

TECHNICAL WHITE PAPER:
March 2024

VMware Cloud Foundation Total Cost of Ownership (TCO)

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VMware Cloud Foundation Total Cost of Ownership (TCO)

In order to achieve business outcomes through large digital transformation programs, organizations are looking to drive more innovation as they modernize their applications and infrastructure architectures. This innovation enables organizations to deliver a highly efficient cloud operating model that provides the scale and agility of the public cloud with the security and performance of the private cloud.

VMware Cloud Foundation (VCF) is a private cloud platform that enables organizations to achieve business transformation by automating the entire data center infrastructure lifecycle, providing a highly efficient, agile, and secure solution. VCF empowers organizations to accelerate developer productivity by embracing cloud-native and AI technologies to deliver apps and services to market faster.

VCF supports traditional and cloud-native technologies in a globally distributed infrastructure stack that delivers measurable total cost of ownership (TCO) savings, as outlined in this white paper.

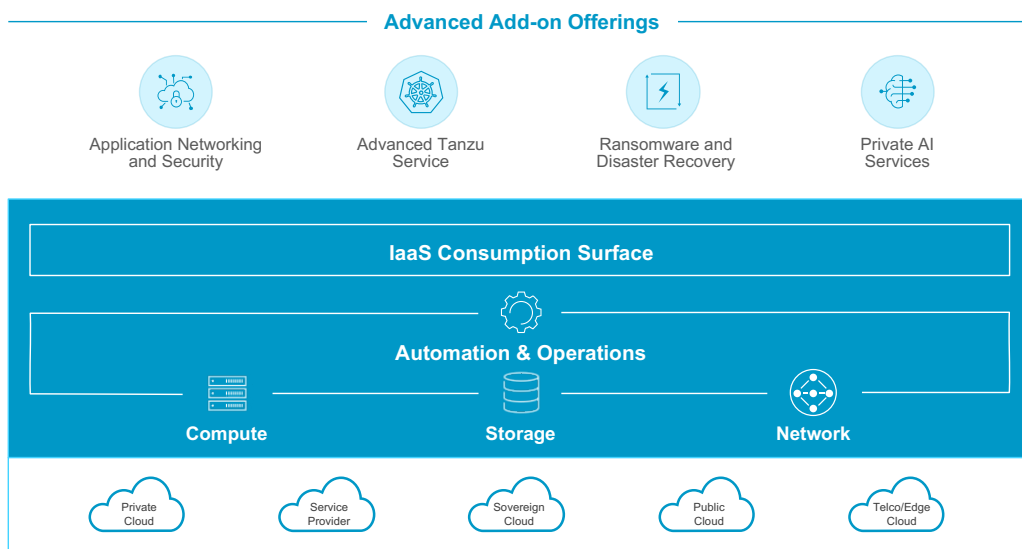


Figure 1: Shows the integrated VCF stack and its add-on services

VMware Cloud Foundation benefits

VCF fully enables organizations to deploy a highly utilized full-stack infrastructure platform and deliver the resilience of enterprise-grade software-defined compute, storage, and networking infrastructure on-premises. VCF reduces infrastructure capital costs by fully leveraging standard X86 compute infrastructure, driving utilization rates up, while maintaining the performance, resilience and cybersecurity protection that is expected in an enterprise grade infrastructure platform.

VCF also reduces data center footprint, reducing facility costs in addition to requirements for power and cooling, lowering overall energy consumption to drive higher conservation, enabling customers to lower their overall carbon footprint.

VCF optimizes operational costs by streamlining and consolidating processes, moving away from siloed models of compute, storage, and networking towards an infrastructure platform where IT teams can work in unison with developers. This approach removes friction through self-service cloud consumption interfaces, enabling developers to work in a highly automated DevOps environment.

VCF enables developers to deploy Infrastructure-as-Code, using APIs and declarative syntax to rapidly achieve business outcomes and deliver new applications to market with 3-5x higher productivity¹.

1. ESG: VMware Tanzu for Kubernetes Delivers for Application Modernization, 2022

VMware Cloud Foundation Total Cost of Ownership (TCO)

The VMware by Broadcom portfolio has been optimized to lower the total cost of ownership (TCO) of deploying on-premises data centers with the following strategic steps.

- Simplify the VMware portfolio to 2 core offerings, (VMware Cloud Foundation and VMware vSphere Foundation), plus a set of Advanced, Add-On Services as detailed in this [blog](#).
- Move completely from perpetual to a subscription pricing model, using compute cores as the fundamental metric for scaling VMware environments.
- Reduce list prices up to 50% compared to previous subscription offers.

This TCO solution brief focuses on the total cost of ownership (TCO) analysis of our new software-defined infrastructure offerings.

Portfolio simplification

VMware by Broadcom has two primary offerings:

1. **VMware Cloud Foundation (VCF)** — the flagship enterprise-class hybrid cloud solution for customers to run their business-critical and modern applications – in a secure, resilient, and cost-efficient manner.

Key highlights

- VCF is a full-stack Infrastructure as a Service (IaaS) solution that delivers software-defined compute, storage, networking, security, and management.
- Integrated self-service infrastructure platform to deploy VMs/containers for developer agility.
- Hardened platform offering built-in resilience, scaling, and clustering for non-stop operations.
- Provides cloud agility to scale infrastructure without scaling staff, delivering cloud consumption on-premises.
- Provides automation and orchestration to simplify Day 0, Day 1, and Day 2 tasks.
- Available as a single SKU to simplify full-stack deployment.

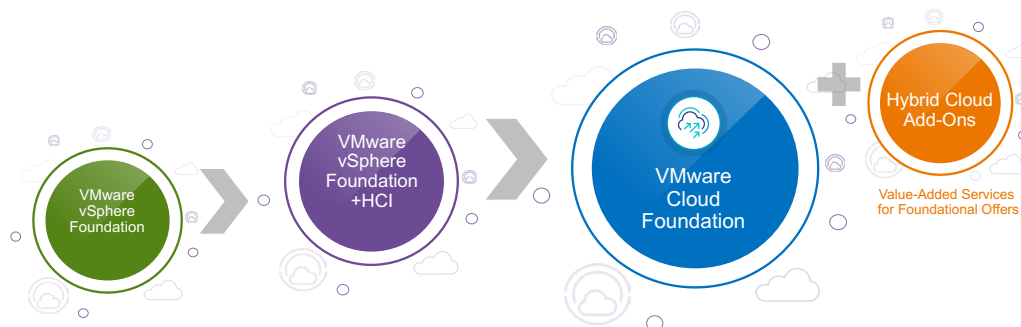


Figure 2: Shows VMware by Broadcom simplified portfolio

2. **VMware vSphere Foundation (VVF)** — a simplified enterprise-grade workload platform for our mid-sized to smaller customers.

Key highlights

- VVF solution integrates vSphere with our intelligent operations management to provide the best performance, availability, and efficiency with greater visibility and insights.
- VMware vSphere Foundation can be upgraded to a Hyperconverged Infrastructure (HCI) solution with an optional software-defined storage (vSAN) add-on.

TCO modeling

The objective of the TCO analysis is to provide a comprehensive evaluation of all the costs associated with the acquisition, implementation, operations, and maintenance of the infrastructure over its lifecycle.

The VCF Cloud Economics Team conducted the TCO based on actual customers' environment analysis. The analysis compares traditional infrastructure versus software-defined infrastructure over a 3-year period, using new per-core subscription pricing.

TCO costs breakdown

The analysis considers the following costs:

Capital Expense (CapEx)

- **Infrastructure:** Server, storage, and network hardware costs

Operating Expense (OpEx)

- **Hardware Support:** Maintenance costs
- **IT Facilities:** Power, cooling, and floor/rack space
- **IT Payroll:** Full-time employees salary/ labor and training costs
- **VMware Software:** VMware software license and support costs

In the traditional infrastructure, the analysis considers infrastructure, hardware support, IT facilities, IT payroll, and vSphere enterprise costs.

In the software-defined infrastructure, the analysis considers infrastructure, hardware support, IT facilities, IT payroll and VMware software license subscription costs based on each scenario (VCF, VVF, VVF w/ vSAN).

TCO results

The results show TCO savings of 51% in VCF, 32% in VVF with vSAN, and 10% in VVF compared to a traditional infrastructure. The below figure shows the breakdown of these savings.

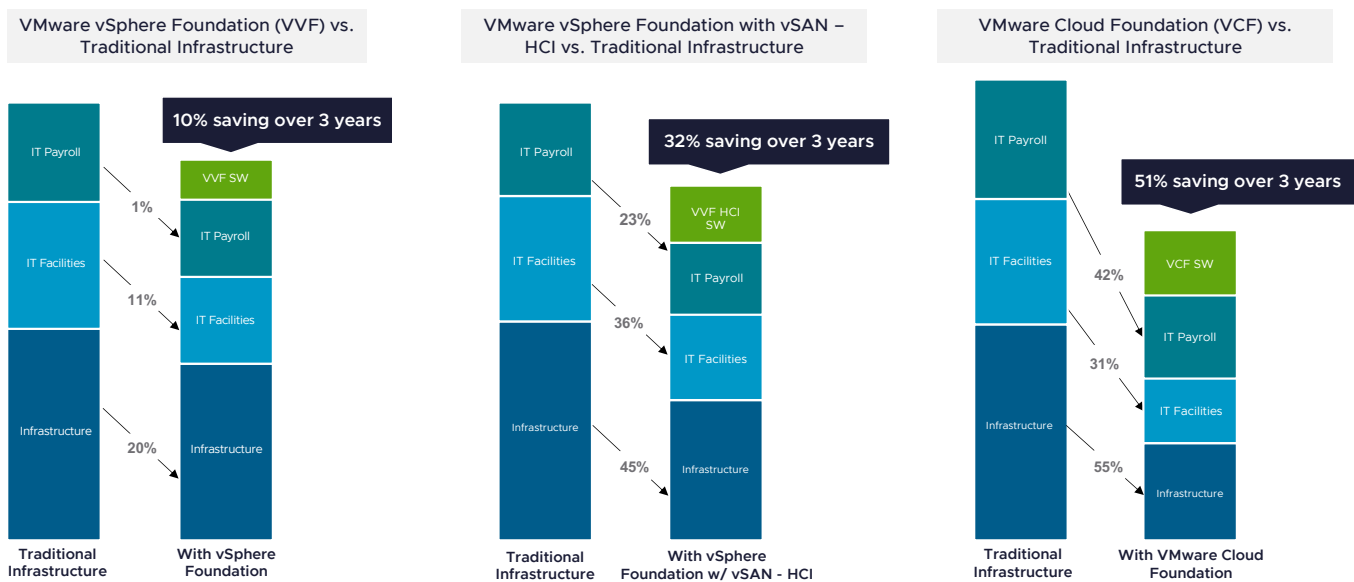


Figure 3: Shows the breakdown of savings and the cost comparison between traditional infrastructure and VMware by Broadcom offerings

VMware Cloud Foundation (VCF)

Full stack VCF delivers 51% TCO savings compared to a traditional infrastructure.

- **Infrastructure** — 55% savings in infrastructure costs. The savings are driven by the reclamation of VMs and increased host server utilization (more VMs per host), which leads to fewer hosts and associated host networking hardware.
- **IT Facilities** — 31% savings in the facilities costs. Reduced hosts lead to lower rack space, power, cooling, and hardware maintenance.
- **IT Payroll** — 42% savings in labor costs driven by automation and orchestration.

The table below shows how each component of VCF impacts TCO savings.

VCF Components	Benefits
Software-defined Compute	<ul style="list-style-type: none"> • Reduce number of physical servers by virtualizing hardware • Actively managed virtualization in a software-defined data center can substantially reduce host servers by consolidating workloads • Lower operating expenses (annual vendor support, power, cooling, rack, floor space, etc.) by reducing VM host servers • A software-defined data center (SDDC) with a common operating platform increases server admin productivity through virtualization (less hardware to manage) and better tools to optimize host server utilization
Software-defined Storage	<ul style="list-style-type: none"> • Lower hardware costs by shifting from external storage to host server storage • Lower hardware maintenance costs • Less power and cooling required, resulting in lower facilities costs • More flexibility as you are not tied to a specific hardware platform
Software-defined Networking	<ul style="list-style-type: none"> • Lower up-front hardware costs • Lower reliance on traditional routers, switches, and load balancers • Greater flexibility and adaptability
Management and Orchestration	<ul style="list-style-type: none"> • Lower energy consumption by better infrastructure consolidation • Improve resource optimization • Improve scalability • Better visibility and reporting capabilities with detailed analytics

Table 1: shows the VCF components and its associated benefits

VMware Cloud Foundation Total Cost of Ownership (TCO)

VMware vSphere Foundation (VVF)

VMware vSphere Foundation (VVF) delivers 10% TCO savings compared to traditional infrastructure.

- vSphere Foundation delivers 20% savings in infrastructure costs, 11% in facilities costs, and 1% in labor costs.
- The savings are driven by incremental virtualization of physical servers, higher infrastructure consolidation, and better operational and management visibility.

VMware vSphere Foundation with vSAN - HCI

When software-defined storage (vSAN) is added to a VMware vSphere Foundation deployment, it delivers 32% TCO savings compared to a traditional infrastructure.

- vSAN provides better infrastructure consolidation, which shows 45% savings in infrastructure, 36% in facilities, and 23% in labor costs.

Conclusion

This TCO analysis demonstrates that moving to software-defined data centers with VMware Cloud Foundation (VCF) can dramatically reduce the total cost of ownership. VCF delivers 3-year TCO savings of 51% compared to traditional infrastructure. VCF is the strategic bridge that brings together people, processes, and technology to get the most out of your digital transformation investment.

Next Steps

- **Have A Deeper Discussion**
Ask your account rep to schedule an EBC
- **Conduct a Financial Impact Analysis**
Choice of self-service or custom assisted workshop
- **Engage Consultative Services**
Schedule a session for VMware Advisory Services

For more information visit [VMware Cloud Foundation home page](#)

Sources: VMware Cloud Economics Team 2024. Results based on actual customer environment analysis using core-based subscription licensing when comparing VCF versus traditional infrastructure.

Disclaimer: Although great care has been taken to ensure the accuracy and completeness of the TCO analysis, VMware by Broadcom does not accept any legal responsibility for any actions taken based on the information contained herein and VMware makes no representations or warranties of any kind.

