Market Insight Report Reprint

Coverage Initiation: Nirmata drives Kubernetes control, continuous compliance

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by Jay Lyman

The company is focusing its Kubernetes cluster management software on governance and compliance with its open source Kyverno policy engine to drive growth. Nirmata is also working closely with partners and open source software communities to continue the maturation and evolution of Kubernetes.

451 Research

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Introduction

Nirmata is a Kubernetes operations company that has doubled down on governance and compliance for enterprise cloud-native deployments. The company is focusing on its Kyverno policy engine to enable Kubernetes cluster management and governance that is secure and compliant. Key use cases include developer self-service, clusters as a service, namespace as a service and containers as a service (CaaS), with capabilities and features for developers and IT operations teams. Nirmata is also working closely with partners and open source software communities to continue the maturation and evolution of Kubernetes.

THE 451 TAKE

Nirmata's offerings for Kubernetes control, policy and compliance are in step with maturing enterprise Kubernetes deployments that are scaling up and advancing to production. Nirmata may appeal to companies as a SaaS offering that does not lock them into a specific Kubernetes distribution. Its focus on policy-driven IT management is also in step with the DevSecOps trend that blends security and software releases. Nirmata's work with open source software such as Kyverno and communities such as Cloud Native Computing Foundation (CNCF) working groups will likely pay off in the form of broader use and deeper integrations and partnerships. The company will have to fully leverage those because it is among the smaller players in a Kubernetes market landscape populated by the public cloud behemoths and deeply established enterprise vendors.

Context

Nirmata has been in business since the birth of application containers circa 2015. The company was also early to focus on Kubernetes, which was adopted as its underlying orchestration engine a few years later. Today, Nirmata helps enterprises address key challenges including visibility and governance by supporting agility, flexibility, compliance, cost management and security with its SaaS that can also run on-premises. Nirmata has raised an undisclosed amount of VC funding led by prominent Silicon Valley investors. The company has about 20 employees and plans to double that by the end of the year.

Our survey research indicates Kubernetes use continues to grow, with more than 20% of enterprise organizations that have deployed applications to production in the last year indicating Kubernetes is fully deployed across all of their IT organization and another 32% reporting some adoption at team level.

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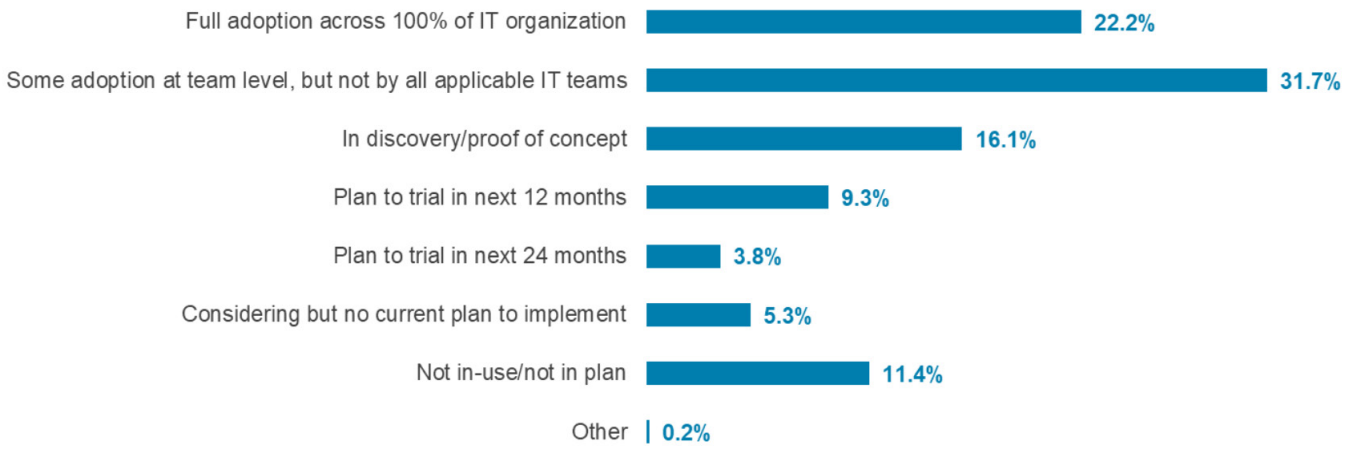
Kubernetes Adoption Status



Q: What is your organization's adoption status for the following technologies. Please select one status for each technology. - Kubernetes
Source: 451 Research, Voice of the Enterprise: DevOps, Workloads & Key Projects 2021

Products

Nirmata's Kubernetes offering centers on its controllers, which help organizations manage cloud communications, metrics, policy and more. Nirmata originally launched as a cloud service, but the company also has on-premises support. It is focused primarily on the cloud-based model with most of its customers running it as SaaS, but it does have large customers running its software on-premises, including hyperconverged deployments. Nirmata also reports hybrid and multicloud implementations where its software serves as a single management plane that consolidates visibility, governance and security across all Kubernetes clusters and workloads. The company's specialty is so-called Day 2 operations challenges, which typically center on monitoring, troubleshooting and effectively managing larger-scale and production deployments. Nirmata also supports optimization by auto-tuning infrastructure resources and applications. The company touts its 'out-of-band' management based on remote clusters and without the requirement of a Kubernetes distribution, which supports bi-directional change management.

Nirmata has features and capabilities for both developers and IT operators in enterprise DevOps teams focused on collaboration for faster releases and more efficient IT management. For developers, Nirmata offers secured self-service, correlation and application-aware state and alerts, releases and rollouts, native Kubernetes CLI and API interfaces and catalogs that can be customized with YAML, Helm, or GitOps/Kustomize. For IT operations teams, Nirmata provides multi-cluster management with common workflows across hybrid and multicloud environments, add-on management, centralized identity and access management (IAM), Kubernetes versioning and upgrades, and resource, certificate and secrets management.

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Nirmata has recently taken on a dedicated effort with its Kyverno controller, a policy engine that provides full life cycle management of Kubernetes resources. Simplified and made easier to use with recipes for automation, Kyverno policies are actually Kubernetes resources. Kyverno plugs into the Kubernetes control plane to support segmentation and isolation; user identity and access; and correlation, aggregation and propagation. Kyverno policies can be automatically generated and enforced while running as an admission controller, which manages Kubernetes API requests. Nirmata, which describes this as 'continuous compliance,' is supporting policy as code, whereby just as with infrastructure as code, policy can be treated like software, sectioned into micro segments that are easier to manage and curated with repositories. Policies can be grouped, linked to upstream Git repositories, enabled across clusters and customized. Common and tedious tasks can also be automated. Nirmata reports some customers are integrating Kyverno with continuous integration/continuous delivery (CICD) pipelines. Kyverno, which treats everything as a Kubernetes resource, also provides graphical reports that can be shared with developers and other stakeholders via notifications and alerts.

Kyverno is delivered as a lightweight SaaS to be managed by IT operations and DevOps teams. It is open source software that is also a CNCF sandbox project. Other companies supporting the project include Dell, Maya Data and financial services organizations, with another 10 or so large customers interested in deployments.

Customers

Nirmata caters primarily to large and midsize enterprises and has about a dozen paying customers. Its key use cases center on automation with Kubernetes for clusters as a service, namespace as a service and CaaS. Nirmata also enables self-service virtual clusters that can boost efficiency and be securely shared. The company says even though certain parameters are governed by central teams, developers can be enabled to create their own namespaces, where its service can drive efficiency through simplification and automation. Nirmata also says its software and graphical reports help organizations gauge productivity through collection and reporting of number of developers on a project, uptime and other metrics, including some for business stakeholders. The governance and compliance capabilities also appeal to auditors where resource and cost allocation is a challenge.

Nirmata says it also participates in several CNCF Special Interest Groups (SIGs), including those focused on policy, multi-tenancy, security and cluster APIs. Within the policy working group, Nirmata is among participants working on the standardization of how tools report violations and compliance, with the goal of simplifying access to policy reports, image scanning, configuration scanning and other tools.

Partners

Nirmata works closely with Hashicorp, which is well-deployed in the enterprise with its Terraform infrastructure automation, Vault secrets management and other software. Nirmata supports native integration with Vault. Another key partner for Nirmata is Venafi, which is integrated for key and certificate management. Other partners include AWS, Google, Microsoft and Oracle, all of which are already supported by Nirmata, but with deeper integration planned. Nirmata also worked with Nutanix for its Karbon clusters enterprise Kubernetes management.

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Competition

Even though it supports the public cloud Kubernetes services, Nirmata must also compete with them and our survey data indicates they lead the enterprise market in terms of Kubernetes deployments. This includes Amazon Elastic Kubernetes Service (EKS), Microsoft's Azure Kubernetes Service (AKS) and Google Kubernetes Engine (GKE). Other major competitors are Kubernetes distributions such as Red Hat OpenShift, SUSE with its acquired Rancher and VMware Tanzu. Additional competition comes from D2iQ (formerly Mesosphere), Mirantis, Platform9, Upbound and European Kubernetes players such as Canonical, Kubermatic and Giant Swarm.

SWOT Analysis

STRENGTHS

Nirmata has been incorporating and enhancing cloud-native software such as Kubernetes since the birth of modern application containers. It is also an active participant in the larger open source and CNCF communities.

WEAKNESSES

The company is among smaller Kubernetes market players that must contend with much larger competitors that are also on the leading edge of cloud native.

OPPORTUNITIES

Containers and Kubernetes continue to grow and Nirmata is well positioned to support larger-scale deployments, as well as those making it to production, where policy and compliance are paramount.

THREATS

The Kubernetes market continues to be crowded with both established giants and up-and-coming challengers. There is some risk enterprise teams that are technically savvy will use Nirmata's open source software, such as Kyverno, without paying.

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