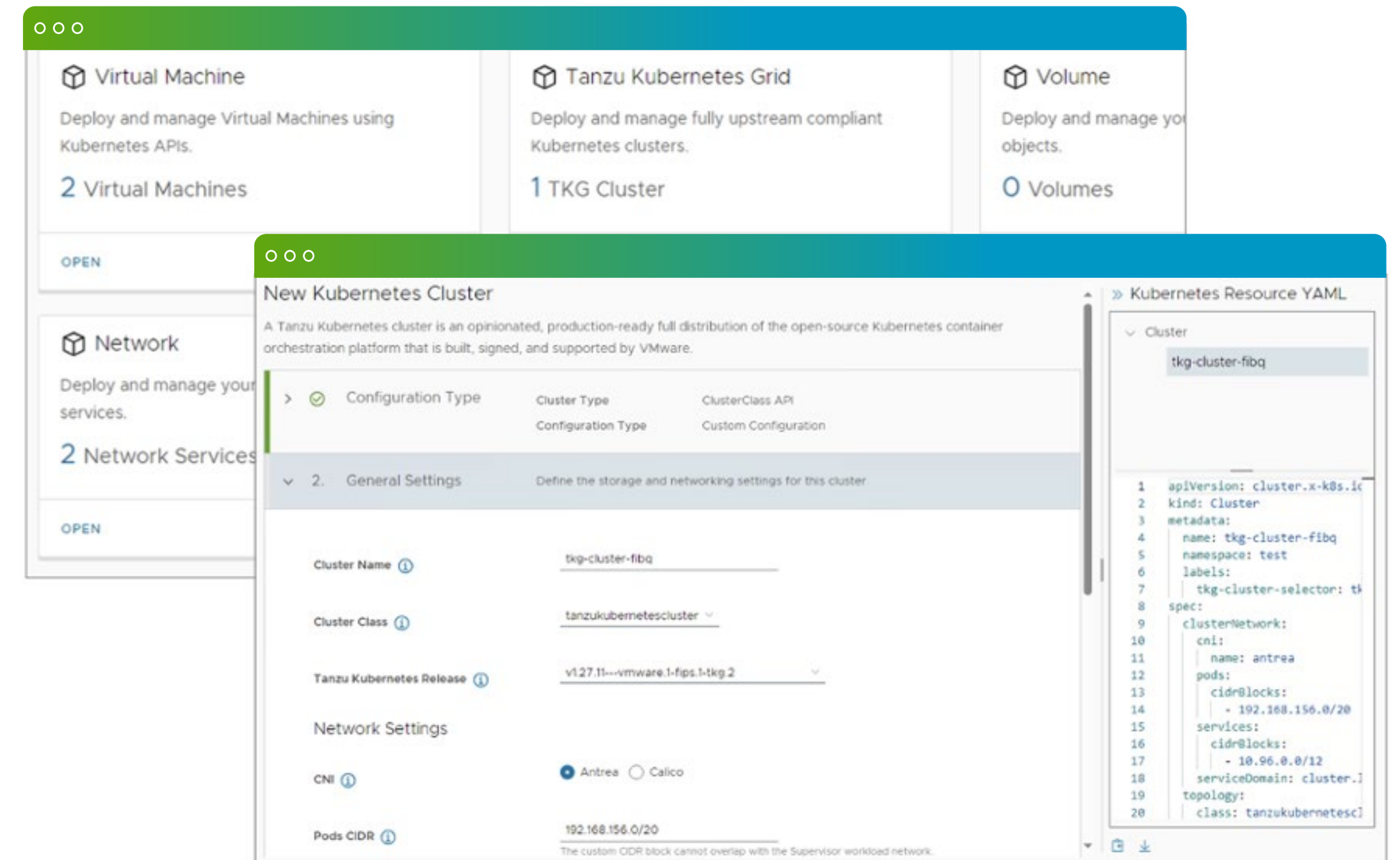


Figure 2: The new local consumption interface (LCI) makes it easy to provision and manage VMs and Kubernetes clusters, and access essential infrastructure services.

Supercharge workload performance

VMware vSphere Foundation (VVF) delivers the power to easily meet the throughput and latency requirements of the modern workloads your organization needs to drive business innovation. With the ability to assign up to 16 GPUs to a single VM, and to add up to 32 GPUs in pass-through mode, you can achieve excellent performance even from larger, more complex AI workloads. And with enhanced visibility into your workloads, you can ensure they're performing optimally at all times.

Improve the ROI of your AI infrastructure

With features like real-time predictive analytics and automated workload balancing, VVF helps ensure maximum performance at minimum cost.

- **GPU-aware workload placement and load balancing** helps you avoid fragmentation of GPU capacity, improve resource utilization, and reduce costs.
- **Support for NVIDIA NVSwitch technology** enables you to interconnect each pair of GPUs at a staggering 900GB/s.
- **GPU workload flexibility** allows you to share GPU resources more effectively among different workloads.

Continuous performance optimization

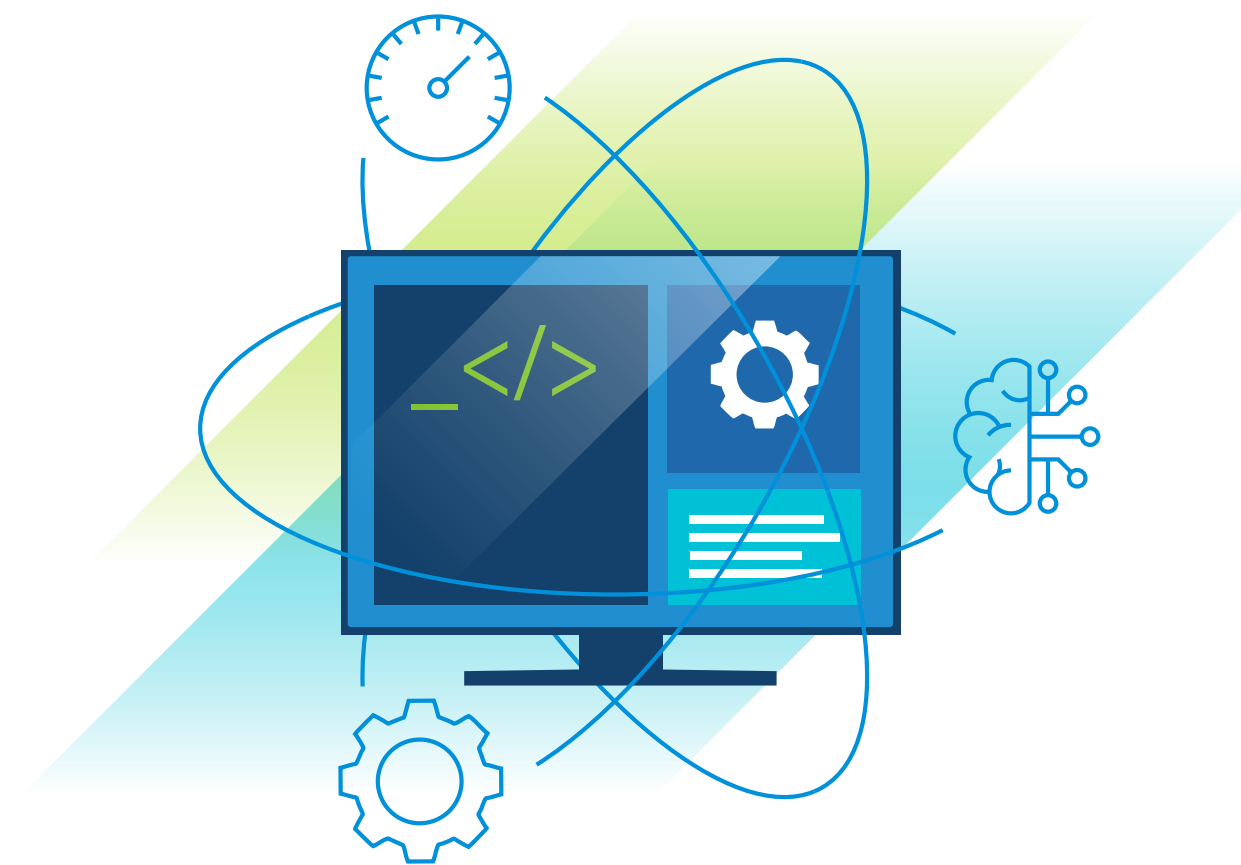
VVF includes automated, intent-driven features to continuously ensure the best performance.

- **Performance data analysis** collects data from all endpoints and displays performance status on out-of-the-box dashboards.
- **Intent-based workload placement** delivers automated workload placement and balancing across clusters, based on your business and operational requirements.
- **Autoscaling for Kubernetes clusters** automatically scales down underutilized nodes and scales up nodes when demand increases.

“We have been working with VMware for a long time. VMware is recognized as the leader in the global software-defined infrastructure market. We have great confidence in VMware solution roadmap, which has the power to transform our infrastructure into a future-proof engine for growth and innovation.”

Edward Lo

Associate Director - System Operation, AsiaPay



Elevate security

VMware vSphere Foundation (VVF) delivers a secure-by-default infrastructure for all workload types to safeguard data and ensure business continuity for your organization. When you consider the three core tenets of information security—protecting data **confidentiality**, maintaining data **integrity**, and ensuring data **availability**—every feature of VVF becomes a security feature.

Governance and compliance

VVF includes intelligent tools to help you achieve and maintain a better overall compliance posture for your infrastructure.

- **Regulatory and hardening guideline compliance** capabilities track your compliance posture across benchmarks and remediate issues automatically.
- **A holistic view of your sustainability posture** helps you meet your organization's ESG commitments.
- **Integrated data protection** via vSAN's built-in data-at-rest and in-transit encryption helps safeguard sensitive data, ensuring a robust compliance posture.

Identity federation, access control and licensing

Simplify access management and license tracking with these VVF features.

- **Support for enterprise identity federation providers** such as Okta, Microsoft ADFS, Microsoft Entra ID and Ping Federate gives you added flexibility when it comes to identity and access management.
- **Single sign-on across all VVF components** provides a better end-user experience without sacrificing security.
- **Unified licensing and entitlement management** helps ensure more accurate license tracking.



Powerful advanced services to level-up your infrastructure

Extend your VMware vSphere Foundation (VVF) capabilities by leveraging these game-changing solutions to meet your specific business needs.

VMware vSAN™ additional capacity¹

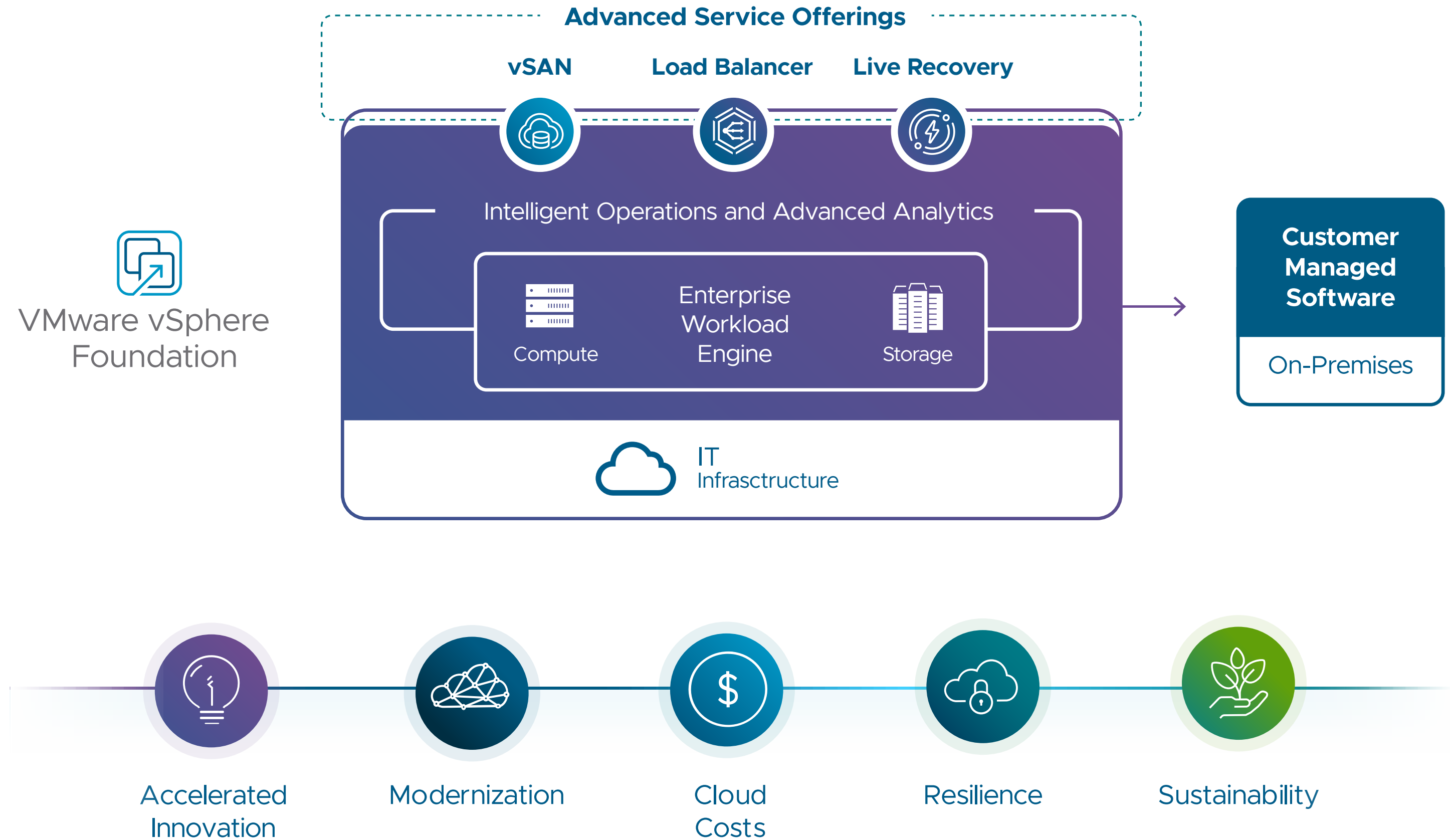
Expand your vSAN capacity to use across VVF core licenses.

VMware Live Recovery™

Proven solution for ransomware and disaster recovery with 75 percent faster resolution to downtime.²

VMware AVI™ Load Balancer

API-first and self-service driven platform providing load balancing, app security and analytics.

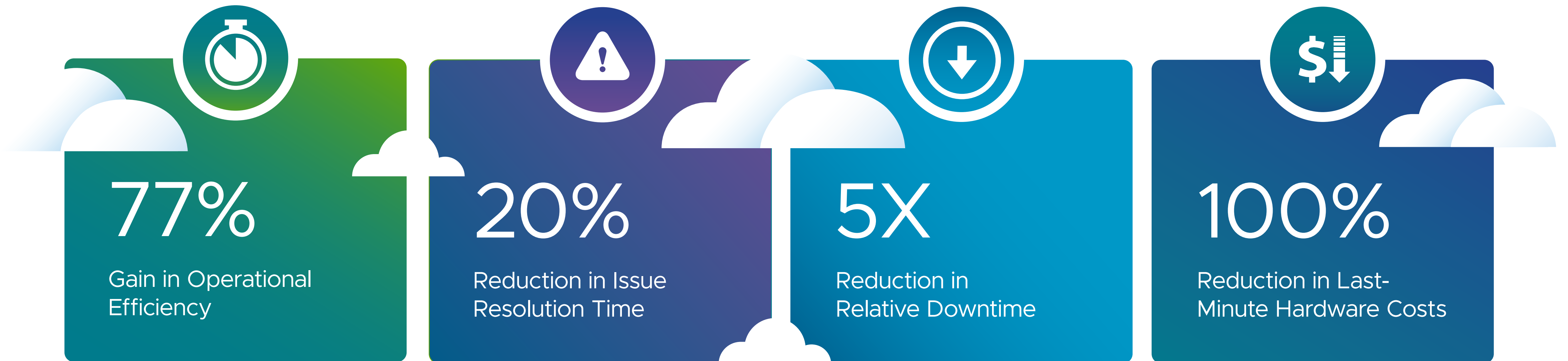


1. VVF entitles a customer to vSAN for .25 TiB of raw capacity for each VVF core. Capacity can be aggregated and used across VVF core licenses. Additional capacity can be purchased separately as vSAN add-on.

2. International Data Corporation (IDC), "The Business Value of VMware Live Recovery," Megan Szurley and Phil Goodwin, November 2023.

Reap the benefits of the enterprise workload engine

VMware vSphere Foundation (VVF) can help your organization overcome IT complexity, accelerate innovation, enhance security, and optimize your IT infrastructure like never before. Take a look at some of the powerful, measurable results you can realize with VVF.



Source: Results are for a composite organization based on interviewed customers. The Total Economic Impact™ Of VMware Cloud Foundation Operations, a commissioned study conducted by Forrester Consulting on behalf of VMware, published April 2024.

So what are you waiting for? Take operational efficiency to new heights and power your organization forward with VVF, the enterprise workload engine.

Get started

Learn more about how VMware vSphere Foundation can help you boost operational efficiency, accelerate innovation, supercharge workload performance, and elevate security.

Check out these helpful resources to get started:

[vSphere Foundation Website](#)

[vSphere Foundation FAQ](#)

[vSphere Product Line Comparison](#)