

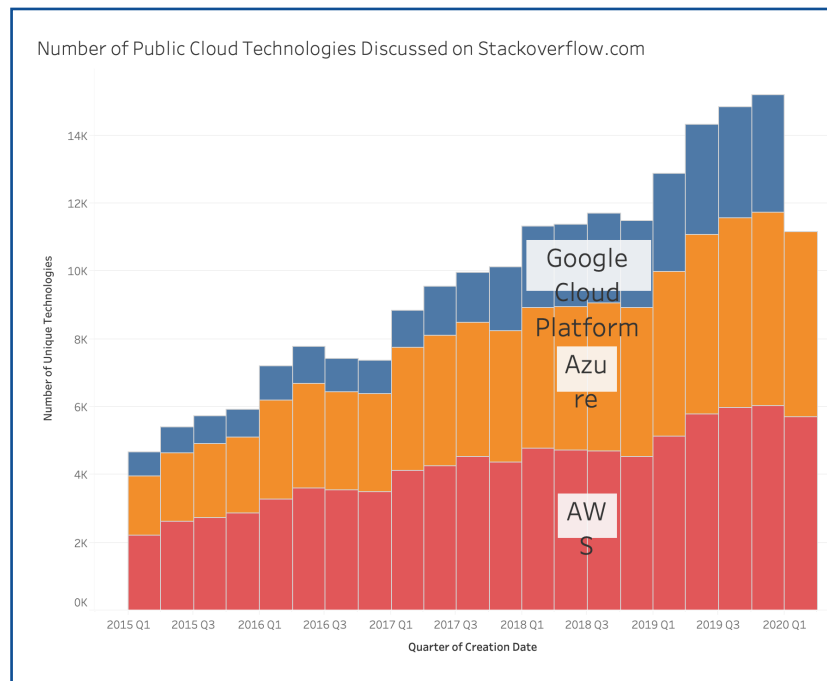
# Applications Rule the World

## VMware Creates One Platform to Rule All Applications

Enterprises strive to deliver better quality products and services faster and at lower cost, while at the same time continuously and proactively anticipating and validating new capabilities that could end up disrupting the marketplace. Digital transformation aims to build up an organization's capabilities to continuously develop and ship better software by creating a platform that allows humans to focus a maximum of time and energy on delivering customer value, while minimizing time spent on the daily grind. In a nutshell, every minute developers and operators spend on tasks that are not directly related to improving customer value is a staff minute lost to the enterprise.

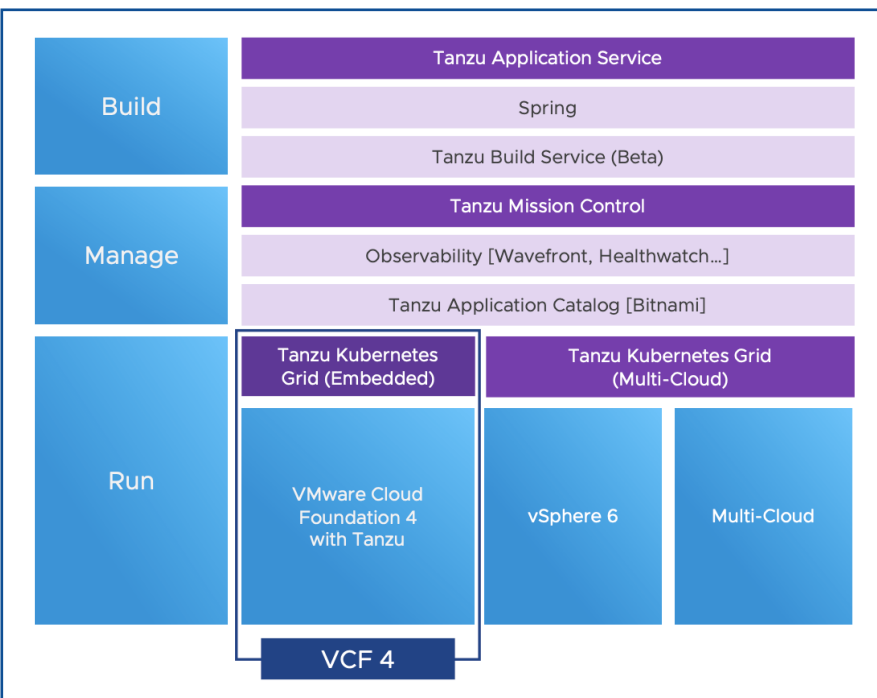
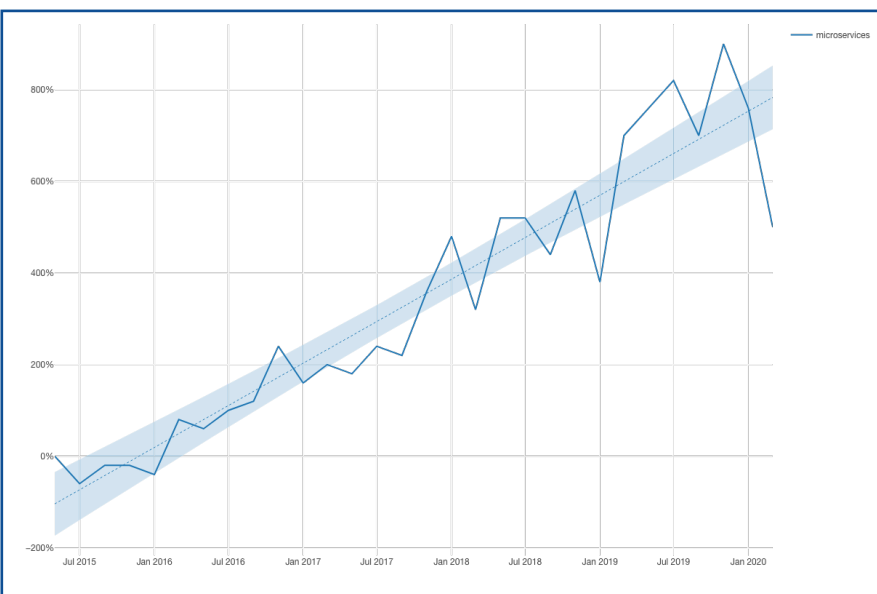
Recent Enterprise Management Associates (EMA) research results illustrate the exponentially growing burden of technology complexity that originates from separating operating models for traditional and modern application architectures, and from the utilization of cloud-specific operations teams and management tools. Ironically, the increase in operational and DevOps pipeline complexity that is now choking productivity was caused by the uncontrolled

consumption of a rapidly expanding portfolio of public cloud services that came with the original promise of eradicating operations costs and risks. Solving this challenge by enabling developers and operators to fully focus on their core strengths instead of losing time and ultimately motivation by figuring out inconsistencies between clouds and application architecture could be described as the pinnacle of digital transformation. Accordingly, VMware has focused all of its own resources to deliver a unified and policy-driven platform that could bring exactly this level of consistency to any enterprise.



## Software Rules the World

“Software rules the world, as it is the root of competitive differentiation,” says Raghu Raghuram, Chief Operating Officer, Products and Cloud Services at VMware. Therefore, VMware’s app modernization and multi-cloud strategy is laser-focused on enabling IT operations professionals and DevOps teams to continuously and efficiently build, deploy, and manage cloud-native apps and traditional enterprise applications side by side, on-premises, and on hyperscale cloud infrastructure. “We will enable millions of IT admins to apply their skills for modern apps,” says VMware’s Ray O’Farrell (EVP and GM), outlining VMware’s ambition of offering one unified platform and operating model that enables the same development teams and operators to build, manage, and operate modern and traditional applications on top of a centrally managed stack of data center and public cloud infrastructure. This unified and policy-driven approach toward managing any type of application on any kind of data center and cloud infrastructure drives the vision for Tanzu and VMware Cloud Foundation.



## Can VMware Rule Software?

VMware fueled its own transformation into an application-centric organization through a series of key acquisitions. From the \$1.26B Nicira acquisition all the way to picking up Heptio (\$550M), Bitnami (undisclosed), Carbon Black (\$2.1B), and Pivotal (\$2.7B), all of these acquisitions added the individual puzzle pieces that provided VMware with the assets and “street cred” needed to define its differentiation at the top of the stack. VMware is now able to deliver app modernization and multi-cloud management independently of application architecture and infrastructure.

## Tanzu and Cloud Foundation – Both Sides of the Digital Transformation Story

While the popularity of microservices-based cloud-native software architecture often built on Kubernetes container clusters has rapidly grown over the previous years, the fact is that an estimated 75% of enterprise applications are still running on traditional hypervisors or on bare metal infrastructure. This is exactly where VMware's two-pronged product strategy could come in to save the day.

### Tanzu: Consistent and Continuous Deployment and Management of Cloud-Native Apps

VMware's Tanzu portfolio is all about providing a framework for building and managing cloud-native applications that can run consistently on any cloud and in any data center without creating any cloud-specific overhead for developers or IT operators. Accordingly, Tanzu delivers all of the developer and operator services to manage and run the entire application stack:

**Tanzu Mission Control:** Consistent management policies for Kubernetes across clouds

**Tanzu Kubernetes Grid:** Consistent Kubernetes runtime included in and managed through vSphere, side by side with VMware's ESXi server virtualization

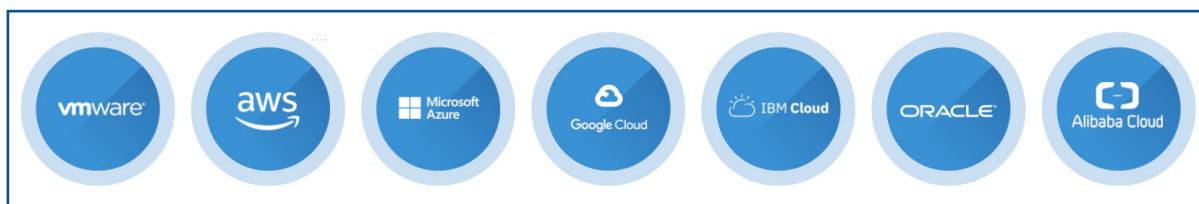
**Tanzu Application Catalog:** Unified enterprise-level service catalog that enables the consistent rollout of applications and microservices across the organization

**Tanzu Application Service:** Consistent runtime for Spring and Spring Boot apps with built-in enterprise operations capabilities

**Tanzu Observability:** Consistent full stack observability across clouds

**Tanzu Service Mesh:** NSX-T-based turnkey service networking

Running Tanzu on Google Cloud Platform, AWS, IBM Cloud, Azure, Alibaba Cloud, Oracle Cloud, or on VMware's own Cloud Foundation built on hyperconverged infrastructure brings an ultimate level of consistency and predictability for operators and developers.



### Cloud Foundation: Unified Multi-Cluster Management for Kubernetes and VMs

VMware's software-defined hybrid cloud platform, built on hyperconverged infrastructure (VMware Cloud Foundation), has grown up to provide an enterprise-grade unified compute, networking, and storage layer on-premises, on AWS, on Google Cloud Platform, and on Azure. VMware developed Cloud Foundation to create a unified infrastructure platform for any kind of traditional enterprise application. Since vSphere 7, this runtime layer natively supports applications running on virtual machines and containers alike. Simply put, applications running on the ESXi hypervisor, as well as applications running on containers orchestrated by Kubernetes, are now both managed through one unified GUI, API, and CLI, also known as the vSphere platform, running on top of VMware's hybrid cloud infrastructure services (VMware Cloud Foundation). Why is this so important?

The combination of Cloud Foundation and the Tanzu Kubernetes Grid enables customers to migrate to Kubernetes, and back if needed, at their own pace and without the risk and pressure of having to refactor existing applications for any specific cloud platform. Once containerized, the infrastructure team can then move the environment to another data center or cloud location with minimal risk and effort.

## EMA Perspective

VMware addresses the complexity, tooling, and skill problems that come with digital transformation at the roots by creating consistent infrastructure and application stacks that finally enable IT operations generalists to control and operate cloud-native apps alongside traditional monolithic applications. The economical implications of eliminating the need for specialized operations teams for data center and cloud technologies are significant. There simply is no logical reason why managing one application should require a fundamentally different skillset depending on architectural and deployment choices. At the end of the day, all end users are asking for is SLA compliance so they can do their jobs efficiently.

At the same time, this newly created consistency frees up a significant chunk of developer time typically spent on debugging infrastructure-related code problems or writing and maintaining the infrastructure code required for an application to run on a stack of cloud-specific infrastructure and services. Nothing frustrates developers more than chasing issues that only appear under certain circumstances on a certain cloud platform and are typically due to configuration issues unrelated to the actual application code. Tanzu and Cloud Foundation eliminate these differences between clouds and enable developers to focus on their actual job, creating better applications.

In a nutshell, EMA believes that VMware's bold strategy of unifying traditional and cloud-native development and operations will pay off for the company, as well as for its customers.

## About EMA

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at [www.enterprisemanagement.com](http://www.enterprisemanagement.com) or [blogs.enterprisemanagement.com](http://blogs.enterprisemanagement.com). You can also follow EMA on [Twitter](#), [Facebook](#) or [LinkedIn](#).

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