MIRANTIS | tetrate

Solution Brief

Overview

More and more companies are adopting cloud-native technologies like containers and Kubernetes to build new applications and modernize existing apps at scale and across clouds. However, as with any new technologies, there are challenges with managing microservices as the number of microservices grow – interaction between services, traffic flow, policy enforcement, security, and communication between containers and VM-based workloads.

Enterprises expect a simple, consistent, and easy-to-use tool to manage policies, security, smart routing, integration with Active Directory, LDAP, and certificate stores, and also govern VM-based workloads. Mirantis provides customers an Istio-powered service mesh solution by partnering with Tetrate, a leader in Istio/Service Mesh offerings. The joint solution enables customers, to develop and run applications securely on open and scalable platforms like Mirantis Kubernetes Engine, whether on-premises or with a public cloud provider. This gives users choice, better control over applications, visibility, and security. Working with Mirantis and Tetrate protects long-term investments for customers by offering an end-end solution.

Solution

Mirantis and Tetrate have partnered to bring together the power of Mirantis Kubernetes Engine (formerly Docker Enterprise Universal Control Plane) with the robustness of Tetrate Service Bridge. The solution, based on the popular open source Istio project, runs enterprise applications securely, provides business continuity, and manages connectivity between services on any compute, from microservices on Kubernetes to monoliths running on virtual machines or bare metal.

This solution is ideal for businesses looking to build out hybrid cloud and multi-cloud environ-

best-in-class secure Kubernetes platform and Tetrate provides the best-in-class application-aware connectivity platform.

Tetrate Service Bridge (TSB) is the only edge-to-workload application connectivity platform that provides enterprises with a consistent, unified way to connect and secure services across an entire mesh-managed environment. TSB sits at the application edge, at cluster ingress, and between workloads in your Kubernetes and traditional compute clusters. Edge and ingress gateways route and load balance application traffic across clusters and clouds while the mesh controls connectivity between services. A single management plane configures connectivity, security, and observability for your entire application network.
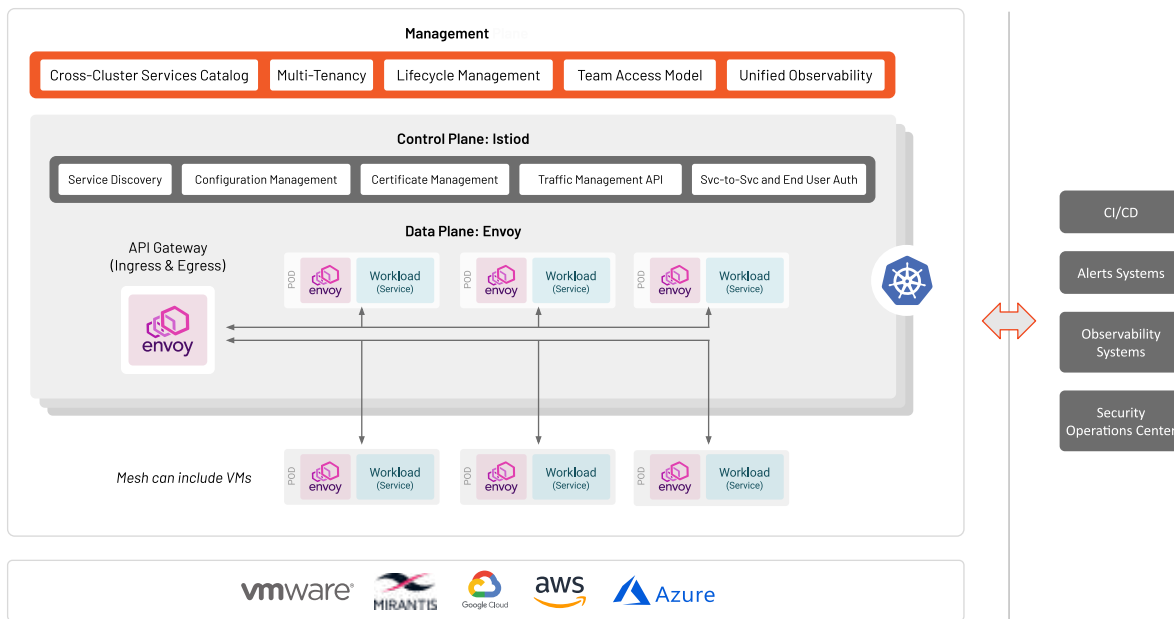
About Mirantis

Mirantis helps organizations ship code faster on public and private clouds. The company provides a public cloud experience on any infrastructure, from the data center to the edge. With Lens and the Mirantis Cloud Native Platform, Mirantis empowers a new breed of Kubernetes developers by removing infrastructure and operations complexity and providing one cohesive cloud experience for complete app and DevOps portability, a single pane of glass, and automated, full-stack life cycle management with continuous updates.

www.mirantis.com

About Tetrate

Started by Istio founders to reimagine application networking, Tetrate is an enterprise service mesh company managing the complexity of modern, hybrid cloud application infrastructure. Its flagship product, Tetrate Service Bridge, provides an edge-to-workload application connectivity platform to deliver business continuity, agility, and security for enterprises on the journey from traditional monoliths to the cloud. Customers get consistent, baked-in observability, runtime security, and traffic management in any environment. Tetrate continues to be a top contributor to the open source projects Istio and Envoy Proxy.

www.tetrate.io

Management

| Cross-Cluster Services Catalog | Multi-Tenancy | Lifecycle Management | Team Access Model | Unified Observability |

Control Plane: Istiod

| Service Discovery | Configuration Management | Certificate Management | Traffic Management API | Svc-to-Svc and End User Auth |

Data Plane: Envoy

API Gateway
(Ingress & Egress)

envoy

POD envoy | Workload (Service)
POD envoy | Workload (Service)
POD envoy | Workload (Service)

Mesh can include VMs

POD envoy | Workload (Service)
POD envoy | Workload (Service)
POD envoy | Workload (Service)

CI/CD

Alerts Systems

Observability Systems

Security Operations Center

vmware MIRANTIS Google Cloud aws Azure

Use Cases

Application Edge: Simplify load balancing across one or more ingress gateways in different clusters over Istio-controlled mTLS.

Application Ingress: Envoy-based, application-aware ingress gateway load balancing to the mesh in Kubernetes clusters or traditional workloads.

API Gateway: Tetrate Service Bridge eliminates the difference between north-south and east-west traffic: there is just application traffic.

Service Mesh: Tetrate Service Bridge (TSB) uses the best-in-class service mesh, Istio, and the leading proxy, Envoy Proxy, to power consistent, unified security, connectivity, observability, and resiliency across all application traffic, running as mixed workloads, on hybrid cloud or multi-cloud.

Benefits

- Gain enhanced insight into your infrastructure by using the combination of Mirantis Kubernetes Engine and Mirantis Container Cloud with Tetrate Service Bridge, providing a solid foundation for your Kubernetes infrastructure along with monitoring and tracing tools to troubleshoot latency and other issues

- Have confidence in your deployment, as Tetrate Service Bridge is pre-validated and certified on Mirantis Kubernetes Engine Mirantis Kubernetes Engine

- Eliminate deployment & operational risk by means of a single point of contact for support, training, and services

Features

Rapid provisioning: Manage deployments of Mirantis Kubernetes Engine across multiple cloud types and regions, all from Mirantis Container Cloud.

Single management plane: Unified management using TSB to manage traffic across any compute and hybrid cloud.

Best-in-class open source projects: Mirantis and Tetrate commercial products are based on best-in- class open source projects: Kubernetes, Istio, Envoy Proxy, and Skywalking.

Enterprise Istio: Tetrate staff are active committers to Envoy Proxy and Istio, guiding and supporting customers in their Istio journey.

Secure multi-tenancy: Achieve government and regulatory conformance, ensuring mesh deployment conforms to best practices for security and other needed criteria.

Ready to get started?

Learn more about Tetrate and Mirantis at
https://www.mirantis.com/partners/tetrate/