




Infrastructure Optimizer


Brochure

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Infrastructure Optimizer

Up to 80% cloud cost reduction on EC2 instances,
without vendor lock-in

Our Value

- Up to 80% cost reduction
- Seamless live migration of nodes
- Maintain stateful workloads during node disruptions

Use Cases



Databases

Uninterrupted access and stable performance for data integrity and availability.



CI/CD

Maintains process integrity, enhancing software development efficiency.



Data Pipelines

Seamless workflow data processing, vital for accurate and efficient data analytics.



MLOps

Continuous operation of ML processes, crucial for model stability and real-time processing.

HOW WE DO IT

AI-Driven Cost Optimization

Infrastructure Optimizer utilizes AI to dynamically adjust cloud resources in real-time, ensuring cost efficiency without sacrificing performance. This integration with AWS allows for predictive scaling and cost management, addressing the challenge of fluctuating cloud pricing models and the need for manual resource optimization. It significantly reduces the effort and expertise required to manage cloud expenses effectively.

Autonomous Node Management

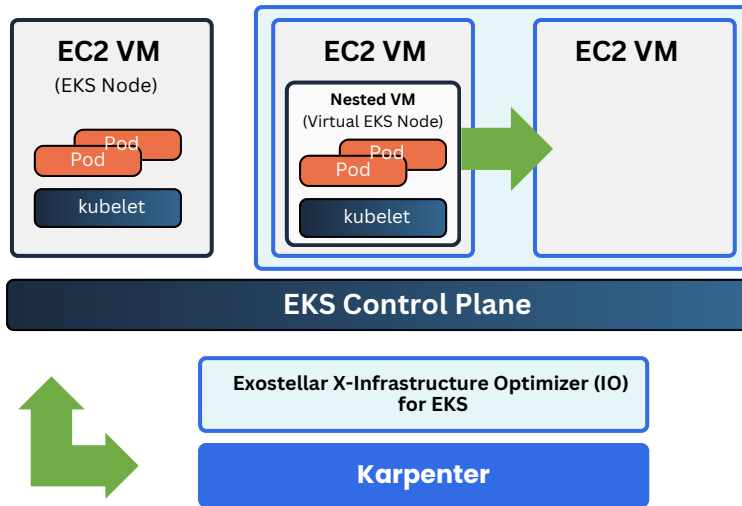
The solution offers autonomous management of AWS on-demand, spot instances & savings plan, mitigating the risk of service interruptions and optimizing costs. By intelligently predicting spot market trends and automatically adjusting resource allocation, Infrastructure Optimizer ensures operational stability and leverages cost-saving opportunities without the manual complexity, directly addressing the challenges of using spot instances and maintaining continuous cloud operations.



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Enhanced Kubernetes Orchestration



1. Integrate a custom Karpenter plugin with the EKS control plane.
2. The plugin initiates scaling by sending requests to the IO control plane.
3. IO provisions nested VMs, running kubelet and necessary services.
4. These nested VMs seamlessly join EKS as compute nodes.
5. IO employs live migration for these VMs, maintaining transparency with EKS.
6. This enables IO to dynamically adjust Kubernetes compute nodes to the spot market, optimizing costs without modifying Kubernetes applications.

Success Stories

User Challenges



Expensive setup, 4+ hours restoration time, need for continuous Spinnaker service, and reduced costs.

IO: For reliable spot market access without Spinnaker reconfiguration



Business continuity failure due to Argo downtime; need for integration with Prometheus, cAdvisor, Loki, ZipKin for compliance.

IO: For reliable, live access, maintaining full standards compliance with existing monitoring tools.



Non-transactional, data mining PostgreSQL database with 16x24XL node cluster, high compute costs & downtime issues during data reloads from S3.

IO: For spot market access, ensuring on-demand reliability without PostgreSQL awareness or configuration changes.

Results

- Zero downtime
- Seamless workflow
- Enhanced DevOps budget efficiency
- Ensure business continuity
- Cost reduction
- No change required for monitoring or compliance reporting tools.
- Seamless infrastructure migration & zero downtime
- Enabled spot market pricing for a costly, stateful application stack

