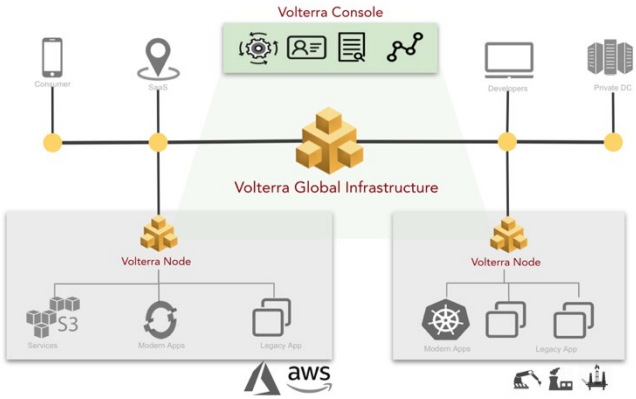
VoltMesh

Connect, Secure and Observe Applications across Clouds and Edge Sites

Overview

VoltMesh is used to connect, secure, and observe applications deployed across multiple clouds and edge sites. VoltMesh's unique distributed proxy-based and zero-trust architecture significantly improve security as it provides application access without network access across clusters and sites. Using Volterra's global network backbone, it delivers deterministic, reliable and secure connectivity across multiple clouds, edge sites and to/from the Internet.

VoltMesh is a SaaS-based service that reduces the complexity of managing and operating the multiple services deployed within a single cloud, across multiple cloud or edge sites, as customers don't have to worry about doing lifecycle management of the infrastructure or services that run on it. Since policy and configuration are centralized, any change is reflected across the system's entire deployment. All logging and metrics are also centrally available for observability with API-based integrations to external tools like Datadog or Splunk.



Only VoltMesh Delivers

Simplified Operations

Reduce the operational costs of connectivity and security services across a fleet of edge or cloud sites with SaaS-based provisioning, policy, security, observability and lifecycle management.

Dynamic & Scalable Connectivity

Get highly scalable, on-demand secure connectivity across many sites with a purpose-built control plane and high-performance data plane for providing L3-L7+ network services.

Secure Global Infrastructure

Improve the performance and security of distributed infrastructure with a high-performance private backbone, densely interconnected network, and security services that offload applications at the edge.

Ability to Leverage Best-of-Breed Cloud Services

Deploy applications across multiple clouds to access key services via a cloud-agnostic distributed application management platform.

Common Use Cases

Multi-Cloud

Secure Kubernetes Gateway
App & Network Services Consolidation
Multi-cluster Secure Mesh
Multi-cloud Application Management

Network Cloud

Application Security
Application Acceleration
Network Edge Applications
Secure Cloud Network with DMZ

Edge Cloud

Secure Edge Gateway
Edge Application Management

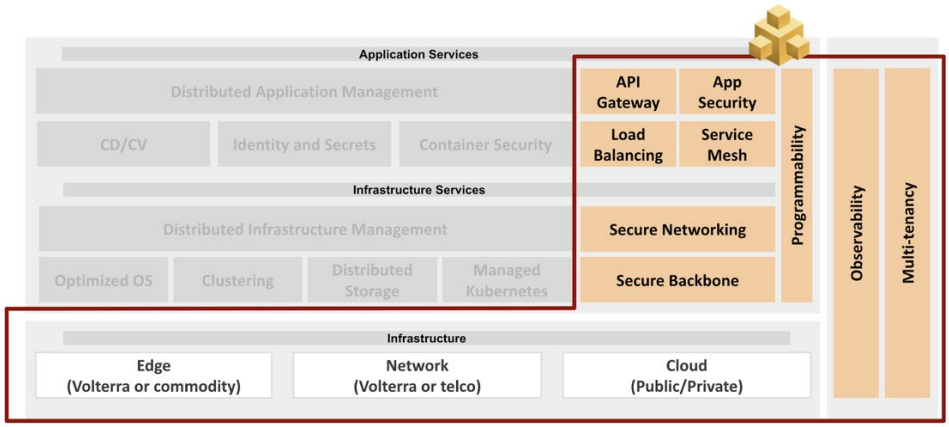
Verticals

- E-commerce
- Manufacturing
- Gaming
- Retail
- 5G, VNF
- Fast food
- High-Tech
- Automotive
- Finance
- Energy

Volterra

Key VoltMesh Services

VoltMesh delivers a complete range of networking and security services that are typically required to connect and secure applications. Any combination of these services can be centrally deployed and operated using the Volterra Console and be seamlessly enabled across our global infrastructure or inside your cloud or edge site using Volterra nodes.



Application Services

Load Balancing

Fully integrated load balancing platform, including distributed proxy, service discovery and security for modern and legacy applications.

- Global load balancing (GSLB, Anycast)
- HTTPs (TLS/mTLS) & TCP Proxy
- Dynamic Reverse Proxy & HTTP Connect
- Service Discovery & Health Checks
- Traffic Management
- Service Policy & Application Microsegmentation

Service Mesh

SaaS-based multi-mesh platform, including a centrally managed distributed proxy, service discovery and security for modern and legacy applications.

- Multi-cluster Secure & Auto Tunnels
- Service Discovery & Health-checks
- Traffic Management
- Identity Authority for AuthN/AuthZ
- Globally Distributed Load Balancing
- Service Policy & Advanced Security

API Gateway

High performance, extendable and distributed API gateway for hybrid applications regardless of location.

- Authentication
- API routing and load balancing
- Traffic management and policy
- Transformation and markup
- Programmable, pluggable architecture
- Observability and monitoring

Application Security

Easily enable identity-driven security policies and enforcement using algorithmic techniques and machine learning.

- NG-WAF and anomaly detection
- Application-level DDOS
- API endpoint detection and markup
- API security and rate-limiting
- Managed PKI identity infrastructure for APIs, apps and networking
- Vulnerability detection and mitigation
- Programmable service and identity policies

Programmability

Data plane programmability through Javascript v8 and customizable policies to address the evolving needs of applications, business policy and regulatory compliance.

- Custom data plane extensions
- Data transformations, customized load balancing, HTTP snooping, custom HTTP headers, direct response, terminate/serve requests, etc.
- Programmable policy framework matching on custom tags, labels and headers
- Programmable DDoS and security protection

Infrastructure Services

Secure Backbone

Global network cloud infrastructure and private backbone with interconnected PoPs and dense peering for high performance connectivity with integrated security.

- Multi-terabit global backbone
- Advanced traffic engineering for granular SLAs
- Network and application security including DDoS, filtering and anomaly detection
- Physical or tunneled connection to VoltMesh
- Private connectivity across backbone

Secure Networking

Industry-proven network stack for highly scalable connectivity and security across public clouds, private clouds and the edge.

- Fully integrated network firewall
- Forward proxy
- Routing and SD-WAN
- VPN (IPsec and SSL)

Observability

Insights across heterogeneous cloud environments, networks and application layers to provide a full view of application and infrastructure performance, security and health.

- Global visibility of network and application performance
- Logs and metrics, alerting and auditability
- Service-level connectivity metrics and tracing
- Custom dashboards
- Integration APIs for 3rd parties

Multi-tenancy

Run third-party and/or multiple business lines' applications while providing complete isolation of compute, network and storage resources. Provides the ability to run heterogeneous workloads (containers, VMs) across different namespaces within a tenant.

- Virtual private compute, storage and networking per namespace
- Multiple VPNs per namespace
- Multi-tenancy across shared application and security services