

Run Hands-Off and Hassle-Free Production Operations

Automate and simplify data center and cloud management with self-driving operations powered by VMware vRealize Operations



Software Drives Business Outcomes

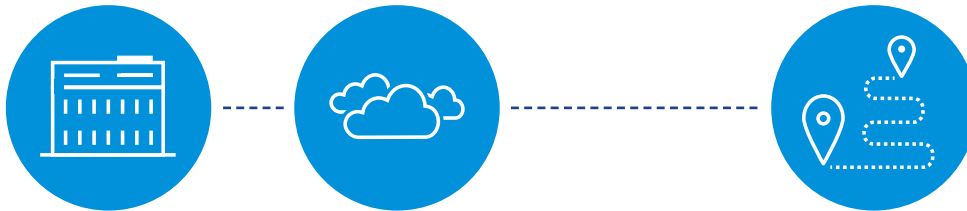
Organizations undergoing digital transformation to create new value recognize that a software-defined approach boosts business agility and provides a competitive advantage. It keeps your team on pace to meet innovation demands. It fosters agility and efficiency, differentiating your business by enabling you to control the development and delivery of your critical apps from the data center to any cloud to the edge. Yet, with greater IT flexibility comes increased operational complexity, taxing your staff to find new ways to simplify and automate operations across hybrid and multiple clouds.

Counter complexity

Until now, accelerating your cloud journey posed significant business and technical challenges to your IT infrastructure and operations. Simply migrating to hybrid cloud or multiple clouds meant overseeing fragmented hardware, a patchwork of monitoring tools and inconsistent governance models. The adoption of a cloud-first mindset and DevOps has threatened the value of existing IT skillsets. Even maintaining enterprise-grade operational excellence as demands increased has been difficult with declining budgets.

Adopt automation

At VMware, we've reinvented IT operations management with a machine-learning platform that simplifies and automates data center and cloud operations by introducing critical, must-have self-driving capabilities.



Our solution connects, senses and adapts to your environment. It provides the actionable insights and unified observability your business needs to optimize performance and utilization in your private, hybrid and multi-cloud environment; simplify application operations for packaged applications; and streamline configuration and compliance.

A New Operations Strategy

Self-driving operations—a simple, yet powerful strategy for automating and simplifying operations management—incorporate artificial intelligence (AI) and machine learning (ML) to help your IT team be more proactive and agile. As your data center grows in scale and complexity, your team can confidently work hands off and hassle free.

Unlike traditional tools, AI- and ML-driven operations management provides:

- Comprehensive data and policy-based control across your entire infrastructure, wherever you choose to run workloads
- A way to optimize observable conditions against business key performance indicators (KPIs)
- Proactive, real time, and reliable optimization, remediation, and compliance leveraging advanced analytics with AI/ML intelligence

Self-driving operations powered by VMware vRealize® Operations™ enable your IT staff to continuously assure performance while optimizing for business impact.



Embracing AI/ML

Similar to designing self-driving cars to use automated machine intelligence to learn, adapt and react to a multitude of vehicular situations, self-driving operations leverage AI and ML for IT operations management.

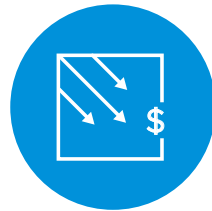
Self-driving operations with AI/ML combine smart algorithms and big data analytics to predict, prevent and intelligently remediate issues—in data centers, hybrid clouds and public clouds—to optimize performance, capacity and costs while making sure infrastructure stays compliant with regulatory and IT standards. Moreover, if IT teams need to take the steering wheel back, it provides app-to-infrastructure observability for intelligent remediation.

For businesses like yours, embracing AI/ML will be a way to combat data overload from ongoing adoption of cloud and more modern, distributed architectures such as containers. AI/ML reduces IT administrative headaches and helps you redirect IT staff toward innovation. You'll deploy faster and reduce both mean time to detect (MTTD) and mean time to repair (MTTR) with end-to-end visibility.

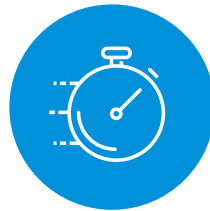
Self-driving operations powered by AI/ML:



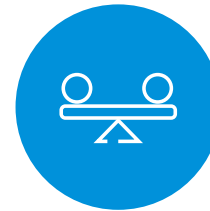
Reduce
downtime



Lower costs



Deliver faster
time to value



Mitigate risk

Enabling transformation everywhere

VMware self-driving operations make cloud complexity invisible, so you can focus on transforming your business at every stage—from apps to infrastructure and across multiple clouds.

Our solution ensures the clouds you choose don't become your next enterprise IT silos. Automation replaces traditionally reactive, error-prone, manual processes. Your business stays in control with complete observability and actionable visibility across clouds as your IT team ensures resources dynamically deliver on your unique business requirements.

IT Strategy	Digital Foundation	Operations Management Benefit
Private cloud on-premises data center	VMware vSphere®	Automated workload optimization, capacity and cost management, as well as app-to-infrastructure intelligent remediation, configuration and compliance for maximum efficiency and consolidation, improving CapEx and OpEx
Core hyperconverged infrastructure (HCI)	VMware vSAN™ VMware HCI	Native integration with virtualized compute and storage for automated performance and capacity management, and apps-to-dying disk troubleshooting for improved visibility, increased uptime and quick time to value
Private cloud on-premises data center	VMware Cloud Foundation™	Automated workload optimization, capacity and cost management, as well as intelligent remediation, configuration and compliance with consistent operations for simply managing consistent infrastructure across your software-defined data center (SDDC) stack
Hybrid cloud	VMware Cloud™ VMware Cloud on AWS VMware Cloud Provider™ Partners	All of the capabilities available for private/on-premises data center environments running vSphere plus consistent visibility and management across hybrid clouds based on vSphere, lowering costs, standardizing operations and reducing risk
Public/multi-cloud	Amazon Web Services (AWS) and Microsoft Azure	Consistent observability across hybrid and public cloud environments, accelerating decision-making, speeding troubleshooting and improving operational efficiency

FIGURE 1: Operations management for all enterprise IT environments.

Self-Driving Operations Tenets

vRealize Operations delivers self-driving operations from applications to infrastructure to help your organization optimize, plan and scale your SDDC and multi-cloud deployments. It addresses the business and technical challenges your IT teams face managing SDDC and multi-cloud environments, automating and simplifying operations management.

Four tenets define VMware self-driving operations:



Continuous performance optimization

Assure application performance with automatic workload placement and by balancing workloads based on business and operational intent.



Efficient capacity and cost management

Run infrastructure like a public cloud with optimal consolidation, proactive planning and procurement for increased visibility.



Intelligent remediation

Predict, prevent and troubleshoot across the SDDC and multiple clouds, from apps to infrastructure.



Integrated compliance

Reduce risk and enforce IT and regulatory standards with integrated compliance and automated remediation.

vRealize Operations offers a flexible deployment model that best aligns with your IT strategy, available on premises or as a service.



Run Hands-Off and Hassle-Free Production Operations

vRealize Operations is the ideal control plane to optimize, plan and scale your SDDC and multi-cloud deployments, from business-critical applications to cloud-ready infrastructure, to achieve business outcomes.

Reduce downtime with continuous performance optimization

Ensure continuous performance optimization based on your operational and business intent; for example, meet performance service-level agreements (SLAs) or leave headroom for business-critical applications or compliance needs, respectively. Next-generation analytics enable you to automatically balance workloads across clusters, increase infrastructure consolidation and optimize performance based on your intent for the workloads. Continuous optimization capabilities in vRealize Operations enable you to proactively identify and automatically resolve contention, minimizing the need for reactive and manual intervention. You can even use tag-based placement to reduce software licensing costs. Your IT organization can reduce downtime and optimize workloads while staying in control by always knowing:

- Where to correctly focus and place workloads
- What actions to take to right-size them
- The impact of every automated action on your intent requirements and goals

“vRealize Operations allows us to gather useful data to monitor and manage our virtual workload performance.”

STUART BURTON,
ICT INFRASTRUCTURE
ARCHITECTURE MANAGER,
THE CHRISTIE

Lower costs and risk with efficient capacity and cost management

Reduce costs and risk with vRealize Operations. Run private and hybrid cloud infrastructure like a public cloud through optimum consolidation with proactive capacity management and planning. Modern ML-driven capacity analytics in vRealize Operations enable your IT staff to proactively identify capacity risk and take actions to optimize utilization. You can right-size virtual machines (VMs), automatically reclaiming resources (hosts, storage, etc.) and save. The simple-to-use vRealize Operations directly correlates capacity and cost analytics, so your IT team can visualize cost-saving opportunities and accelerate decision-making.

Your IT organization can lower risks and costs with vRealize Operations for capacity management by:

- Understanding how much capacity you have and being warned before you run out
- Knowing and evaluating all of your options, including reclamation choices should you run out of capacity and automating actions
- Proactively planning for future capacity spikes and lulls, including procurement and decommissioning hardware
- Benchmarking private cloud costs against multiple public clouds for migration planning, including VMware Cloud, VMware Cloud on AWS, Azure and Google Cloud

“From day one, vRealize Operations has had a positive impact on our private cloud. It has helped us to improve our operational efficiency as well as enable us to achieve significant cost savings by pinpointing and reclaiming wasted compute, memory and storage resources. The reclaimed resources and cost savings we achieved helped fund additional IT projects.”

FABIAN THOMAS,
DATA CENTER MANAGER,
EMIRATES AIRLINE



Speed time to value with intelligent remediation

Enjoy faster time to value with vRealize Operations monitoring and troubleshooting capabilities that predict, prevent and overcome technology and process bottlenecks. vRealize Operations breaks down functional and organizational silos, and unifies operations on and off site for the systems and applications you build as well as those you buy or rent.

Uniquely, vRealize Operations simplifies and automates the operations of the industry-leading virtual storage solution, VMware vSAN, and our HCI platform. From a single console, plan migration from traditional storage to vSAN. See and confidently manage all vSAN operations as well as monitor and troubleshoot vSAN and HCI performance, manage capacity and assess costs. vRealize Operations also provides integrated OS and application monitoring. Your team can use its features to easily and automatically discover VMs and applications, provisioning existing OS and application remote collectors to gather the required metrics for full-stack observability and troubleshooting for common packaged applications.

“vRealize Suite provides solid visibility and troubleshooting capabilities to our networking and operations teams. We can quickly and confidently accelerate our adoption of SDDC.”

BRIAN LANCASTER,
VICE PRESIDENT OF IT,
NEBRASKA MEDICINE

With vRealize Operations, your IT staff has consistent observability capabilities across public cloud and multi-cloud environments to accelerate decision-making, speed troubleshooting and improve operational efficiency. Our open and extensible platform supports highly complex environments, enabling you to manage large, complex heterogeneous and hybrid environments with scalability and resilience. Enjoy federated views across multiple data centers and unified views across hybrid and public clouds such as VMware Cloud, VMware Cloud on AWS and Azure. Deploy domain-specific management packs from VMware and third-party hardware and application vendors for added visibility and control.

Speed time to value with vRealize Operations for intelligent remediation because your IT organization can:

- Eliminate silos and get answers fast with native monitoring of apps to virtual to bare-metal infrastructure, including virtual storage
- Observe and quickly spot anomalies
- Gain visualizations that get you to root causes and triage faster
- Extend observability to physical components as well as public clouds and containers

Mitigate risk with integrated SDDC compliance

Conform to regulatory standards with vRealize Operations capabilities that enable your IT staff to continuously measure your vSphere compliance stature based on regulatory or IT standards as well as automate drift remediation. The solution correlates performance, capacity and compliance metrics to provide a holistic view of your infrastructure, ensuring changes made in one area do not adversely impact other requirements.

Native vRealize Operations integration with VMware vRealize Orchestrator™ reduces operational burdens by enabling staff to automate drift remediation and routine tasks, accelerating triage and speeding resolution times for known issues that typically require human intervention. Included workflows can help boost your compliance posture.

Your IT organization can improve risk management with vRealize Operations:

- Meet hardening guidelines and quickly address any security deficiencies
- Streamline industry compliance
- Easily customize monitoring to meet your requirements
- Automate drift remediation

With deep access to all levels of the application and infrastructure stack, VMware is in a unique position to leverage AI/ML to radically simplify the way you manage your infrastructure and workloads. When our platform detects application performance degradation—from a spike in demand, contention or inadequate resources—it automatically responds based on your specified intent.

“We can now attest that we have faster turnaround times, high-regulatory compliance for business continuity, and set up remote office capabilities and robust access to our systems. We have experienced full digital transformation of our business—the sky really is the limit, and the cloud allowed us to get there.”

JEREMIAH CHUNGE,
HEAD OF ALTERNATIVE
CHANNELS AND TECHNOLOGY,
GENGHIS CAPITAL LIMITED

Response goes beyond moving or balancing workloads to relieve immediate contention. Our platform also adapts to predict contention based on trends, periodicity and anomalies. You can optimize workloads manually, schedule or fully automate.

If workload balancing is insufficient, our platform recommends right-sizing, capacity reclamation opportunities, hardware procurement planning and migration planning to public clouds.

If you have to retake control to troubleshoot, our platform applies predictive analytics, observability from apps to infrastructure and simple workflows to quickly get to the root cause.

When you need to meet industry or business requirements, our platform helps ensure there is no unexpected deviation.

The Value of Self-Driving Operations

A recent Forrester Consulting study¹ documenting the Total Economic Impact™ of vRealize Operations concluded that the solution delivers both business benefits and cost savings.

[Read the study](#), or [calculate your ROI](#).

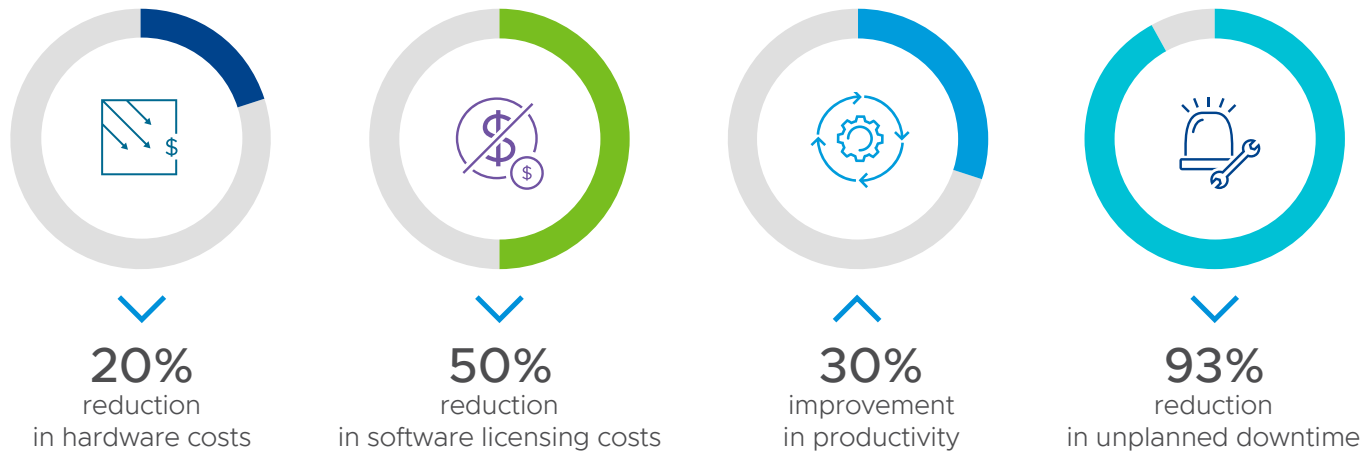


FIGURE 2: Value provided by vRealize Operations.

¹Forrester Consulting. "The Total Economic Impact™ of VMware vRealize Operations." March 2019.



Unlock Value Faster with vRealize Operations

There's an easy way and a challenging way to manage your IT environment. VMware vRealize Operations powered by AI/ML provides a hands-off, hassle-free approach to running production operations—from apps to infrastructure, across hybrid and multiple clouds.

We help you achieve critical business outcomes simply and with confidence—from reducing downtime and lowering costs, to delivering faster time to value and managing risk. Our solution incorporates AI and ML to ensure the delivery of continuous performance optimization based on intent, efficient capacity management, proactive planning, intelligent remediation and integrated compliance. VMware is the global leader in virtualization and cloud infrastructure with more than 500,000 customers and 75,000 partners.

Visit our *Hands-on Labs* to discover how self-driving operations powered by vRealize Operations can accelerate your organization's digital transformation journey.

For more information, visit [vmware.com/products/vrealize-operations](https://www.vmware.com/products/vrealize-operations).

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