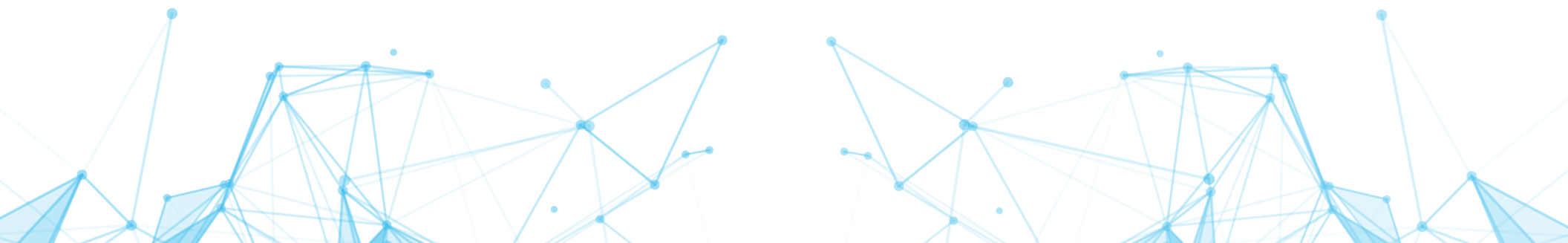PLATFORM9

A Buyer's Guide to Distributed Kubernetes Solutions

Comparison of Google Anthos, Amazon EKS Anywhere, VMware Tanzu, Azure Arc, and Platform9

About This Guide

Organizations are looking to modernize their infrastructure and adopt cloud-native technologies like Kubernetes to both develop new applications and containerize existing applications, across a diverse mix of data center, public cloud and edge locations. Gartner expects that up to 15% of enterprise applications will run in a container environment by 2024, up from less than 5% in 2020[1]. Kubernetes has also become the dominant container orchestration platform with 50% of container deployments utilizing Kubernetes[2].

Organizations are also increasingly looking to utilize managed service models for Kubernetes deployments to allow them to achieve faster time to market for new projects and reduced cost and difficulty of managing their deployments, relative to do it yourself approaches (integrating and managing a range of open source technologies and custom code) or traditional installed solutions (which require an often complex initial installation, and ongoing management by the user).

These trends have driven ongoing evolution in the landscape of managed Kubernetes services. There are a number of managed Kubernetes services that claim to offer distributed and multi-cloud management capabilities, in order to help organizations cope with the sprawl of their infrastructure across regions, clouds, and edge locations. While all of these services offer a path to becoming cloud-native, a deeper understanding of the nuances of each will make a buying decision better informed.

This Buyer's Guide is a tool you can use to better understand the tradeoffs with each of the top managed Kubernetes services, in order to pick the right one for your infrastructure, application and business requirements.

Comparison Criteria

This guide compares cloud-based managed Kubernetes services that fit into the following criteria.

1. They enable deployment and management of clusters on at least one public cloud, on data centers and at edge locations

2. They provide a SaaS-managed service to operate Kubernetes clusters, including upgrades, monitoring, uptime SLAs, integration support, RBAC, and multi-tenancy. Note that these are all for the Kubernetes components (as opposed to the underlying infrastructure).

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[1] https://www.gartner.com/en/newsroom/press-releases/2020-06-25-gartner-forecasts-strong-revenue-growth-for-global-co
[2] Extrapolation from https://www.datadoghq.com/container-report/

A Note On Microsoft Azure Arc

While Microsoft Azure Arc is well-positioned to help organizations build out hybrid cloud infrastructure, it does not offer a SaaS-managed Kubernetes service that organizations can use to deploy and manage clusters on-premises and at edge sites.

Azure Arc's current capabilities include:

- Connecting Kubernetes clusters running outside of Azure for inventory, grouping, and tagging

- Deployment of applications and application of configuration by using GitOps-based configuration management

- Use of Azure Monitor for containers to view and monitor clusters

- Application of policies by using Azure Policy for Kubernetes

As of January 2021, the Microsoft Azure Arc FAQ states:

"Azure Arc enabled Kubernetes allows you to connect Kubernetes clusters to Azure for extending Azure's management capabilities like Azure Monitor and Azure Policy. The maintenance of the underlying Kubernetes cluster itself is done by you."

Our criteria for comparison are centered around cloud-manageability and how managed Kubernetes services take away the need to manually deploy, upgrade, monitor, and operate distributed Kubernetes clusters running across clouds, private data centers, and edge locations. Since Azure Arc does not reduce the operational burden of running and operating Kubernetes clusters, we believe comparing the top managed Kubernetes services with Azure Arc would not add value to this Buyer's Guide. For this reason, we have decided to leave it out from the full comparison.

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Landscape of managed distributed Kubernetes solutions

Shown below is the landscape of the top managed Kubernetes services and their relative standing in terms of two critical dimensions that impact enterprises the most:

1. Freedom from lock-in
2. Maturity as a distributed, multi-cloud service
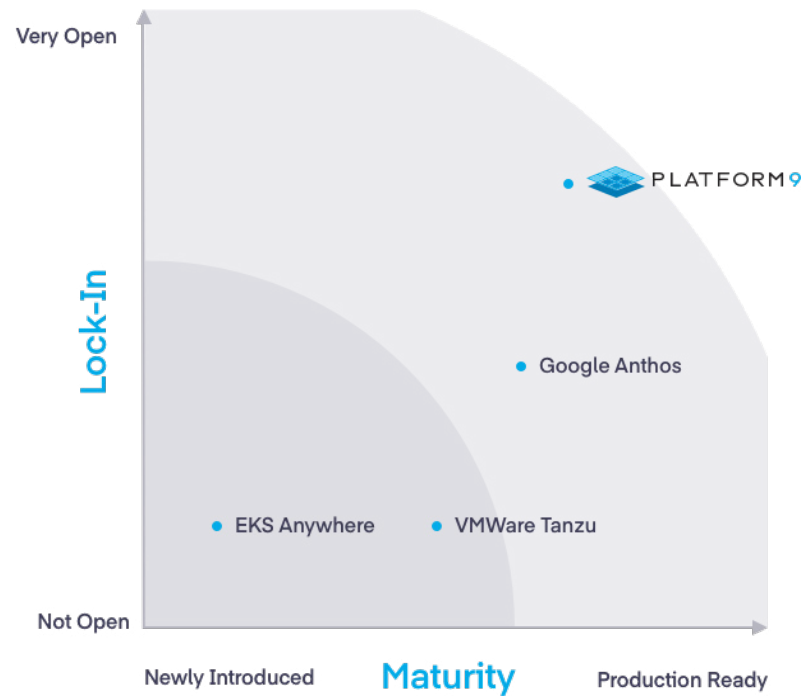
Freedom from lock-in

Lock-in comes in several forms:

- Incompatibility with upstream open source Kubernetes versions

- Tight coupling of managed Kubernetes services with specific upstream Kubernetes versions

- Proprietary products or cloud services that are bundled into or optimized with the Kubernetes offering, which are difficult to decouple from

- Lack of functionality or compatibility with certain cloud, edge or on-premise infrastructure types

- Requirement for system integration and professional services to implement large-scale deployments for hundreds of clusters. This challenge is magnified if you have edge use cases.

Platform9 has the least lock-in considering the above factors. VMware Tanzu requires use of many other products (such as NSX or vSAN and others) to complete the solution. Google Anthos runs on-premises and on AWS with limited functionality compared to GKE, and each version of Anthos is tightly coupled with a specific Kubernetes version. EKS Anywhere requires deploying its own distribution of Kubernetes (EKS-D).

Maturity as a distributed, multi-cloud Kubernetes service

Maturity of the managed Kubernetes service is important because once deployed, the clusters need to be operated in an efficient and risk-averse manner. There also needs to be a minimal set of capabilities and integrations that allows DevOps teams to quickly deploy and get value out of Kubernetes. Here are some factors that help assess the maturity of a managed Kubernetes service:

- Amount of time a production-ready (generally available) version of the service has been available in the market

- Lifecycle management of critical components that are needed to run applications on Kubernetes clusters

- Compatibility and ease of integration with Kubernetes ecosystem

- Range of cloud providers and infrastructure types across which the service is managed in a consistent way

Platform9 has offered production-ready managed Kubernetes to enterprises since February 2017, while VMware Tanzu Mission Control, EKS Anywhere, and Google Anthos have been generally available for less than 2 years. EKS Anywhere is not generally available as of the time of writing this guide. Anthos is inconsistent in the functionality it provides on GKE versus on-premises and other clouds, and VMware Tanzu natively manages clusters only on AWS among the public clouds.

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Twenty (20) detailed capabilities to consider while evaluating a managed distributed Kubernetes platform

Deployment

1. Supported cloud infrastructure

While the promise of Kubernetes is complete portability of workloads, in reality managed Kubernetes services don't always support clusters running just anywhere. Organizations planning for hybrid or multi-cloud long term goals must consider the support and compatibilty of managed Kubernetes services on the various cloud providers and infrastructure options that are a part of their long term plan. As opposed to simply attaching Kubernetes clusters for visibility, a fully-managed Kubernetes offering would include maintenance, upgrades, deploys, and other capabilities on the supported infrastructure that go beyond providing basic visibilty.

2. Speed of onboarding

A successful Kubernetes platform must be easy to implement and maintain so organizations can leverage containers continuously. This alone is a major barrier that many organizations do not overcome.

3. Multi-version support

Organizations may need to run multiple versions of Kubernetes rather than be forced to stick to a single, specific version based on the managed service provider's support. This is advatageous when test/dev clusters are not preferred to be on the same Kubernetes version as production clusters, or when an organization is currently on a different version of Kubernetes than the one that the managed service supports.

4. Bare metal cloud

For organizations looking to deploy Kubernetes clusters on premises, deploying clusters on bare metal must be a seamless experience in order for them to fully realize the value of Kubernetes and containers. This enables organizations to do away with virtualization licensing costs, the management overhead associated with the virtualization stack, and the performance hit that applications incur because of the hypervisor layer. Kubernetes solutions that include or tightly integrate with bare metal orchestration and automation tools have an advantage, since they enable organizations to run Kubernetes on bare metal without the pain of managing bare metal themselves.

5. Virtualization support

While running containers efficiently is usually the main motivation for adopting Kubernetes, most organizations find that they still need to run and manage VMs. This happens because of various reasons - some applications are not designed to be run on containers, legacy workloads are harder to containerize, the effort needed to migrate applications to containers is too large and expensive, to name a few. This results in the maintenance of separate stacks for VMs and containers, which increases the operational burden on infrastructure teams. Support for VM management alongside Kubernetes containers simplifies this.

Operations

6. Multi-cluster management

A single Kubernetes cluster can scale horizontally to support large sets of workloads. However, running Kubernetes in production requires being able to run multiple Kubernetes clusters, as you will want to fully isolate your dev/test/staging applications from production applications by deploying them on a separate cluster.

7. Monitoring

A production Kubernetes cluster must be monitored at all times to handle any issues and outages without severely affecting cluster and application availability to users. An enterprise Kubernetes solution must provide this capability out of the box.

8. Production grade support/SLAs

As more and more organizations are running their business on Kubernetes, IT must ensure that it can support the SLAs that the business requires. IT must ensure that Kubernetes is available to developers and the business to support key initiatives. Most organizations require 99.9% uptime.

9. Private registry support and image management

Running containerized applications on Kubernetes clusters requires having access to a container registry where your application images will be stored. A large enterprise organization will typically want a secure private container registry to store their proprietary application images.

An enterprise Kubernetes solution should provide image management capability out of box.

10. Cluster upgrades

Kubernetes has a large community of contributors and a new version is available every 3 months. An enterprise-class solution will support rolling upgrades of clusters, such that the cluster and the cluster API is always available even while the cluster is being upgraded. Additionally, it will provide the ability to rollback to previous stable version upon failure.

11. Multi-tenancy, role-based access control, and single sign-on support

Kubernetes supports multi-tenancy at the cluster level using the namespace abstraction. However, in a multi-cluster environment, you need a higher level multi-tenancy abstraction to supplement Kubernetes multi-tenancy and provide the right level of isolation across different teams of users. It should integrate with Single-Sign On (SSO) solutions most commonly used by enterprises such as Active Directory or ADFS, Okta, and other popular SAML providers.

12. Support for automated application deployments

Application catalog and Helm provides easy one-click deployment for a set of pre-packaged applications on top of Kubernetes. It also provides end users a vehicle to build and publish their own applications via the catalog for others in their team or their organization to deploy in a one click manner. The application catalog enables organizations to standardize on a set of application deployment recipes or blueprints, avoiding sprawl of configurations.

13. Managed CNI

Networking in Kubernetes can get complex, and is not trivial to understand. Kubernetes specifies a Container Network Interface (CNI) which enables software defined networking plugins like Calico and Flannel to be integrated with Kubernetes clusters. The lifecycle of the CNI must be managed by the platform provider, and the vendor should be able to help troubleshoot issues with the CNI. Services are provided on the design and implementation of cluster networking by the managed offering.

14. Managed load balancing

Load balancers are an important component of Kubernetes clusters - not just for load distribution, but also for Ingress. A complete, production-ready Kubernetes solution should include load balancers that are supported on the underlying infrastructure. It should also manage the lifecycle of the load balancer.

Integrations

15. Support for CI/CD integrations

One of the most critical workloads run by the developers is Continuous Integration / Continuous Delivery. A robust CI / CD pipeline is critical to ensure agile development and rapid delivery of new software releases to customers.

16. Storage integrations

Similar to networking, integration with enterprise grade storage is an essential component of running Kubernetes clusters in production. Kubernetes provides an abstraction called Persistent Volumes to hold data persisted by stateful applications. It is important for an enterprise Kubernetes product to map PVs to an actual highly-available storage technology. Enterprises will typically want their Kubernetes deployment to integrate with storage solutions that they have already deployed such as NetApp, Pure, SolidFire, etc. or they may want to integrate with a container native storage technology such as Portworx.

PLATFORM9

Portability and Readiness

17. Effort to migrate off of provider

Lock-in occurs in different ways. Some of the common ways are: cloud services that tie organizations to vendors, vendor-specfic Kubernetes distributions, architecture, and the skillsets and culture of teams. An important factor to consider when adopting a managed Kubernetes service is the level of effort needed to migrate off of the service, which indicates how free you are from vendor lock-in.

18. Production readiness

Given the complexity of Kubernetes, it is important for the managed Kubernetes service to have been generally available in the market for a reasonable amount of time. Especially for clusters deployed in production environments, experienced support and a reliable, battle-tested product are important factors to consider.

19. Free managed service plan

Not every company is ready to go into production right away. Kubernetes is still new and companies need the room to start free, learn, test, and then scale to production on their terms. A 100% free managed service gives users the freedom to start at zero cost and grow at their own pace into more supported options.

Comparison Scoreboard

The following summary score card table covers all the 20 technical and operational categories and the pie charts indicate the level of completeness of the corresponding capability in the products being compared.

Deployment

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Any-where
Supported cloud infrastructure	●	◔	◑	◑
Speed of onboarding	●	◑	◔	◑
Multi-version support	●	◑	●	●
Bare metal cloud	●	◑	◔	◑
Virtualization Support	◑	○	◑	○

Comparison Scoreboard

The following summary score card table covers all the 20 technical and operational categories and the pie charts indicate the level of completeness of the corresponding capability in the products being compared.

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Multi-cluster management	●	●	●	●
Monitoring	●	◕	◑	◔
Production grade support/SLAs	◔	◔	◑	◕
Private registry support and image management	◔	◑	◔	◔
Cluster upgrades	●	●	◔	◑

PLATFORM9

Comparison Scoreboard

The following summary score card table covers all the 20 technical and operational categories and the pie charts indicate the level of completeness of the corresponding capability in the products being compared.

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Multi-tenancy, role-based access control, and single sign-on support	●	◕	●	◐
Support for automated application deployments	◔	◕	●	◕
Managed CNI	●	◕	◔	◕
Managed load balancing	●	◔	◔	◐

PLATFORM9

Comparison Scoreboard

The following summary score card table covers all the 20 technical and operational categories and the pie charts indicate the level of completeness of the corresponding capability in the products being compared.

Integrations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Any-where
Support for CI/CD integrations	◐	◕	◐	●
Storage integrations	◕	◕	◐	◐

Comparison Scoreboard

The following summary score card table covers all the 20 technical and operational categories and the pie charts indicate the level of completeness of the corresponding capability in the products being compared.

Portability and Readiness

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Any-where
Effort to migrate off of provider	●	◗	◔	◔
Production readiness	●	◑	◔	○
Free managed service plan	●	◑	◔	◔

PLATFORM9

Detailed Comparison Table

Deployment

Product	Platform9	Anthos	VMware Tanzu	Amazon EKS Anywhere
Supported cloud infrastructure	Platform9's unique remotely-hosted SaaS-managed offering enables organizations to run upstream open source Kubernetes clusters on any infrastructure: • on-premises • public clouds • at the edge Platform9 remotely handles all the complex monitoring, alerting, upgrading, and SLA management.	Manages Kubernetes clusters running on-premises and in Google Cloud and AWS (Azure support is in preview mode). However, several enterprise features are only available when deployed on GKE, such as: multi-cluster Ingress, security/encryption features, service mesh features, usage metering, and auto-scaling.	Can be deployed on-premises or in all the major public clouds. Supports clusters running on public clouds, vSphere and certain bare-metal infrastructure. Control plane can be hosted on-premises or in the public cloud. Can only fully manage Kubernetes clusters on AWS if you are running VMware on AWS infrastructure.	EKS Anywhere is deisgned to extend AWS EKS to infrastructure outside of AWS. This inlcudes physical servers or virtual machines. EKS Anwhyere does not support any public clouds outside of AWS.

PLATFORM9

Detailed Comparison Table

Deployment

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Speed of Onboarding	Fully automated deployment and easy UI-driven wizard gets Kubernetes clusters running in a few minutes.	Requires setup of multiple tools. Manual setup and configuration process.	Requires setup of multiple tools. Manual setup and configuration process.	Requires setup of multiple tools. Manual setup and configuration process.
Multi-version support	Platform9 Managed Kubernetes maintains a list of supported Kubernetes versions and users are able to deploy a selected version at the time of cluster creation.	• Each version of Anthos is tied to a Kubernetes version, so upgrading your cluster requires an Anthos upgrade. • Multiple clusters can't be deployed with different versions of Kubernetes.	Tanzu grid version 1.2 supports multiple versions of Kubernetes: 1.19.1 1.18.8 1.17.11	EKS Anywhere maintains a list of supported Kubernetes versions and users are able to deploy a selected version at the time of cluster creation.
Bare metal cloud	• Platform9 Managed Bare Metal provides end-to-end automation for bare metal nodes that are added to Platform9 Managed Kubernetes clusters. • Provisioning, deployment, and management of bare metal nodes can be done from the Platform9 SaaS control plane.	• Bare metal nodes can be added to Anthos based Kuberentes clusters. • Actual bare metal provisioning, deployment, and management is the responsibility of the customer.	• Does not provide management for Kubernetes clusters running on bare metal. • Kubernetes clusters can be attached to Tanzu Mission Control for visibility, but not for management.	• Bare metal nodes can be added to EKS Anywhere based Kuberentes clusters. • Actual bare metal provisioning, deployment, and management is the responsibility of the customer.

Detailed Comparison Table

Deployment

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Virtualization Support	• Managed Kubevirt enables VMs to be deployed and managed by Kubernetes, alongside containers. • Available for Early Access, and will be generally available in mid-2021.	• Anthos does not currently provide support to run VMs on or alongside Kubernetes clusters. • Migrate for Anthos helps transition VM-based workloads into container-based workloads.	Kubernetes and Tanzu runtime services are available on vSphere 7. This enables VMware admins to run and manage VMs alongside containers using vSphere.	EKS Anywhere and EKS do not support a way to manage VMs alongside containers.

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Detailed Comparison Table

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Multi-Cluster Management	• Built in multi-cluster support. • Admins can create and manage multiple clusters across different regions, data centers, edge locations, and public clouds.	• Supports multi-cluster management and configuration. • Clusters can span a range of on-premises or multi-cloud infrastructure.	• Supports multi-cluster management and configuration. • Clusters can span a range of on-premises or multi-cloud infrastructure.	• Supports multi-cluster management and configuration. • Allows users to provide granular access to specific cluster namespaces, or open and flexible access for creation and management of clusters.
Monitoring	• 24 x 7 live monitoring • 99.9% guaranteed SLA • Proactive repair • Automated email notifications for any issues • Automated support ticket creation and triaging of issues • Out-of-the-box automated deploy of Prometheus and Grafana	Uses Google Cloud's Cloud Logging and Cloud Monitoring platforms by default to monitor clusters. Prometheus and Grafana may also be used. However, Cloud Logging and Cloud Monitoring are required if customers seek official support.	No built-in monitoring integrations, but compatible with Prometheus and other Grafana Traditional support ticketing process for issues.	EKS Anywhere ships with Prometheus and Grafana as core cluster components. You are also able to integrate connected clusters with AWS services like AWS Cloud Watch.

Detailed Comparison Table

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Production grade support/ SLAs	• Platform9 contractually promises 99.9% cluster uptime and high availability • Provides self healing and problem resolution through the service	• GKE clusters have 99.5% for regional clusters and • 99.95% for zonal clusters • Anthos GKE on-prem support covers most components like Kubernetes and container runtime, F5 controller, Calico, and Ingress controller	• Traditional enterprise class support model. Guaranteed response times depend on incident severity and support plan tier. • Troubleshooting handled via support tickets • Customers drive manual upgrades and any issues require support team engagement	• No support for Kubernetes control plane (API Server, Etcd, and highly available deployments) • Lack of community knowledge or third-party support. • Underlying infrastructure is the responsibility of your platform team.
Private registry support and image management	• No out of the box support for private registries. • Registries and secrets required to authenticate with the registries need to be managed by the customer separately.	• No built-in registry service • Compatible with all standard Docker registries	• No built-in private registry • Primarily designed for integration with private registries through VMware Harbor • Non-VMware registries also supported	EKS Anywhere supports native integration with AWS ECR for image managment.
Cluster upgrades	• Fully automated cluster upgrades delivered seamlessly, with no interruption to the environment • Zero-downtime upgrade • Multi-version support so don't need to upgrades all clusters at the same time	Clusters can be upgraded manually or automatically using methods supported by GKE.	• Uses Kubernetes Cluster API to automate upgrades. It is a Tanzu specific set of manual prerequisites and steps to follow. • Troubleshooting is left to the customer. Issues require a call to VMware support	EKS Anywhere will require you to manually upgrade your clusters. As of Feb 2021 AWS has provided no technical documention on upgrades. This assesment is based on AWS EKS cluster upgrade requirements.

Detailed Comparison Table

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Multi-Tenancy, Role-Based Access Control, and Single Sign-On Support	• Support for multi-region management • Built in multi-tenancy support • Kubernetes RBAC is fully supported • Full support for Single- Sign On (SSO). Integrate with a SAML-based provider that your organization uses such as Okta, ADFS, Ping Identity, etc.	• Uses native Kubernetes RBAC • RBAC settings can be managed centrally through Anthos Config Management • Full support for multi-tenant clusters	• Extends Kubernetes RBAC with additional roles • Users and groups can be managed through VMware Cloud Services • Single-sign not available by default but can be set up using a plugin	• EKS Anywhere can be integrated into AWS IAM and/or OAuth for cluster authentication • RBAC management is based on YAML file configurations with no native GUI or versioning for consistancy
Support for automated application deployments	• Administrators can provide users access to applications that are private to the organization • Support for managed apps • Users can leverage Helm to deploy applications on Platform9, and Platform9 support will help with issues. Application catalog will be available in Platform9 in 2021.	• Applications can be deployed from Google Cloud Platform Marketplace • Applications can also be deployed using Helm charts or similar techniques using Anthos Config Management repos; however, this requires some manual setup	• Built-in application catalog that is populated with public Helm chart applications • Compatible with Open Service Broker API for deploying services	EKS Anywhere ships with Flux which can be leveraged to automate the deployment fo new container images to the cluster.

PLATFORM9

Detailed Comparison Table

Operations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Managed CNI	• Platform9 supports both Flannel and Calico, with Calico as the defualt and prefered CNI • As an experienced managed provider, Platform9 manages the entire lifecycle of Calico. This is made possible through a combination of software and years of experience operating SDNs for large enterprise Openstack Neutron deployments.	• Works with networking options provided by GKE (Flannel, Calico) • Anthos Service Mesh provides Istio CNI out of the box, on-prem and on GKE	• The Tanzu Kubernetes Grid Service supports two CNIs: Antrea and Calico, with Antrea being the default. You can override the default CNI by explicitly specifying the CNI to use • There is no managed option for these CNIs • These are part of the Tanzu product line and follow traditional support models	• EKS Anywhere ships with an included CNI • As of Feb 2021 AWS hasn't stated which CNI and what support is provided
Managed Load balancing	• Platform9 installs, suports and manages the life cycle of a service load balancer across all cloud and on-premises infrastrucure • On public clouds Platform9 will deploy the native cloud load balancer and manage the deployment within the lifecycle of the cluster • For Edge and On-premises deployments Platform9 deploys and manages MetalLB.	Integrates with F5 natively for on-prem deployments, Google Cloud Load Balancer on GKE, and various third party options on-prem and on AWS/GKE.	If you are using vSphere Distributed Switch (vDS) networking for Workload Management (instead of NSX-T networking), you need to supply your own load balancer. VMware provides an implementation of the open source HAProxy load balancer that you install in your vSphere with Tanzu environment.	• EKS Anywhere ships with an included service load balancer • As of Feb 2021, AWS hasn't stated which load balancer will be provided and has no statements on the support

PLATFORM9

Detailed Comparison Table

Integrations

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Support for CI/CD integrations	Platform9 integrates with most major third party CI/CD toolchains.	• Any CI/CD tools that are compatible with GKE can deploy to clusters managed via Anthos • Cloud Build is Google Cloud's native CI/CD solution, but most major third-party tools are supported as well	• Designed especially for integration with VMware Concourse CI/CD • Also compatible with most major third-party CI/CD toolchains (Jenkins, GitLab, etc.)	EKS Anywhere ships with Flux for continuous deployment, extending or replacing is the responsibility of the user.
Storage Integrations	• Supports integration with any FlexVolume drivers • Integrates with any Cinder-supported storage backend (NetApp, Pure Storage, etc.) • Compatibility with all CSI-compliant backends	• Compatible with GKE-supported storage solutions (standard Kubernetes volumes and certain GCP storage services) • Storage add-ons can be deployed through Google Cloud Platform Marketplace	• Opinionated storage solution through integration with vSphere via Project Pacific. For a true software-defined underlying storage solution, you will need to use vSAN as a mandatory component increase the cost of the solution.	• Ships with a supported storage platform • As of Feb 2021, AWS is yet to provide information on the storage provider. • It can be expected that EKS Anywhere clusters will also support the full array of CSI based storage integratoins.

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Detailed Comparison Table

Portability and Readiness

Product	Platform9	Google Anthos	VMware Tanzu	Amazon EKS Anywhere
Effort to migrate off of provider	• Organizations use Platform9 to deploy upstream Kubernetes versions of their choice, on any infrastructure. The clusters could be deployed on multiple public clouds, in data centers, or at edge locations. The functionality and managed offerings do not vary at all between the various deployment options. • Platform9 provides managed services around Kubernetes (like MetalLB and Calico), and these are all open-source technologies which are provider-agnostic.	Customer deploys upstream Kubernetes, but will lose several important operational services when switching. Especially for clusters deployed on GKE, services running on top like multi-cluster Ingress, security/encryption features, service mesh features, usage metering, and auto-scaling will all have to be re-architected to move off of Anthos.	Kubernetes implementations in VMware will necessarily leverage the broader certified VMware ecosystem as well as several other products which are needed for a scalable production solution. Ingress, authentication, storage, networking, and autoscaling all have dependencies into the VMware portfolio. While it is possible to replicate the infrastructure components in a public cloud (e.g VMware on AWS etc), this adds to the cost and does not provide a way to move to a non-VMware environment easily.	Organizations looking to move away from the AWS ecosystem will require users to re-tool all infrastructure management, re-tool kubeconfig management and where any AWS specific services have been integrated, look for a specific replacement. Further to this, users should also assess multi-cluster managment tooling, configuration managmenment and identity mangement as all capabilties will require a replacement solution since Kubernetes doesn't provide any out-of-the-box features to support these functions.

PLATFORM9

Detailed Comparison Table

Portability and Readiness

| Product	Platform9	Anthos	VMware Tanzu	Amazon EKS Anywhere
Production readiness	Launched in February 2017 as the industry's first infra-structure-agnostic managed Kubernetes service.	Generally available since April 2019, and support for connecting bare metal nodes to Kubernetes clusters has been generally available since November 2020.	Announced in beta in November 2019 and GA in March 2020.	Not Generally Available. Was announced in December 2020 as "coming in 2021".
Free managed service plan	• Platform9 Managed Kubernetes has a free tier (available here). • It's free forever up to 20 nodes capacity, with Slack support and critical alerts capability	Free trial for 30 days, with usage limits.	No advertised free tier. Hands on lab available here.	• EKS Anwhere can deploy an unsupported cluster in disconnected mode. • You will be responsible for all cluster management activities with no support or benefits from AWS

Platform9 Managed Kubernetes (PMK)

Platform9 Managed Kubernetes is the industry's only SaaS-managed Kubernetes offering that runs anywhere: public clouds, on-premises, and the edge. It delivers all the benefits and capabilities of Kubernetes, while managing updates, upgrades, and management of Kubernetes.

With PMK, DevOps, ITOps, Platform Engineering, and cloud architects can enjoy the freedom to:

- Use any infrastructure of their choice

- Provide a robust SLA-backed self-service Kubernetes platform to their developers

- Deploy to multiple locations at scale: data centers, edge, or multiple public clouds

- Avoid day-2 operational complexities of monitoring, upgrades, security patching etc.

- Use upstream open source Kubernetes versions and not be locked into any proprietary stack.

Avoid the constraints of lack of skills, time, and cost to build and operate a Kubernetes platform yourself. Experience the SaaS managed difference and see for yourself how easy it is to deploy, manage and scale your

Kubernetes infrastructure, on a public, on-premises, or at the edge. Sign up for the free tier of Platform9 Managed Kubernetes: https://platform9.com/signup-flow/
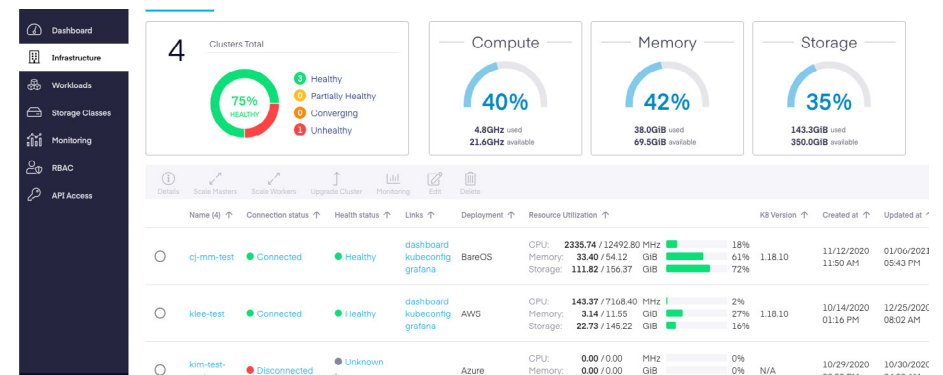
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Freedom in Cloud Computing

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About Platform9: Platform9 enables freedom in cloud computing for enterprises that need the ability to run private, edge or hybrid clouds. Our SaaS-managed cloud platform makes it easy to operate and scale clouds based on open-source standards such as Kubernetes and OpenStack; while supporting any infrastructure running on-premises or at the edge. Enterprises such as S&P Global, Kingfisher Retail, Cadence Design, Juniper Networks and Autodesk are using Platform9 to easily manage large scale private and edge clouds. The company is headquartered in Mountain View, CA and is backed by Redpoint Ventures, Menlo Ventures, Canvas Ventures, NGP Capital, Mubadala Capital and HPE Pathfinder.