CONTROL PLANE

From Many Clouds, One™

CONTROL PLANE

Control Plane

Cloud Infrastructure Virtualization and Optimization Platform (**CIVOP**)

A Single-pane-of-glass solution for deploying and managing workloads seamlessly across multiple regions, clouds, and on-premises environments.

- Boosts Developer Productivity with automated workflows and self-service infrastructure.
- Built-in Observability and Security ensure robust performance and compliance.
- Significant Cost Reduction through advanced optimization.

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Achieving Cloud-Native Maturity is Complicated.

Latency
Users suffer from high latency due to geographical distance.

Vendor Lock-in
Limited flexibility due to reliance on specific cloud providers.

Complexity
Requires specialized skills to manage complex cloud-native environments.

Time to Market
Slowed development and development processes.

Reliability and Availability
Each major cloud provider is subject to regional and availability zone failures along with many other forms of downtime.

Resource Constraints
Difficulty accessing specialized hardware in certain regions.

High Costs
Inefficient resource usage that lead to excessive costs.

Security and Compliance
Increased risk of security breaches and non-compliance.

Regulatory Requirements
Need to comply with strict regulations and avoid single-cloud dependency.

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Achieving Cloud-Native Maturity with Control Plane...

Simple.

High Availability

Virtually **unbreakable compute** with automatic failover and disaster recovery built-in.

Low Latency

Geo routing of requests to the nearest (latency-wise) healthy cluster, ensuring fastest response time, always.

Cost Efficiency

Capacity AI™ continuously ensures workloads are billed by the exact number of vCPU millicores and RAM.

Enhanced Security & Compliance

Built-in policies ensure security and compliance without extra effort.

Vendor Independence

Mix and match any service of any cloud, run workloads anywhere, including on-prem with ease.

Resource Abundance

High-memory GPUs and specific CPU types are readily available because the “cloud is your oyster”™ - use anyone’s compute facilities.

Accelerated Time to Market

Developers can ship code faster with automated, self-service infrastructure.

Regulatory Readiness

Codified regulatory controls make compliance adherence easy and automatic.

Eliminated Complexity

The power of K8s, without its complexity and tooling sprawl. Scale from 0 to billions of users with 100% confidence and best practices out of the box.

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Focus Areas

1. Compute Anywhere
2. Significant Cost Savings (60-80%)
3. Multi-Cloud, Hybrid Cloud Enablement
4. Security & Compliance - BETTER-THAN-MILITARY-GRADE
5. Observability- Best in Class
6. Developer Productivity without Compromise
7. 24/7 Fanatical Support

CONTROL PLANE

1 Compute Anywhere

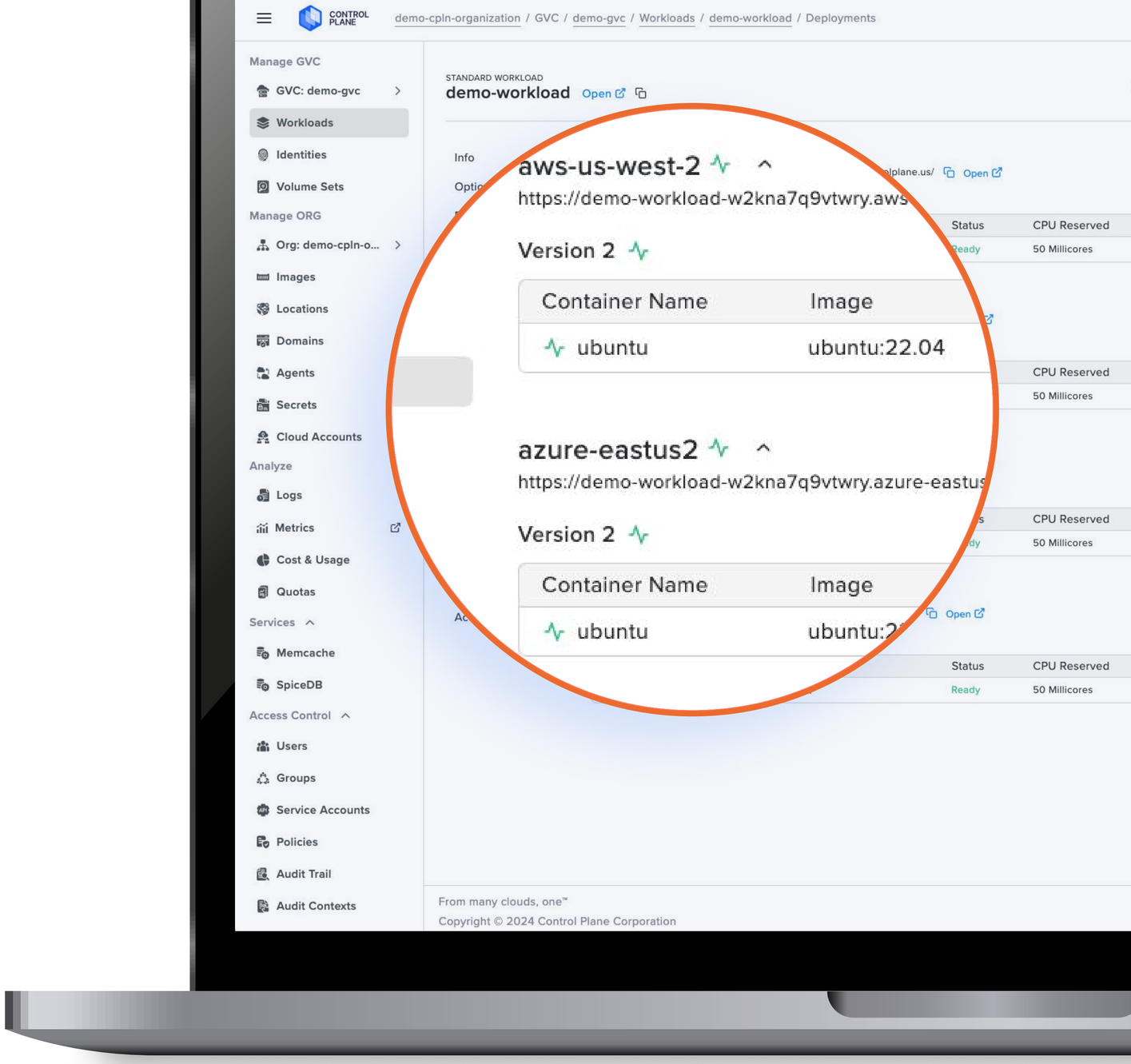
Freedom to Run Compute

Anywhere.

- Flexible Hosting Model
- Cross-Cloud Secure Networking

A centralized management console for deploying and managing workloads seamlessly across single-cloud, multi-cloud, hybrid, and on-premises environments, giving engineers **flexibility and control.**

With **Global Virtual Cloud (GVC™)**, organizations achieve **high availability, low latency**, and auto **geo-routing**, all managed from a unified, intuitive interface.



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Freedom to Run Compute Anywhere

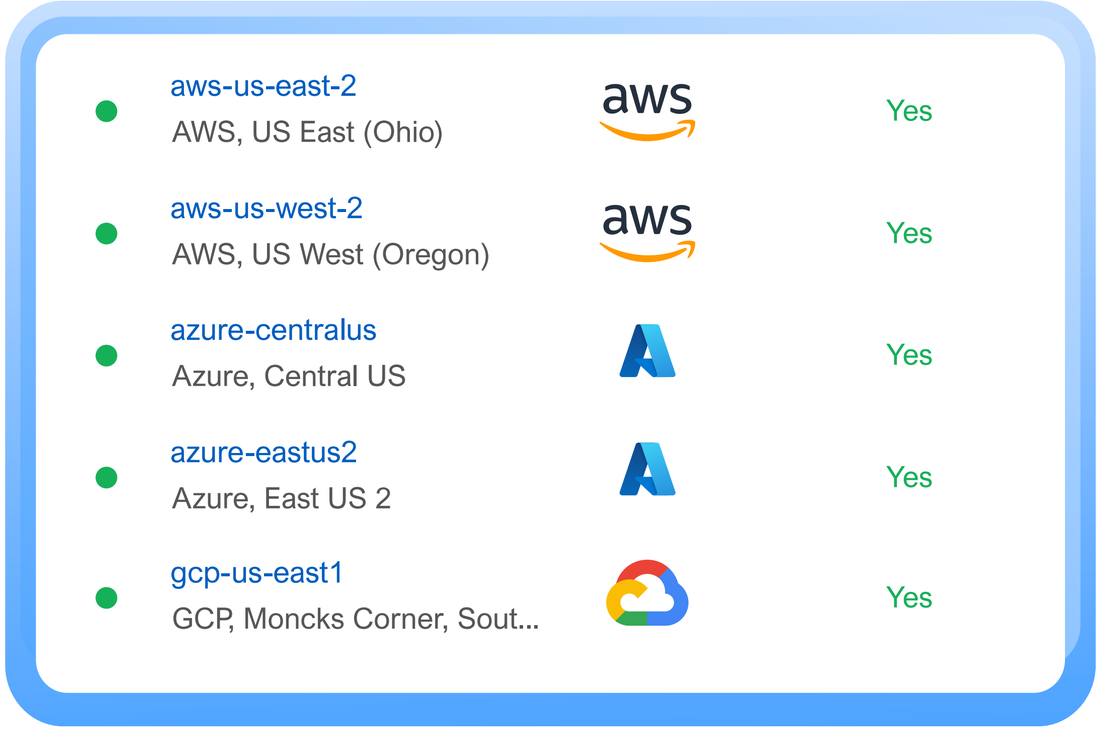
A unified platform for managing and deploying workloads across single-cloud, multi-cloud, hybrid, and on-premises environments. All tasks can be accomplished through the Control Plane **UI**, **CLI**, **API**, **Terraform** and **Pulumi**, seamlessly integrating **with any CI/CD provider**.

Global Virtual Cloud (GVC™)

GVC™s allow engineers to create named collections of locations within single or multiple cloud regions and even on-premises environments. Regions can span across clouds easily, enabling deployments across AWS, GCP, Azure, and any secondary providers like Hetzner, Oracle, Linode, as well as on-premises bare metal or VMs.

Automatic Geo-Routing and Failover

When backend code is deployed to a GVC™, workloads are served as TLS endpoints from the nearest healthy location. If a region experiences an outage, traffic is instantly routed to the next closest healthy location, ensuring 99.999% availability, ultra-low latency, and compliance.



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Flexible Hosting Model

A GVC™ can consist of the following:

- **Locations provided by Control Plane:** Workloads deployed to these locations run on Control Plane's pre-existing K8s clusters, eliminating the hassle of setting up your own clusters or creating your own cloud accounts. Control Plane offers all locations from AWS, GCP, Linode, Azure and others.

- Locations provided by you or your customers are easily added to your GVC™.

- A hybrid combination combining compute resources provided by Control Plane and you or your customers.

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Significant Cost Savings (60-80%)

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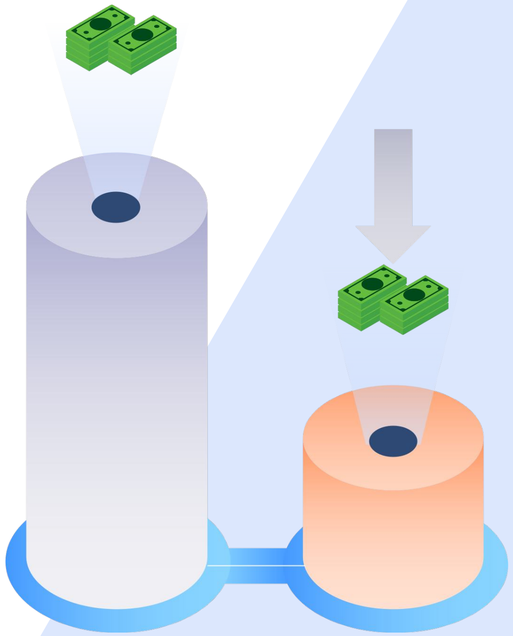
Reduce cloud compute costs

by 60-80%

- Never over provision!
- Pay by millicore with Capacity AI™



Control Plane's **cost optimization** provides visibility and control across **one or multiple cloud providers**, helping to **reduce overall cloud spend**. Avoid additional expenses around NAT gateways, load balancers, observability, orchestration management and more.

Infrastructure Spec

CPU Usage: 37.74 Cores
Memory Usage: 118665 MiB

Application Spec

CPU Usage: 62.68 Cores
Memory Usage: 678467 MiB

Submitter Name:
K8s expense: $24220.25 / month
Control Plane cost: $8344.37 / month
Expected savings: **$15875.88** / month

Control Plane Pricing Models

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Model 1

Compute Provided by Control Plane

Usage-Based Pricing: Only pay for the CPU and RAM you use.

When running on Control Plane's provided compute, these costs go away.

- NAT Gateways
- TLS Certificates
- Secrets Storage and Management
- Log Storage and Consolidation
- Shared Load Balancing
- Container Orchestration (e.g., K8s)
- VPN between VPCs
- Internet Gateways
- DNS and Global DNS
- Container Registry Storage and Management
- Metrics
- Audit Trail
- Service Mesh (e.g Istio)
- Auto-scaling

Model 2

Compute Provided by You

BYOK (Bring Your Own Kubernetes):
$0.005 per millicore-month

MK8s (Managed Kubernetes):
$5 per core-month

Observability

First 100 GB Free: Includes logs, metrics, and tracing up to 100 GB per month at no cost.

Cost-Savings with Capacity AI™

Capacity AI™ is an intelligent resource management feature that dynamically adjusts container resources (CPU & Memory) based on realtime usage telemetry, optimizing vCPU and RAM allocation to deliver **significant cost savings**.

Benefits:

- **Adaptive Scaling:** Automatically adjusts resources between set minimum and maximum values to fit workload needs. BOTH UP AND DOWN!
- **Balanced Allocation:** Maintains an optimal CPU-to-memory ratio, reducing inefficiencies.

Features:

- **Minimum Resources:** Downscales CPU to 25 millicores with a 1:3 CPU-to-memory ratio.
- **Location Override:** Allows customization to enhance performance for specific target audiences.

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Multi-Cloud, Hybrid Cloud Enablement

Flexibility

to mix-and-match any combination of AWS, GCP, Azure, services

The Control Plane Universal Cloud Identity™ is a unique capability, giving workloads **complete portability.** A workload can run on any cloud or on-premises while consuming the union of any of AWS, GCP, or Azure's services. Workload code does not need to be concerned with credentials.

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Flexibility to Mix-and-Match any combination of AWS, GCP, Azure, services

Freedom from Cloud Lock-In

Avoid being confined to the service offerings of a single cloud provider. Run compute on secondary cloud providers (e.g. Hetzner, Linode) or even on-premises, while still accessing the full suite of services from the hyperscalers.

Optimize Costs and Efficiency

Flexibility to choose the most cost-effective, performance-optimized services, regardless of where the workload runs.

Combine Services Across Clouds

Run workloads with the ability to use any service across cloud providers. For example, a workload running on-premises can still consume AWS's S3, GCP's BigQuery, and Azure's Cosmos DB, without dealing with credentials.

Simplified IAM Management:

Universal Cloud Identity™ eliminates complexity, ensuring least privilege access control for secure, streamlined access across all environments.

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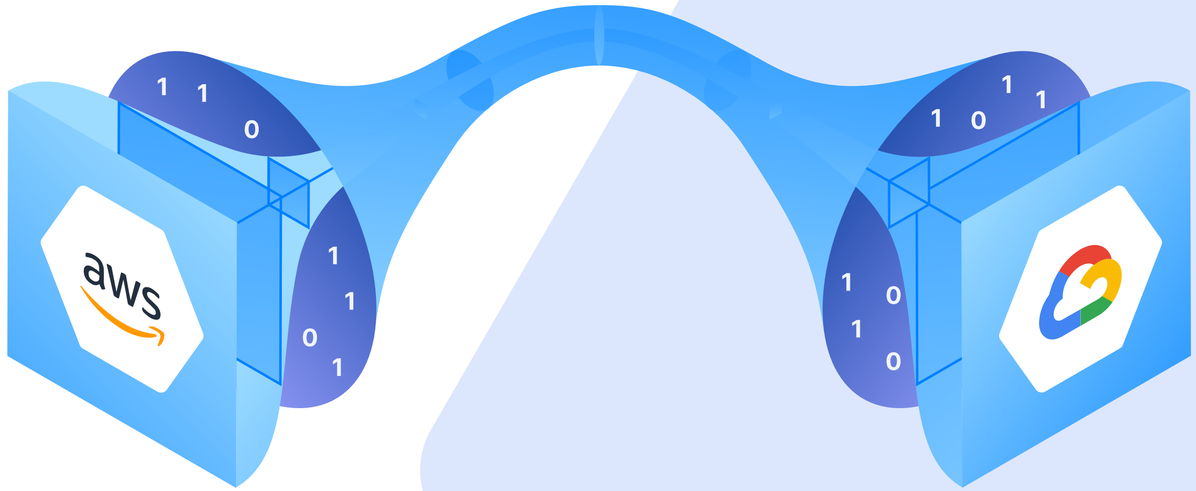
Cross-Cloud Secure Networking

- Cloud Wormhole® provides **secure access to private network resources**. It's a software-defined VPN implementing the Wireguard protocol to enable secure resource access across clouds. Workloads can securely reach network resources that are otherwise unreachable, such as endpoints inside a VPC not exposed to the internet or in private data center networks.

- Additionally, Control Plane supports VPC peering, AWS Private Link, and equivalent private link methods on Azure and GCP, **enabling cross-cloud secure networking that spans across one or multiple clouds.**



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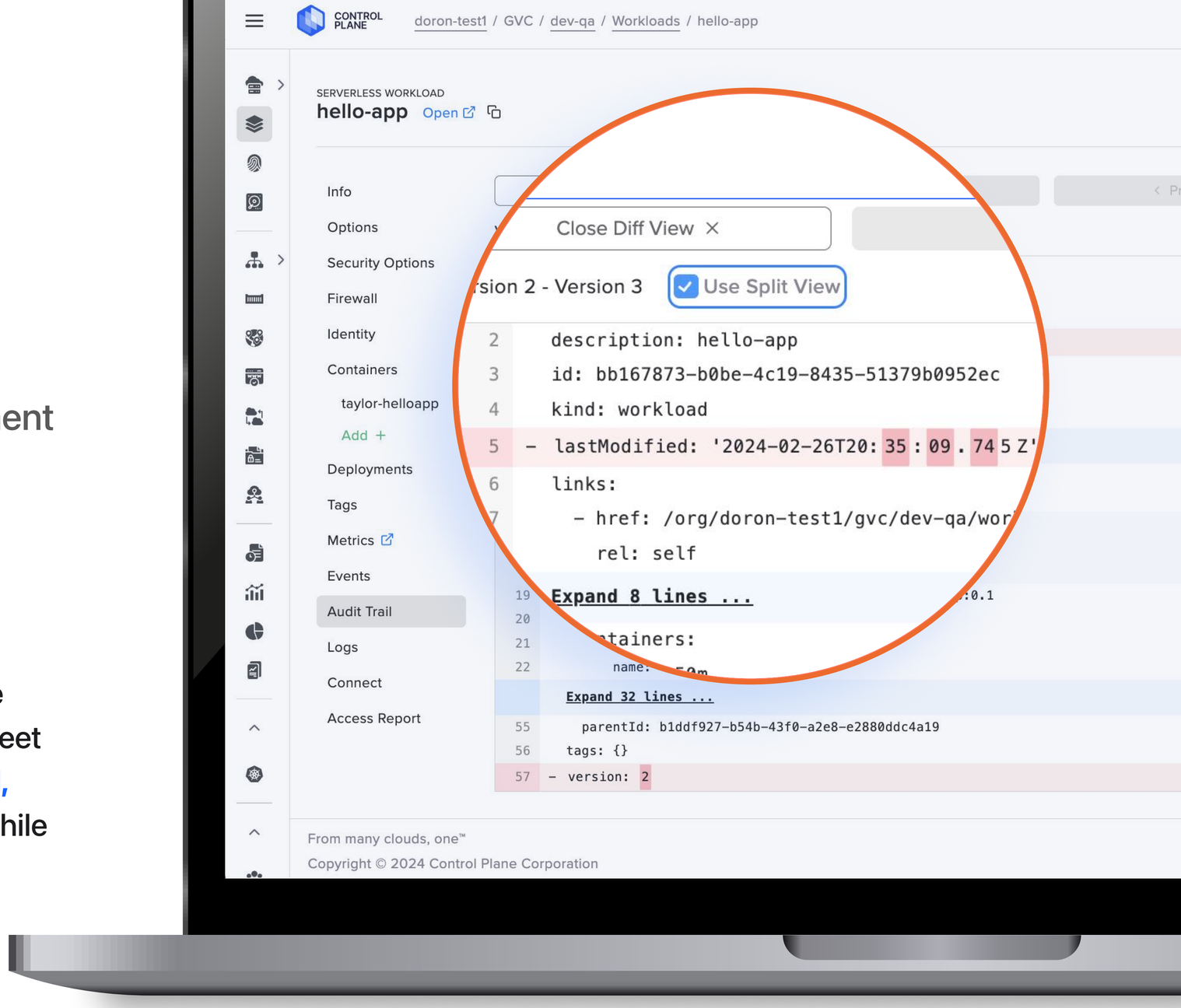
Security & Compliance

Better than Military-Grade

Military-Grade
Security & Compliance

- Codified best of breed security controls
- Compliance, Zero-Trust, Secrets Management
- Fine-Grained Access Control
- Tamper proof Audit Trail

Control Plane provides comprehensive, **military-grade security** and **compliance**, enabling organizations to meet stringent regulatory requirements across **single-cloud, multi-cloud, hybrid, or on-premises environments** while enhancing operational efficiency.



Security: Compliance, Zero-Trust, Secrets Management

Compliance

Control Plane is SOC 2 Type II, PCI DSS Level 1, HIPAA, and GDPR compliant.

Zero-Trust Security Approach

Control Plane implements a Zero-Trust security approach, embodying continuous identity verification, least privilege access, continuous monitoring, micro-segmentation, and encryption.

Secrets Capabilities

- **Container Injection:** Inject secrets into containers via environment variables or volumes.
- **Image Registry Pulls:** Use secrets for image registry access (e.g., Docker, ECR, GCP) to enable secure image pulls for workloads in a GVC™.
- **Azure Management:** Leverage Azure SDK and Azure Connector secrets for managing Azure policies.
- **Secret Types:** AWS, Azure Connector, Azure-SDK, Dictionary, Docker, ECR, GCP, Keypair, NATS Account, Opaque, TLS, Username & Password and many more.

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Security:
Fine-Grained Access Control

Resource-Specific Permissions

- **Policy-Based Access:** Manages access by defining minimum permissions for each resource type, supporting fine-grained authorization.
- **Policy Components:**
  - Resource Type or specific resources: Controls access to resources (e.g., Agent, Workload, Cloud Account, GVC, User).
  - Bindings: Assigns permissions (e.g., create, view, delete) to users, groups, service account or identities.
- **Control Plane Resources:** Includes Agent, Cloud Account, GVC, Identity, User, Volume Set, Workload, Cluster and many others.

This approach ensures that organizations maintain compliance and security by tightly controlling access to resources.

Example

Policy "Foo" allows the "Viewers Group" to invite new users, ensuring only authorized roles can perform specific actions.

Security: Audit Trail

Comprehensive Audit Trail

Immutable Records: Every resource type in Control Plane is documented in a secure, tamper-proof audit trail.

User-Friendly Interface

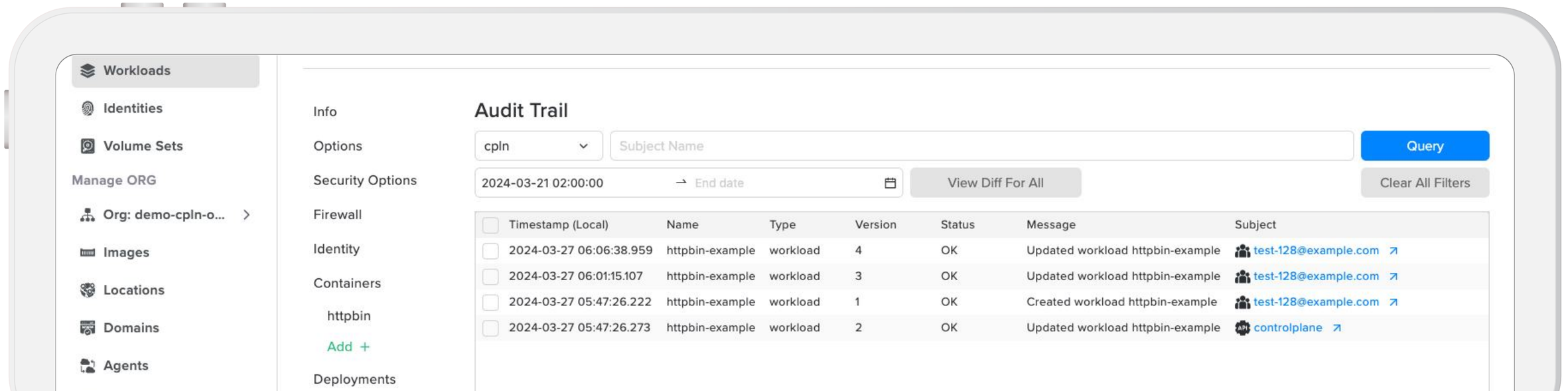
Users can search, filter, and review actions taken on both Control Plane and custom workloads through a dedicated UI (and API).

Action Details

Recorded Data: Includes Timestamp, Resource Name, Resource Kind, Version, Results, Subject (user), and a link to raw JSON.

Filtering Options

Streamline Searches: Filter by Resource Type, Audit Context, Resource Name/ID, Subject, or Date.



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Observability

Best in Class / any third party option

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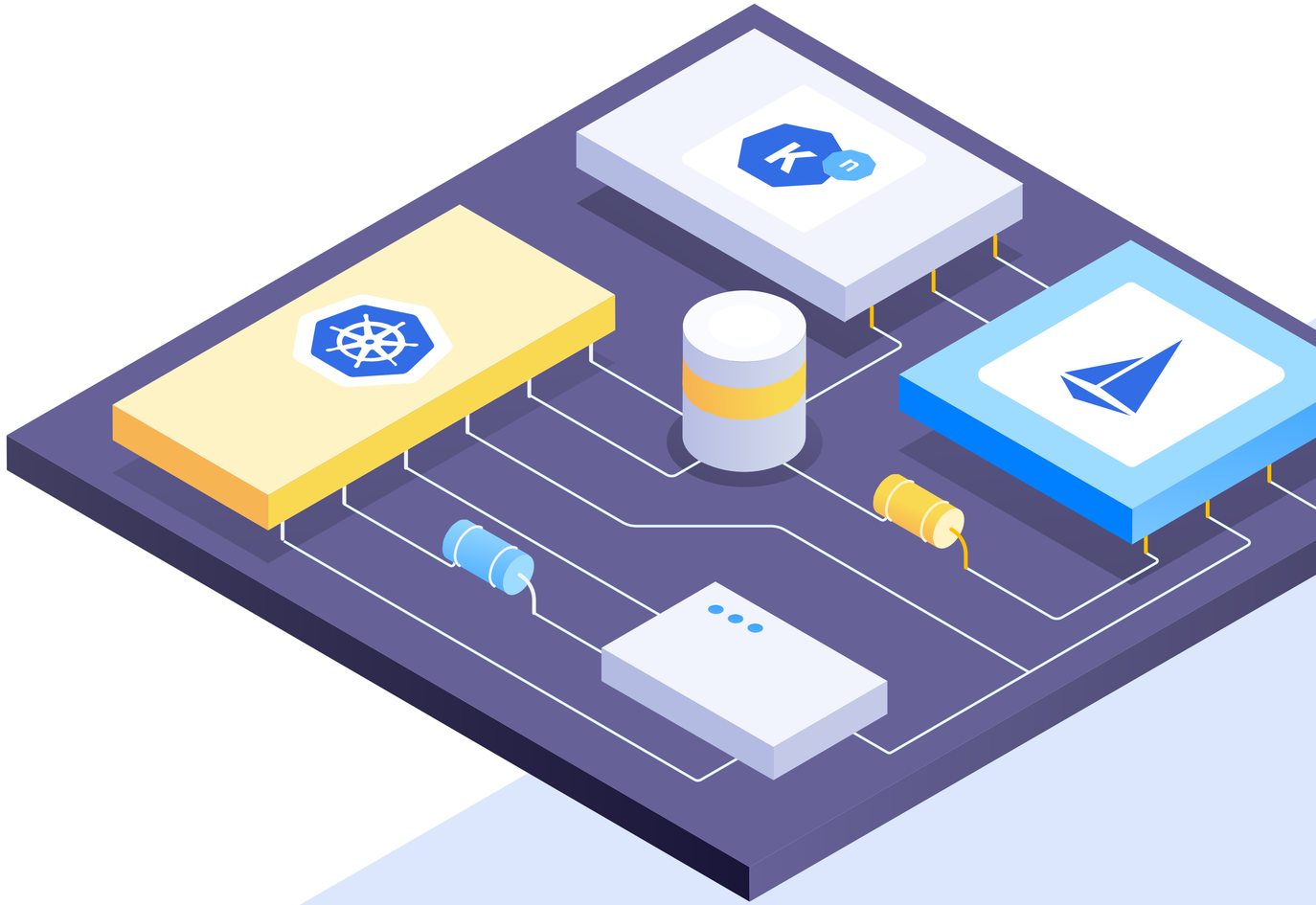
BEST-IN-CLASS
Observability Aggregation

- Logs
- Metrics
- Tracing



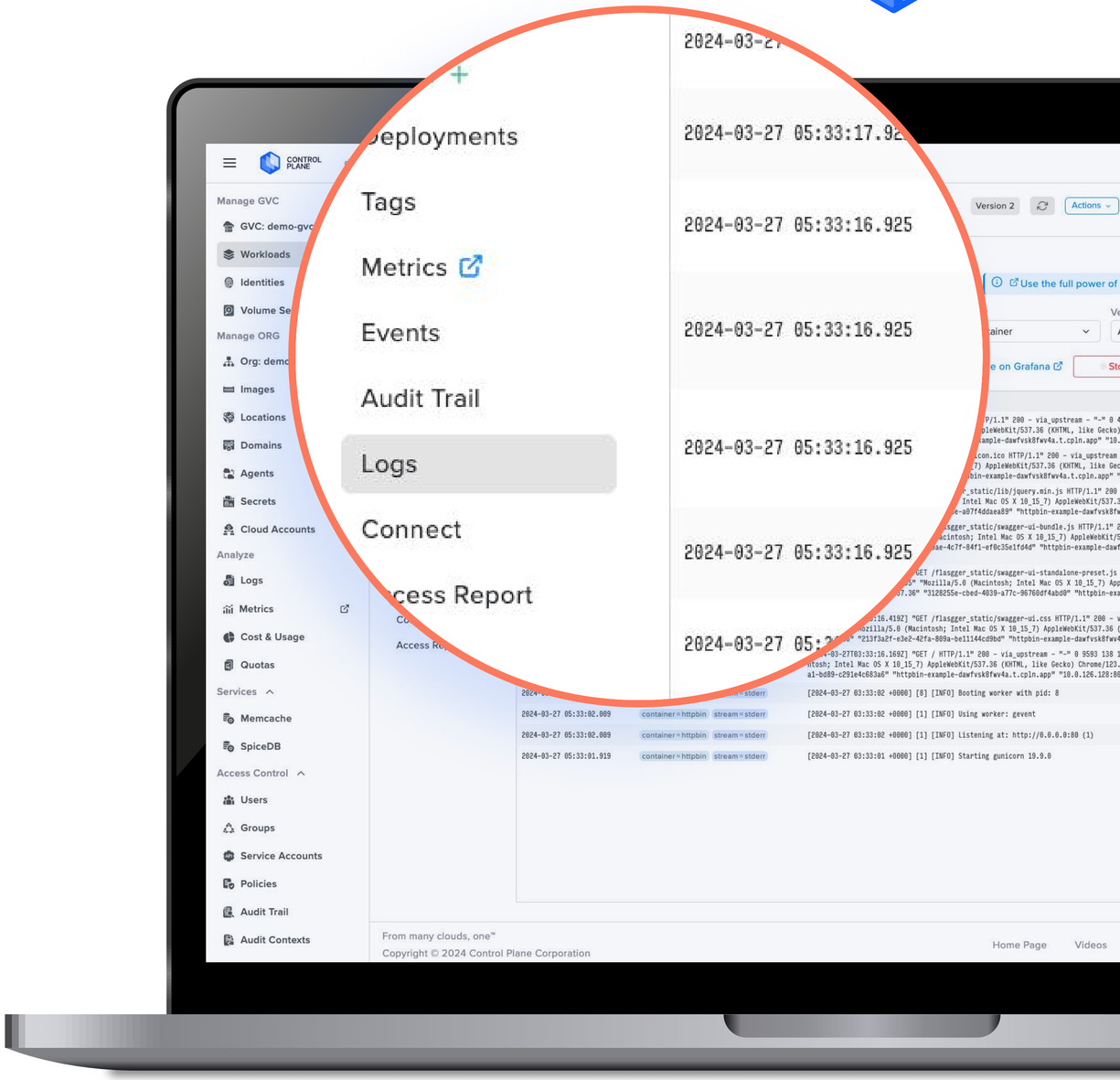
Control Plane offers comprehensive observability with **centralized logging, metrics, and tracing**, ensuring seamless monitoring and troubleshooting across single-cloud, multi-cloud, hybrid, or on-premises environments.

Log Aggregation

The Control Plane platform natively centralizes workload logs in a cloud agnostic manner across any number of locations where workloads execute.

- Logs are **centrally aggregated** and presented as if from a single provider, with flexible filtering capabilities.
- Built-in **real-time logging** and **Grafana based visualization** for immediate insights.

- Users can:
  - **Apply filters** (e.g., location, container, start and end date) to identify workload-specific issues.
  - **Query logs with the LogQL language** (e.g., container, GVC, location, replica, workload).
  - **Ship logs to external log providers** (e.g., **Coralogix, Datadog, Amazon S3, Logz.io**) to leverage external log storage and visualization tools.
  - **Define Alerts** based on expressions that can trigger many alert types, including PagerDuty, Slack, Teams, Email and many others.



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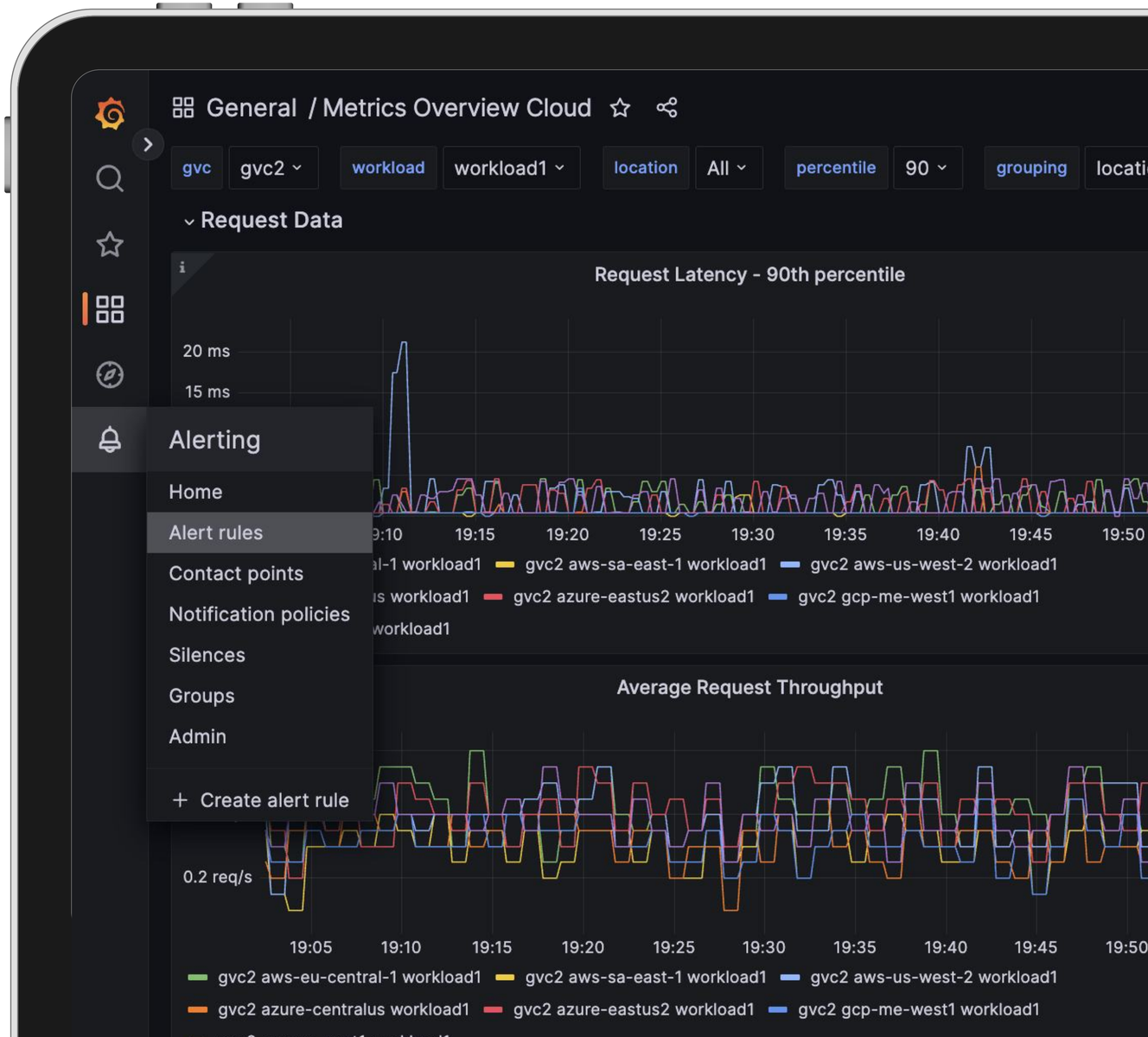
Metrics Collection

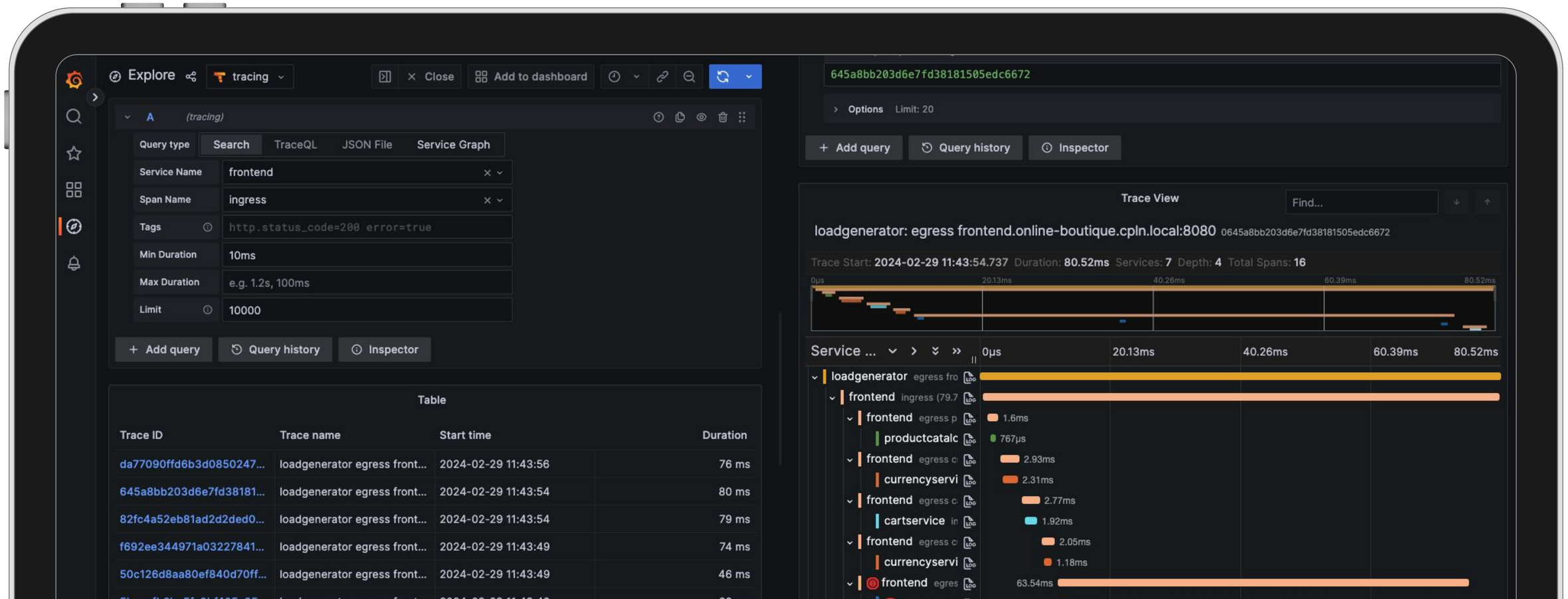
The Control Plane platform natively **centralizes workload metrics** in a **cloud agnostic manner** across any number of locations where workloads execute.



- Enables **custom metrics collection**, with workloads emitting **Prometheus-formatted metrics**.
- Each container can be configured for custom metrics, offering precise control over data collection.
- Supports resource utilization analysis and optimization for cost-effective cloud operations.
- Sophisticated alerting options allow operators to be notified of anomalous conditions as soon as they occur.

Tracing

- Native **Open Telemetry Protocol (OTLP)** integration supports custom tracing backends.
- Default **Grafana-based tracing visualization** or integration with any open-telemetry tool.
- **Envoy/Istio configuration** included and customizable for comprehensive tracing and analysis.



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6 Developer Productivity without Compromise

10x Enhancement

In Developer Experience, Productivity, and Enablement

- Engineering ROI due to **self-service**
- Cluster Management
- Scaling
- GitOps with Infrastructure-as-Code
- Observability, Security & Compliance

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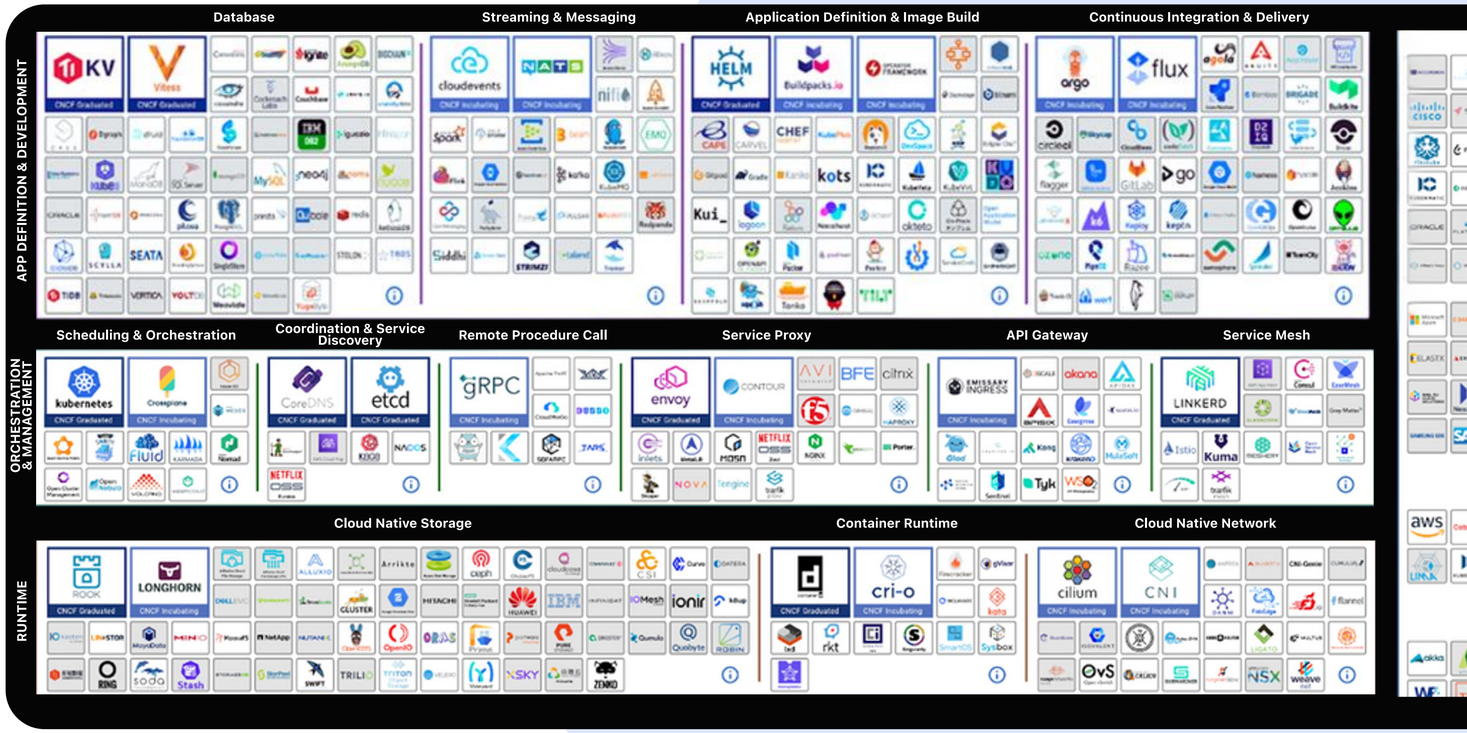
Engineering Return on Investment (ROI)

The Control Plane platform significantly boosts the **Return on Investment** for engineering teams in multiple ways.

- Firstly, it minimizes the need for engineering teams to become experts in intricate details of various **cloud providers** and complex open-source projects like **Kubernetes, Istio, Prometheus, Grafana, Vault, Envoy, Open Telemetry, KNative**, and MANY others.

- This directly translates into **time savings**, allowing teams to focus on **functionality development** rather than wasting time on platform engineering tasks.



Domain Knowledge required without Control Plane

DevOps Productivity:
Cluster Management

Simplified Cluster Management

- EKS often requires **manual configurations** for setting up and managing Kubernetes clusters, including:
  - **Node groups**
  - **Security policies**
  - **VPC networking**

- Control Plane **automates these tasks**, reducing the burden on DevOps teams and allowing for **faster cluster provisioning and updates**.

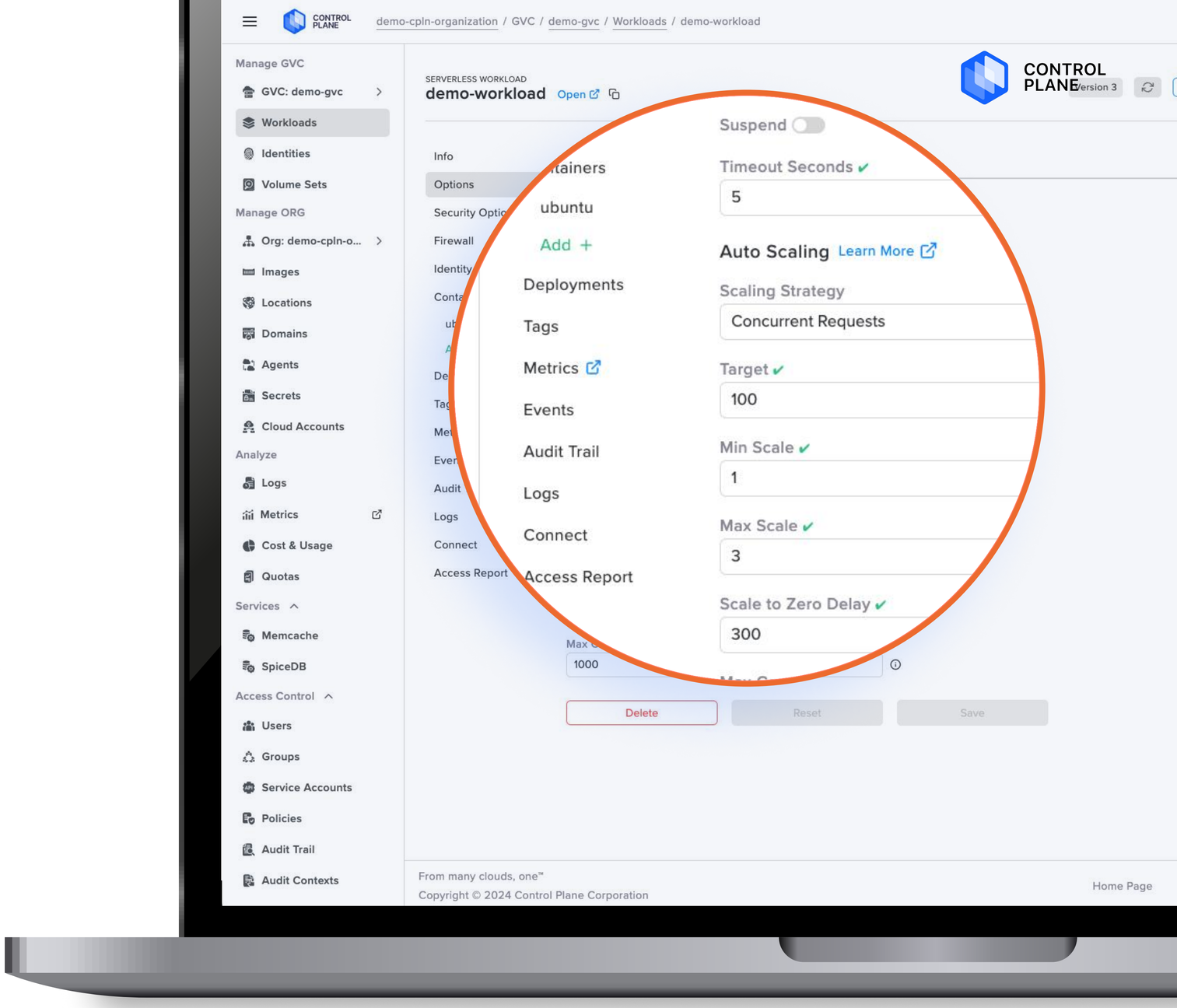
DevOps Productivity: Scaling

Automated Scaling & Load Balancing

- In compute services like EKS, GKE, and AKS, **scaling and load balancing configurations** often require complex operations and fine-tuning to optimize performance.

- Control Plane **automates these processes** with **intelligent scaling** and **integrated load balancing**, ensuring **efficient resource management** without needing hands-on adjustments

> **Refer to Slide 13 on Capacity AI™ for more detail.**



DevOps Productivity:
GitOps with Infrastructure-as-Code

GitOps and Terraform-Ready

- Control Plane **seamlessly integrates** with **GitOps workflows** and **Terraform and Pulumi**, enabling organizations' DevOps teams to manage **infrastructure-as-code** and automate changes.

- With **native Terraform or Pulumi support**, including the ability to export configurations directly to Terraform, Control Plane aligns with GitOps principles for version-controlled, declarative infrastructure.

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DevOps Productivity:
Observability, Security, Compliance

Control Plane enhances **DevOps productivity** by simplifying observability and security, allowing teams to focus on innovation rather than infrastructure management.

Centralized Observability

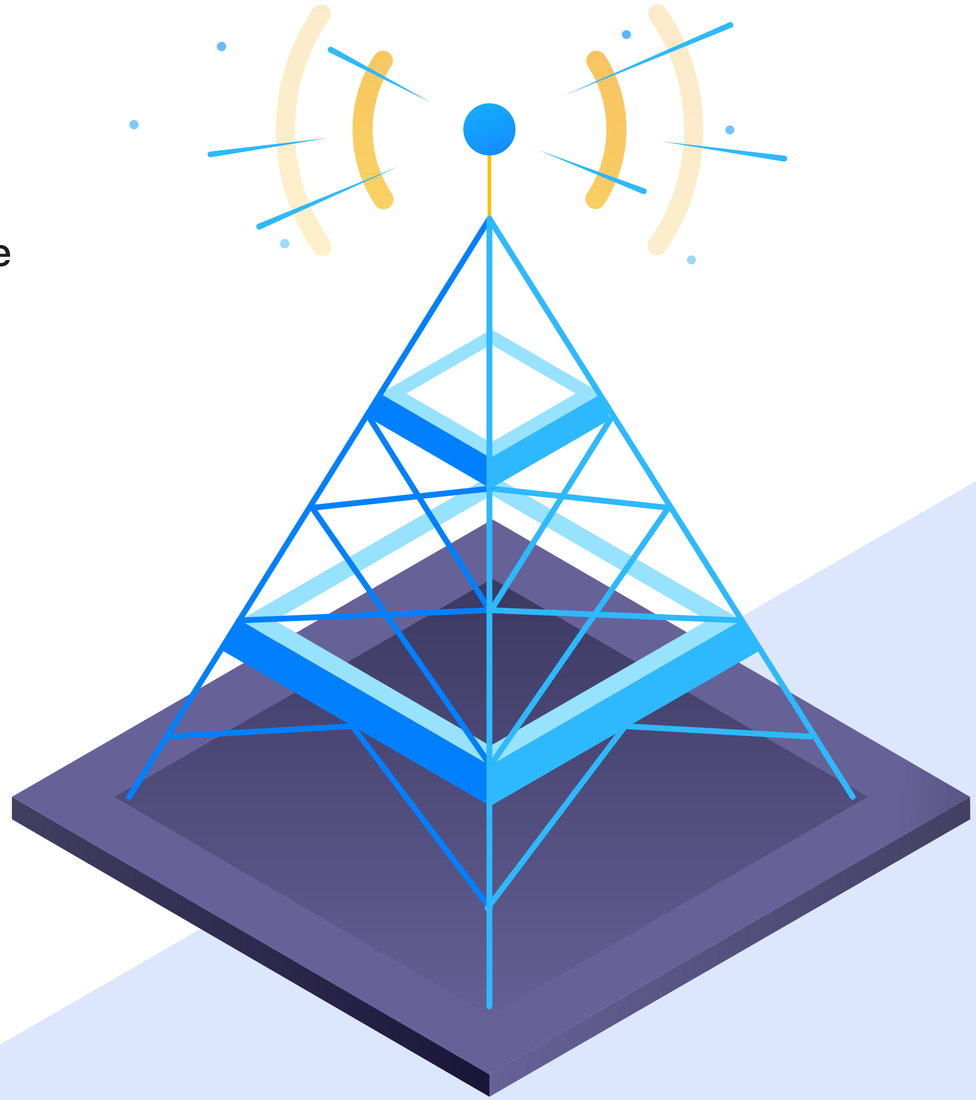
Aggregated logging, metrics, and tracing across single-cloud, multi-cloud, hybrid, or on-premises environments provide clear insights and streamline troubleshooting.

Military-Grade Security & Compliance

Military-grade security with built-in compliance frameworks reduces the burden on DevSecOps teams, ensuring secure, compliant deployments by default.

Reduced Operational Overhead

Simplified IAM management, observability, security, and compliance cut down on manual work, giving engineers more time for development and optimization.



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7

24/7 Fanatical Support

CONTROL PLANE

Tailored Support

You have mission-critical applications that cannot be down. Control Plane offers flexible support packages: **Bronze, Silver, Gold, Platinum**, tailored to fit your scale and growth, ensuring you get the guidance and technical expertise you need to succeed at every step.

Bronze **Silver** **Gold** **Platinum**

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Support Packages

Bronze

Provides essential email support and knowledge base access, enabling teams to resolve basic issues quickly.

Silver

Enhances support with priority response times and limited consulting hours for specific integration needs.

Gold

Offers extended coverage, real-time monitoring assistance, and in-depth consulting. Ideal for scaling operations.

Platinum

24/7 Premium Support & Expert Consulting: Dedicated account management and tailored solutions for complex multi-cloud environments. Direct 24/7 access to K8s, Istio, KNative contributors.

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