

Market Insight Report Reprint

Broadcom positions VCF as the infrastructure substrate for Platform Engineering 2.0

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AI workloads are exposing gaps that developer-centric internal developer platforms were never built to carry. Broadcom sees VCF as a five-pillar evolution covering AI-native infrastructure, embedded FinOps, security shift-down, multi-persona experience and composable architecture.

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Introduction

As platform engineering matures beyond the initial wave of internal developer platforms, Broadcom Inc.'s VMware division argues that organizations must evolve toward Platform Engineering 2.0 — a model that transforms platforms from developer-focused self-service environments into intelligent, governed platforms serving a broader set of stakeholders, including developers, operators, business leaders and emerging AI agents. Broadcom envisions Platform Engineering 2.0 as enhancing automation, governance, cost visibility, security and operational flexibility while addressing the management and governance challenges that have accompanied widespread adoption of internal developer platforms. VMware Cloud Foundation will serve as the underlying infrastructure platform that operationalizes these capabilities. Platform Engineering 2.0 reflects the growing mainstream adoption of platform engineering and the emergence of AI agents as a new class of platform consumer requiring secure, policy-driven access to infrastructure and services.

THE TAKE

The Platform Engineering 2.0 framework is an evolution, not a reset, and Broadcom is positioning VMware Cloud Foundation as the infrastructure substrate that makes the evolution tangible. The five-pillar model addresses structural limitations that current platforms are already hitting: AI-blind architecture, developer-only focus, reactive cost management, inadequate runtime security and rigid tooling stacks. The most consequential near-term shift is the emergence of AI agents as a new class of platform consumer: agents cannot bypass the internal developer platform (IDP) the way developers can, making platform governance mandatory rather than aspirational at agentic scale. Enterprises that delay platform infrastructure modernization risk turning their current IDP into the bottleneck it was designed to eliminate.

Context

Broadcom's Platform Engineering 2.0 framework is a multi-year vision for evolving enterprise platforms to support AI-native development and operations. Developed with the Platform Engineering Community, the framework intends to address a key challenge in platform maturity. While 451 Research survey data finds that platform engineering adoption is gaining broad enterprise traction — more than two-thirds of organizations either evaluating, piloting, partially implementing or expanding platform engineering initiatives — developer engagement remains inconsistent. The data also reveals that 28% of developers frequently bypass IDPs, while 56% do so occasionally. Broadcom argues that this governance gap becomes more significant as AI agents emerge as platform consumers that require standardized controls and cannot operate outside approved workflows.

Broadcom is positioning VMware Cloud Foundation (VCF) as the foundational platform for realizing its Platform Engineering 2.0 vision, arguing that organizations must also adapt to five major market forces that are reshaping software delivery and infrastructure operations. These include the rise of AI-assisted software development, which is shifting bottlenecks from code creation to deployment and governance; the emergence of autonomous AI agents as a new class of platform consumer; growing pressure to optimize cloud and AI spending; increasingly stringent sovereignty, security and compliance requirements; and the need to support a broader range of stakeholders beyond developers, including operations, security, data science and FinOps teams. According to Broadcom, these trends expose the limitations of first-generation platform engineering approaches, creating demand for platforms that are more intelligent, governance-driven, cost-aware and operationally integrated. VCF is intended to provide the common infrastructure and control plane needed to support this evolution toward Platform Engineering 2.0.

Platform capabilities

Broadcom's Platform Engineering 2.0 framework is organized around five strategic pillars that will drive the design and development of VCF capabilities to support it.

AI-native platform: Traditional platforms lack native support for GPU provisioning, model serving, model registries and Model Context Protocol gateways. VCF 9.1 addresses these gaps with multi-accelerator support across Advanced Micro Devices Inc., NVIDIA Corp. and Intel Corp. GPUs, intelligent memory tiering that can reduce server costs by up to 40% and Kubernetes optimizations that lower AI operational costs by up to 46%. VMware Tanzu Platform Agent Foundations extends these capabilities into the agentic AI layer, providing a secure runtime for autonomous AI applications with secrets isolation, zero-trust networking, sandboxing, immutable software supply chains and governed access to enterprise tools and models.

Multi-persona experience: Modern platforms must serve developers, security teams, data scientists, ML engineers, FinOps practitioners and AI agents alike. VCF supports this model through shared platform APIs and VMware's native vSphere Kubernetes Service, which delivers a CNCF-certified Kubernetes runtime, GitOps-driven automation, self-service infrastructure and policy guardrails that balance developer autonomy with operational control.

Embedded FinOps: Cost management shifts from retrospective billing analysis to provisioning-time decision-making. VCF 9.1 introduces AI observability capabilities that track GPU utilization, time-to-first-token and token throughput across accelerator types. Combined with centralized policy controls, organizations can apply budget thresholds and attribute costs by team or model, extending governance to AI token consumption alongside traditional compute and storage resources.

Security shifts down: Rather than relying solely on developer-led "shift left" practices, security is embedded into the platform itself. VMware vDefend provides infrastructure-level micro-segmentation, distributed firewalling, network detection and response, and fileless malware protection. VCF Advanced Cyber Compliance adds continuous compliance enforcement, isolated recovery environments, automated cyber recovery and CrowdStrike Falcon integration to safeguard AI models and training data.

Composable by design: Successful platforms require modular, API-first components that can evolve independently. Broadcom supports this through standards-based networking, an expanding VCF AI ReadyNode ecosystem and GitOps-based delivery with ArgoCD, enabling organizations to adopt or replace tools, infrastructure and AI services without disrupting the broader platform.

Broadcom says that VCF enables Platform Engineering 2.0 by serving as a unifying substrate that supports the five strategic pillars, delivering a secure, automated and cost-transparent private cloud architecture that scales across diverse hardware, models and organizational workflows.

Strategy

Broadcom is repositioning VCF around a per-core subscription model, targeting large enterprises, regulated industries and government organizations. The strategy has concentrated the customer base on high-value accounts, with nine of the top 10 Fortune 500 companies reportedly committed to VCF and more than 100 million licensed cores globally.

Customer adoption reflects Broadcom's focus on sectors where data sovereignty, compliance and operational control are critical. Reference customers include London Stock Exchange Group PLC and ING Groep NV in financial services, Walmart Inc. in retail and Audi in manufacturing. In the public sector, Broadcom secured a \$970 million blanket purchase agreement with the US Defense Information Systems Agency covering VCF, VMware vDefend and VMware Avi Load Balancer across multiple US Department of Defense agencies.

Broadcom is also expanding reach through a partner-led ecosystem. NEC Corp. delivers VCF as a managed service in Japan, Hewlett Packard Enterprise Co. offers GreenLake for VCF, and a NetApp Inc.-Equinix Inc.-KochaSoft collaboration supports SAP modernization initiatives. Partnerships with NVIDIA, Advanced Micro Devices Inc. and Canonical further strengthen VCF's AI infrastructure positioning.

To reinforce its market narrative, Broadcom co-authored the Platform Engineering 2.0 whitepaper with the Platform Engineering Community and Weave Intelligence (an AI-enhanced operational intelligence vendor), framing VCF's role through a practitioner-led lens.

Competition

At the infrastructure layer, VCF competes primarily with Red Hat OpenShift and SUSE Rancher. Both provide enterprise Kubernetes platforms and self-service infrastructure capabilities, but VCF differentiates by integrating virtual machines, containers and AI workloads within a single private cloud stack. OpenShift benefits from IBM's strong presence in regulated industries, while Rancher appeals to organizations seeking open-source flexibility and multi-cluster management across hybrid environments.

Public cloud platforms — including Amazon Web Services, Azure Kubernetes Service and Google Kubernetes Engine — represent a broader alternative for organizations that have not standardized on private cloud. While Broadcom argues that growing AI deployment requirements are driving interest in private infrastructure, hyperscalers retain advantages through managed AI services, reduced operational complexity and stronger access to scarce GPU capacity.

At the developer platform layer, competition centers on tools such as HashiCorp (IBM) Terraform, the dominant infrastructure-as-code solution, and Backstage, the most widely adopted open-source internal developer portal framework. Commercial alternatives include Cortex, focused on service ownership and operational health; Port.io, with an API-first, self-service model; and Cycloid, which emphasizes FinOps, GreenOps and hybrid-cloud orchestration. Broadcom's strategy is not to compete directly with these portals but to position VCF as the infrastructure foundation on which they run.

SWOT Analysis

STRENGTHS VCF unifies VM, container and AI workload management on a single platform with more than 100 million licensed cores worldwide. VMware vDefend embeds zero-trust security and recovery capabilities into the infrastructure layer, while Tanzu Platform Agent Foundations provides a governed runtime for agentic AI with secrets isolation, sandboxing and immutable software supply chains.	WEAKNESSES Platform Engineering 2.0 is a strategic framework rather than a stand-alone product. While VCF provides the infrastructure foundation, organizations must assemble the broader platform capabilities themselves. Subscription-based pricing, customer migration challenges and the complexity of operating private cloud environments may limit adoption, particularly among organizations with less-mature platform engineering practices.
OPPORTUNITIES Growing adoption of private-cloud AI infrastructure, increasing use of AI agents and expanding regulatory requirements around governance, auditability and data residency create favorable conditions for VCF. Organizations need greater control over AI workloads, while regulations and sovereignty demands increasingly favor private-cloud platforms with integrated security and compliance capabilities.	THREATS Red Hat OpenShift remains a strong competitor in enterprise Kubernetes and hybrid cloud environments. Hyperscalers such as AWS, Azure and Google Cloud offer managed AI services and superior GPU access that reduce operational complexity. Meanwhile, widely adopted open-source tools like Backstage and Terraform remain deeply embedded in platform engineering workflows, limiting VCF’s differentiation above the infrastructure layer.

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