

Networking & Security for Modern Apps

As cloud adoption and usage increases in maturity, enterprises are taking an increasingly cloud-native approach in building their new applications, aka “modern apps”.

Key trends in this evolving application development approach include:

- Microservices and serverless architecture
- Extensive use of APIs for communication across microservices
- Distributed clusters requiring multi-region and/or multi-cloud deployments

These fundamental changes in app development and deployment result in fundamental changes to the networking and security infrastructure services used to provide app resiliency, performance and protection. Evolved requirements include increased performance for API traffic, integrated API security, and the ability to be deployed across distributed clusters while providing end-to-end visibility, policy control and management.

To address these challenges, Volterra provides VoltMesh, a SaaS-based offering that integrates into a single service the multiple networking and security capabilities required to connect, secure and operate a modern app. VoltMesh is unique in its ability to be deployed on a per-cluster basis in a distributed architecture -- into all distributed clusters in a modern app deployment -- yet be managed, provide visibility and policy control in a centralized manner.

CHALLENGES ADDRESSED

1. Sprawl of infrastructure services for microservices deployed across multiple clusters
2. Reduced user experience from API latency across distributed clusters
3. Increased attack surface due to sprawl of APIs and distributed microservices

BENEFITS

Simplified Deployment and Operations

Remove the complexity of deploying and connecting microservices across distributed clusters. Simplify operations through a SaaS-based integrated stack vs. multiple point products.

Improved Uptime & Performance

Deliver highly available, high-performance microservices across distributed clusters and multiple clouds. Ensure maximum uptime through distributed load balancing with node-to-node visibility.

Automated Zero-Trust and API Security

Mitigate the attack surface created by ubiquitous use of API across microservices. Leverage ML to automatically discover all APIs within clusters and create whitelist policies.

KEY HIGHLIGHTS

• Globally-distributed Load Balancer and API Gateway

Deploy a load balancer/ingress-egress gateway + API gateway in each distributed cluster and manage/policy control them centrally

• API Auto-discovery and Microsegmentation

Automatically identify all APIs through an ML-based engine and apply whitelist policies to enable zero-trust security at the API-level

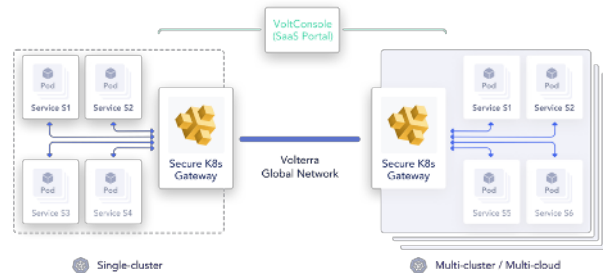
• App Delivery Network (ADN)

Host workloads directly Volterra's global ADN to provide a better end user experience, without managing any K8s clusters

USE CASES

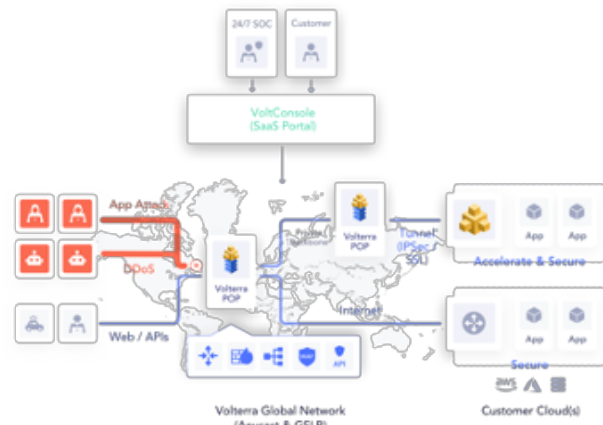
Secure Kubernetes Gateway

VoltMesh provides a secure Kubernetes gateway with a comprehensive set of load balancing/ingress-egress gateway, API gateway and web app firewall (WAF) capabilities to connect, secure, and observe one or multiple Kubernetes clusters. It is dynamically deployed via VoltConsole into any cluster with automated software lifecycle management and internally-aggregated metrics and logs for observability.



Modern App Security & Performance

VoltMesh delivers advanced app security to protect modern apps deployed across distributed clusters. It integrates multiple security capabilities into a single SaaS service to mitigate Layer 4-7+ attacks, including volumetric DDoS, BOT and IPS protection, and WAF. VoltMesh also automates zero-trust at the API-layer via ML-powered API auto-discovery and whitelisting.



App Delivery Network (ADN)

Volterra's global app delivery network (ADN) runs your modern, distributed workloads closer to end users for improved performance. Each Volterra point of presence (PoP) includes VoltStack and VoltMesh to provide a full-featured app platform that seamlessly integrates with your SDLC and CI/CD tools.

VoltStack manages the operation of distributed clusters, while VoltMesh routes traffic and protects against L4-L7+ attacks.



About Volterra

Volterra provides a comprehensive SaaS platform to deploy, connect, secure and operate distributed applications and data across multi-cloud and edge sites.

Learn more about Volterra Edge Cloud solutions

Visit: volterra.io

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