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NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

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Reliable, secure, and efficient cloud operations

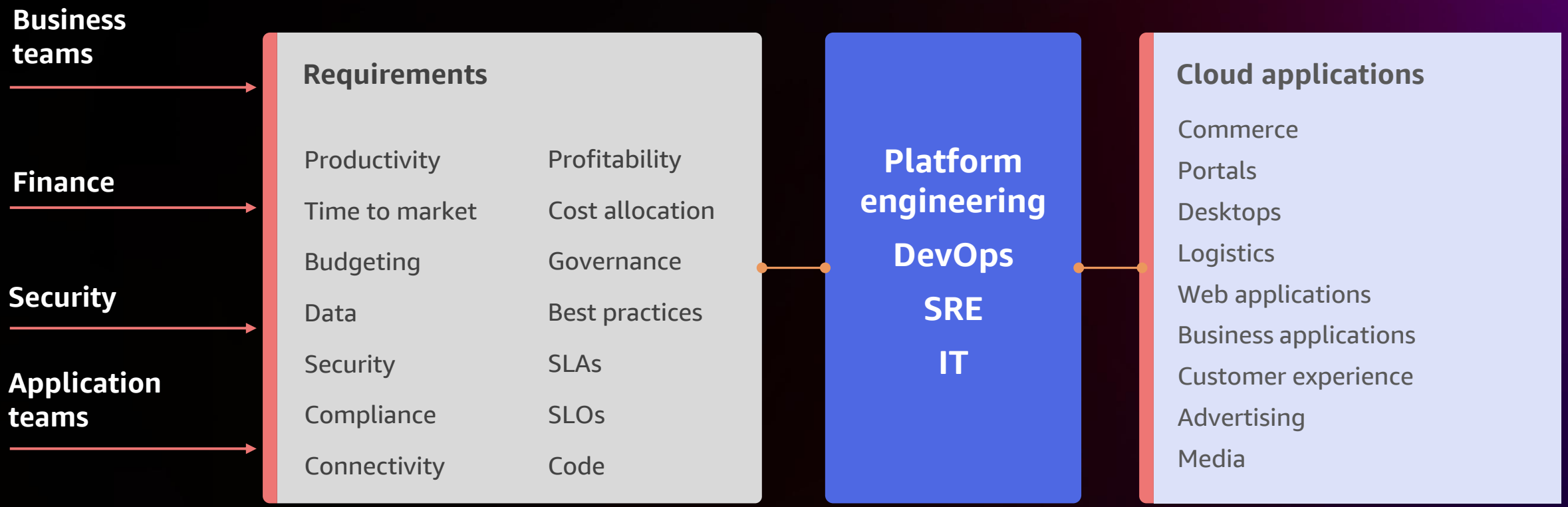
Kevin McGrath

VP of Spot by NetApp
NetApp, Inc.

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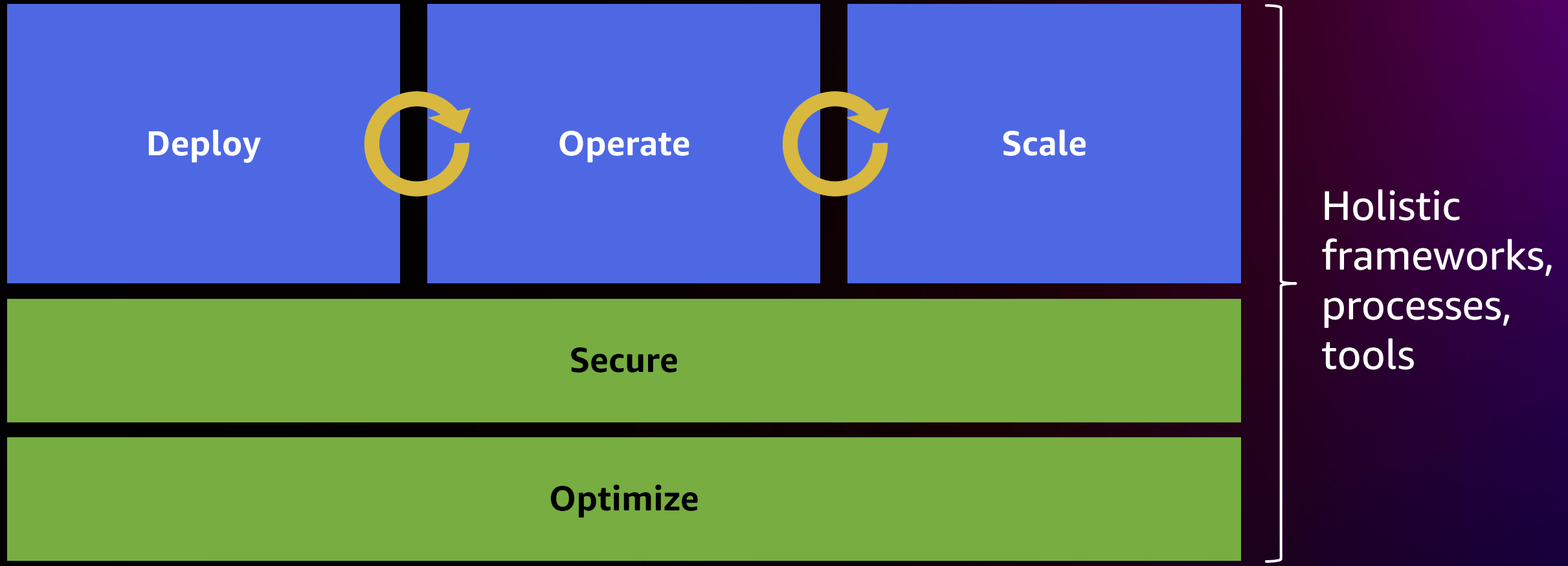
The critical role of operations teams

OPERATIONS EXCELLENCE IS CRITICAL TO CLOUD SUCCESS



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A holistic approach is required



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What is CloudOps?

A FRAMEWORK AND PRACTICE FOR OPERATING MODERN APPLICATIONS IN THE CLOUD

Cloud operations is a holistic approach to building, deploying, and running applications

- Responsible for delivering, tuning, optimizing, and securing applications
- Measured against SLAs, SLOs, error budgets, and costs
- Incorporates DevOps, FinOps, and SecOps needs to align with needs of application teams, security, IT, and finance
- Automates and integrates procedures and best practices to support consumption of both platform-as-a-service and infrastructure-as-a-service by applications

Cloud operations empowers organizations to securely deploy, scale, and optimize applications in the cloud

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Foundational pillars for CloudOps

Cloud applications

Visibility

Meaningful, actionable insights into infrastructure and applications

Automation

Configurable, dynamic automation across full operations lifecycle

Optimization

Continuous and real-time optimization of cost, capacity, availability

Repeatability

Consistent configuration and processes across all environments

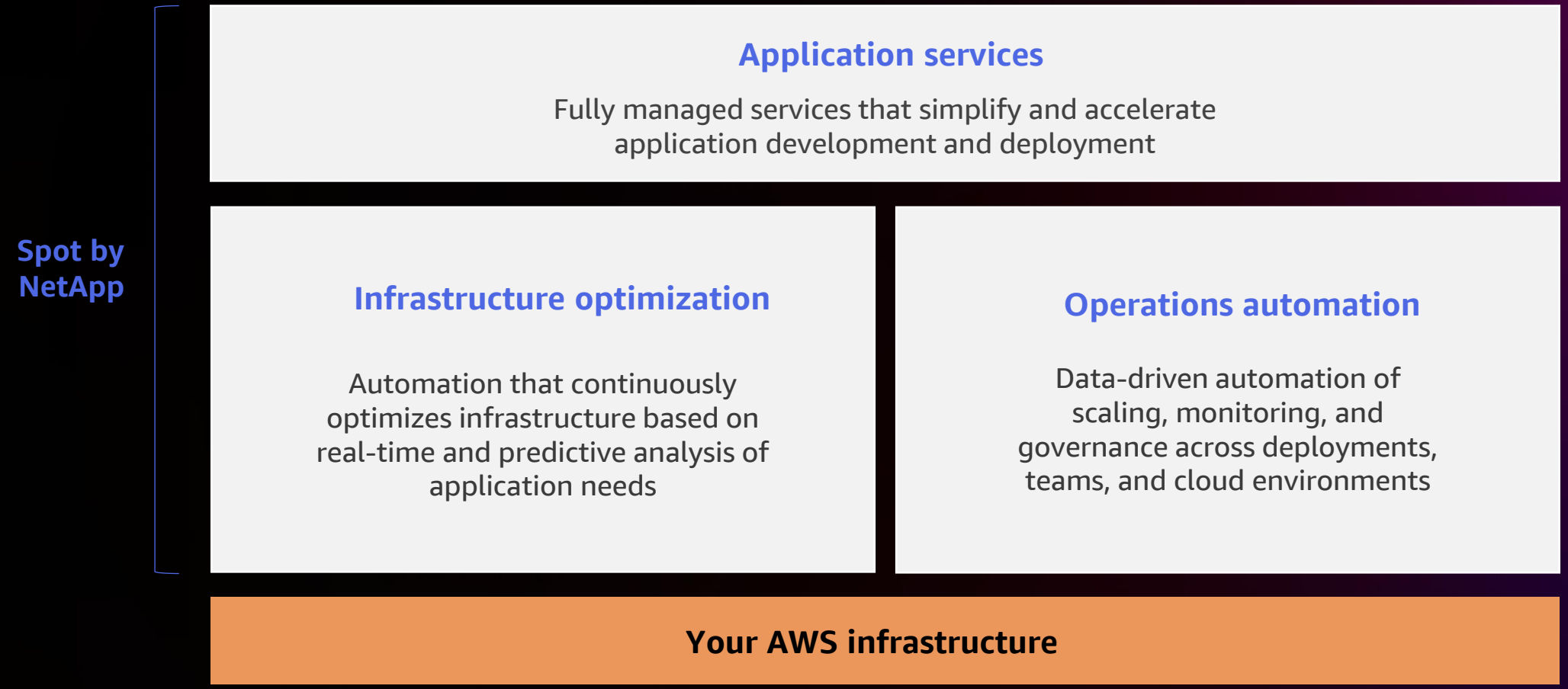
Cloud infrastructure

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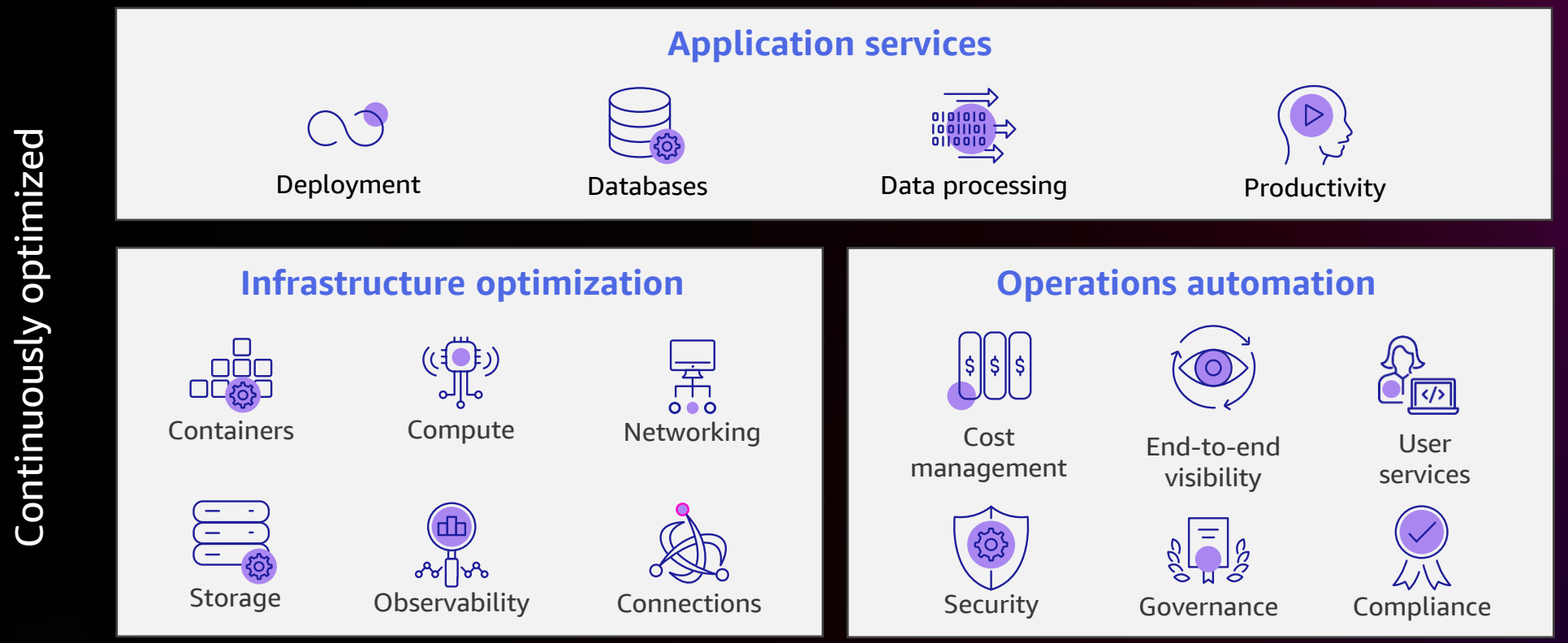
Spot by NetApp for CloudOps

SECURELY DEPLOY, SCALE, AND OPTIMIZE APPLICATIONS IN THE CLOUD



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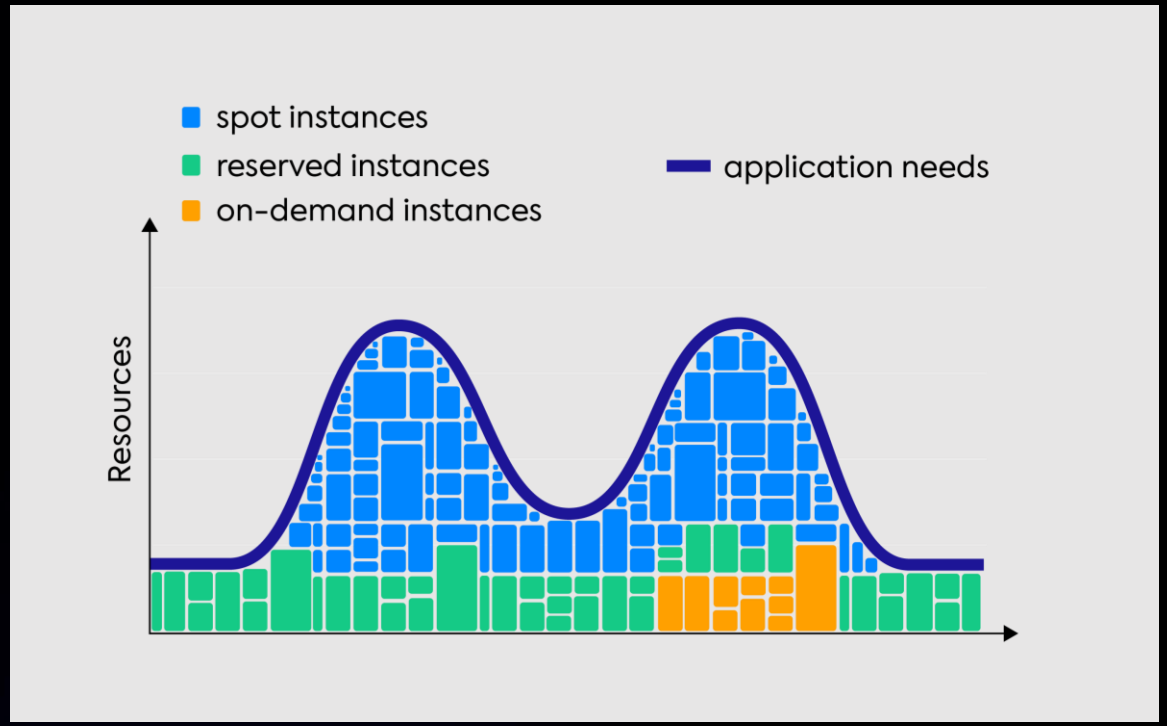
Spot by NetApp for CloudOps: Key capabilities



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CloudOps for compute infrastructure

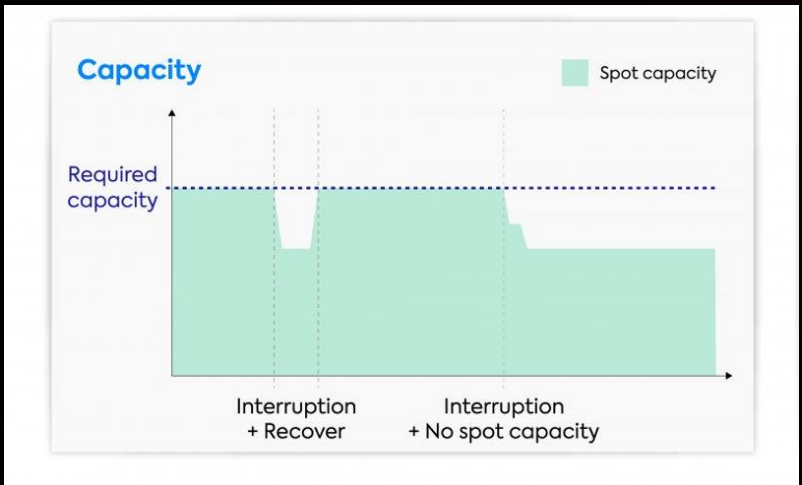
- **Visibility** into resource utilization and predicted needs
- **Continuous optimization** of capacity and costs
- **Automation** of scaling and placement
- Based on real-time analysis and predictive analytics
- Utilizing full portfolio of AWS compute resource types, locations, and purchasing models



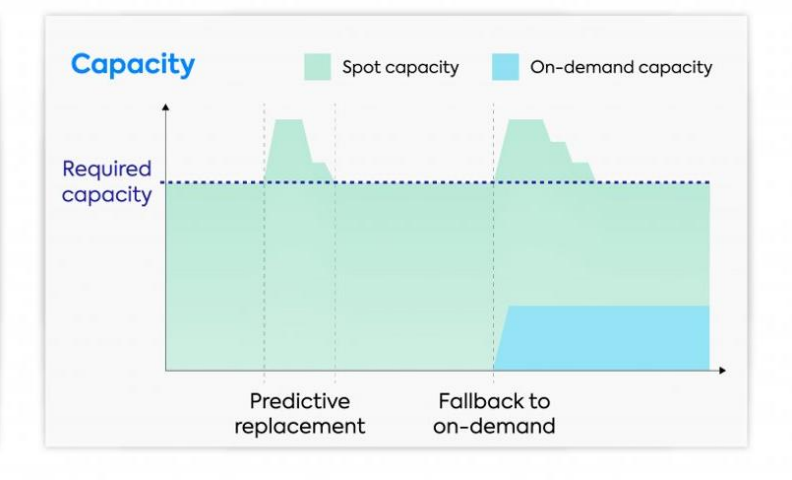
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Optimized Spot Instance utilization

Without optimization



With optimization



- Predict Spot Instance behavior, capacity, pricing, and interruption rate
- Ensure that your workloads will run, while also doing it in the most efficient manner
- Scale rapidly to handle spikes

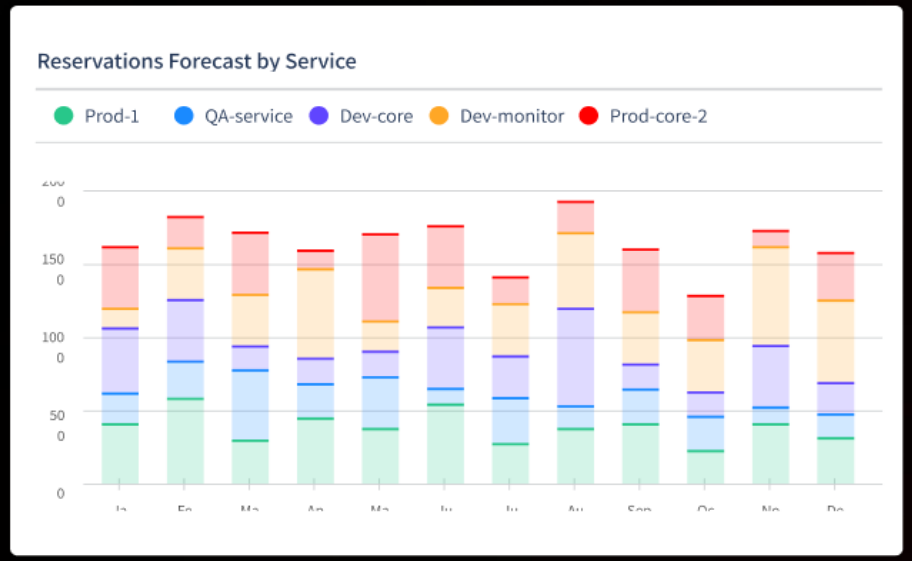
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Continuous optimization for RIs & SPs

Resource usage analytics

Historical and predictive analysis of resource utilization to understand and forecast requirements





Continuous optimization

Real-time analysis and rebalancing of commitment portfolio to maximize utilization, coverage, and flexibility

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Containers and Kubernetes

Infrastructure provisioning and pricing

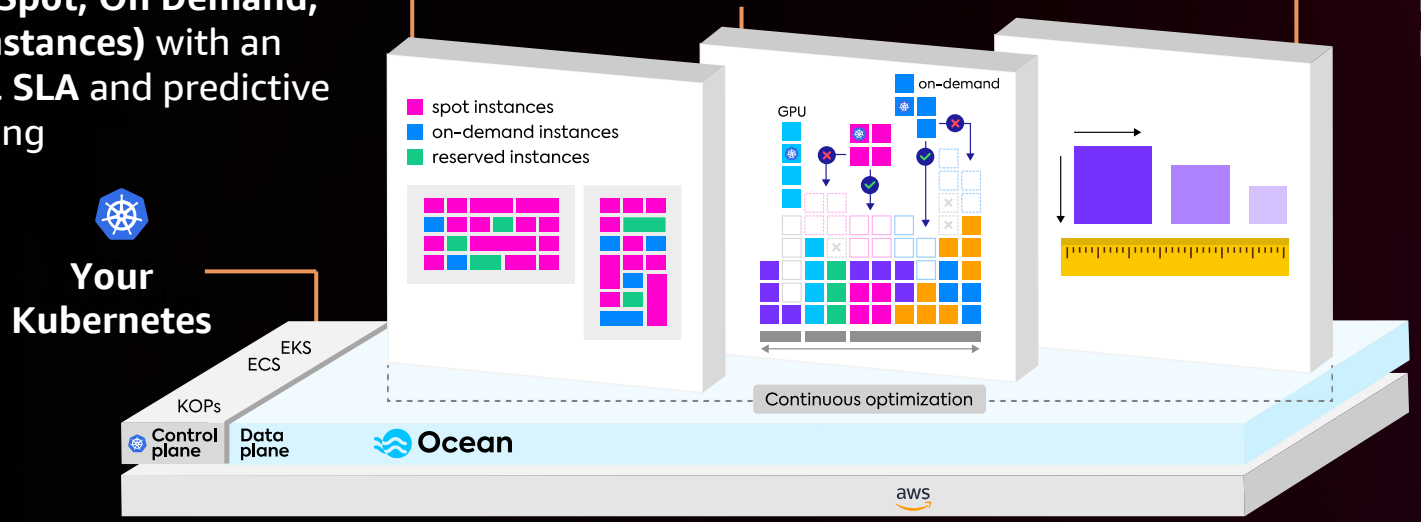
Intelligent selection of compute pricing models **(Spot, On Demand, and Reserved Instances)** with an **enterprise-level SLA** and predictive cluster rebalancing

Pod-driven auto scaling and advanced bin packing

Instance size, type, pricing, and allocation determined based on resource **specifications** while honoring labels, taints, tolerations, network, and storage requirements

Continuous right-sizing

Monitor and analyze container utilization and resource requests for performance in real time to optimize performance and cost



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Continuous delivery for cloud-native applications

Full-stack visibility

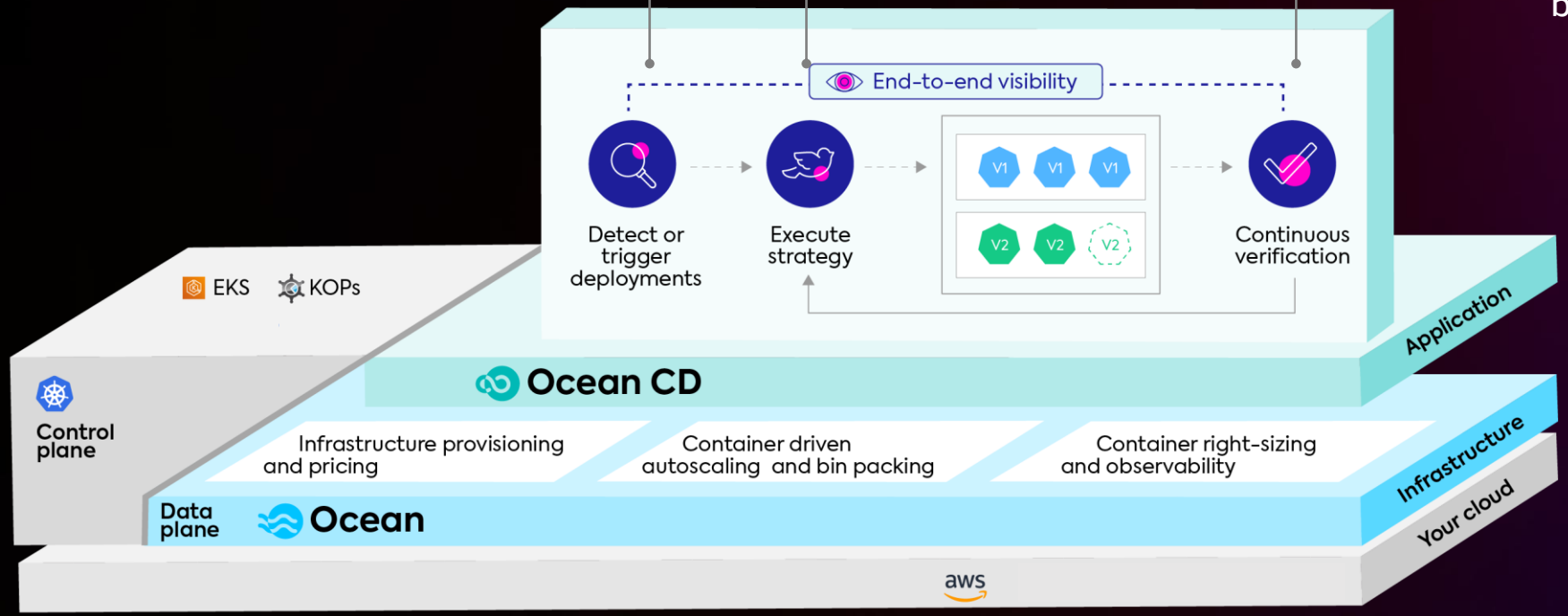
Understand application health from service to server

Deployment engine

Simple to implement canary and blue/green deployments.

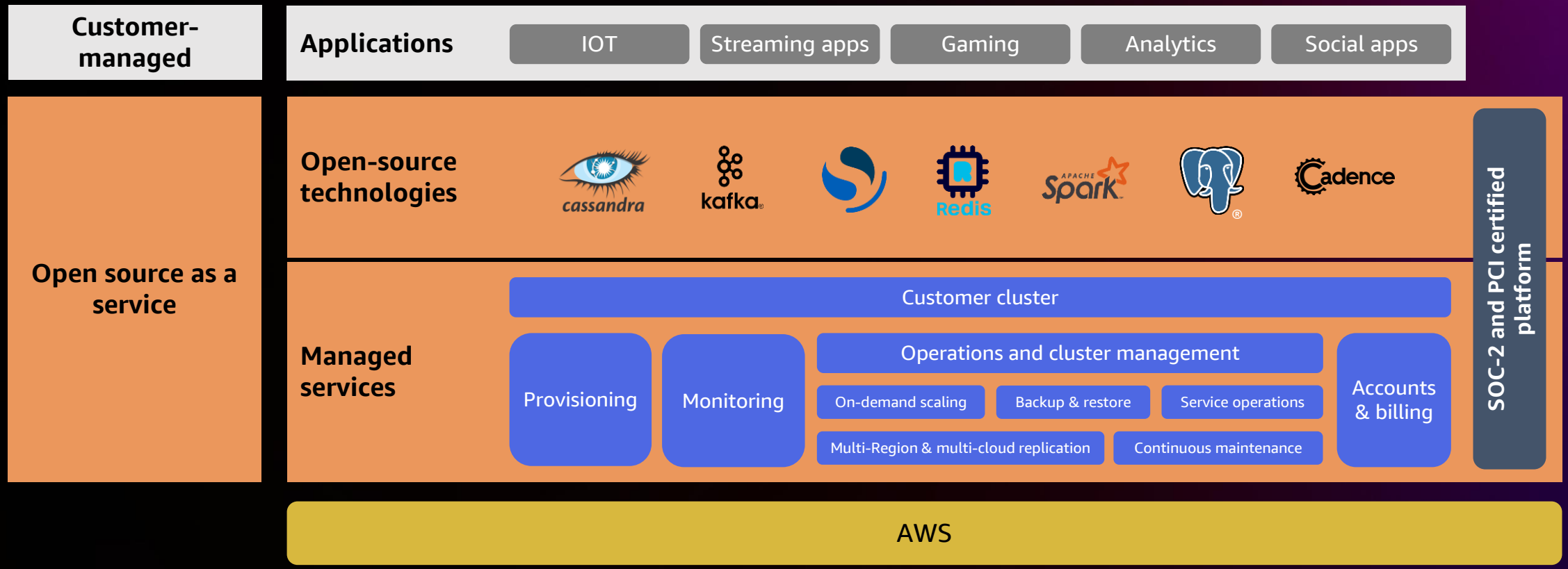
Continuous verification

Automatic deploy, run, and rollback based on SLOs



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Open-source data services



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Simplifying security for CloudOps teams

Analyze

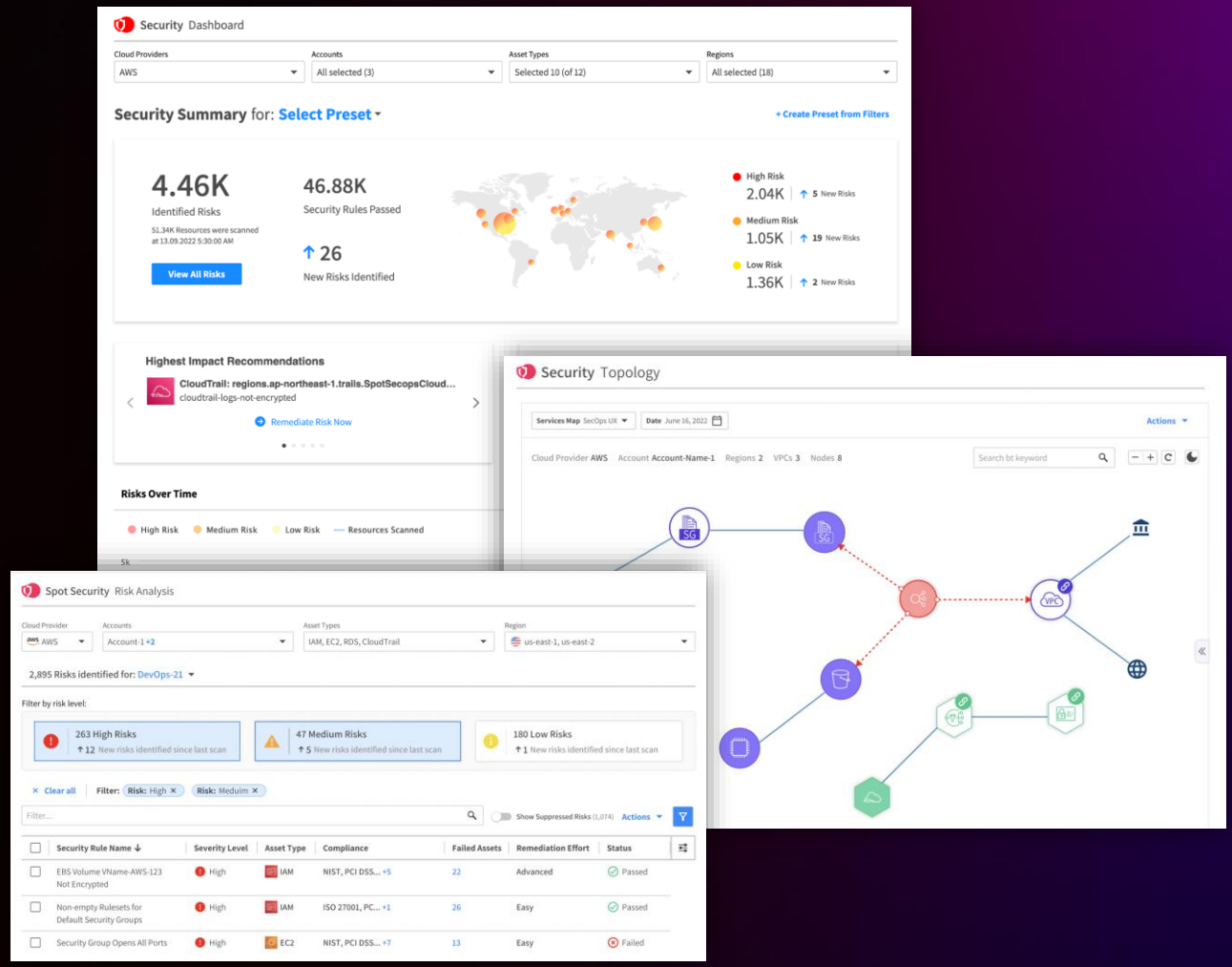
Understand and learn your cloud utilization, configuration, network communication, audit trails, and more

Detect

AI-driven identification and ranking of security risks, misconfigurations, compliance issue, and anomalous behavior

Remediate

Reduce vulnerability with customizable security focus, guided remediation, and intelligent prioritization of critical issues for optimal security workflow and results

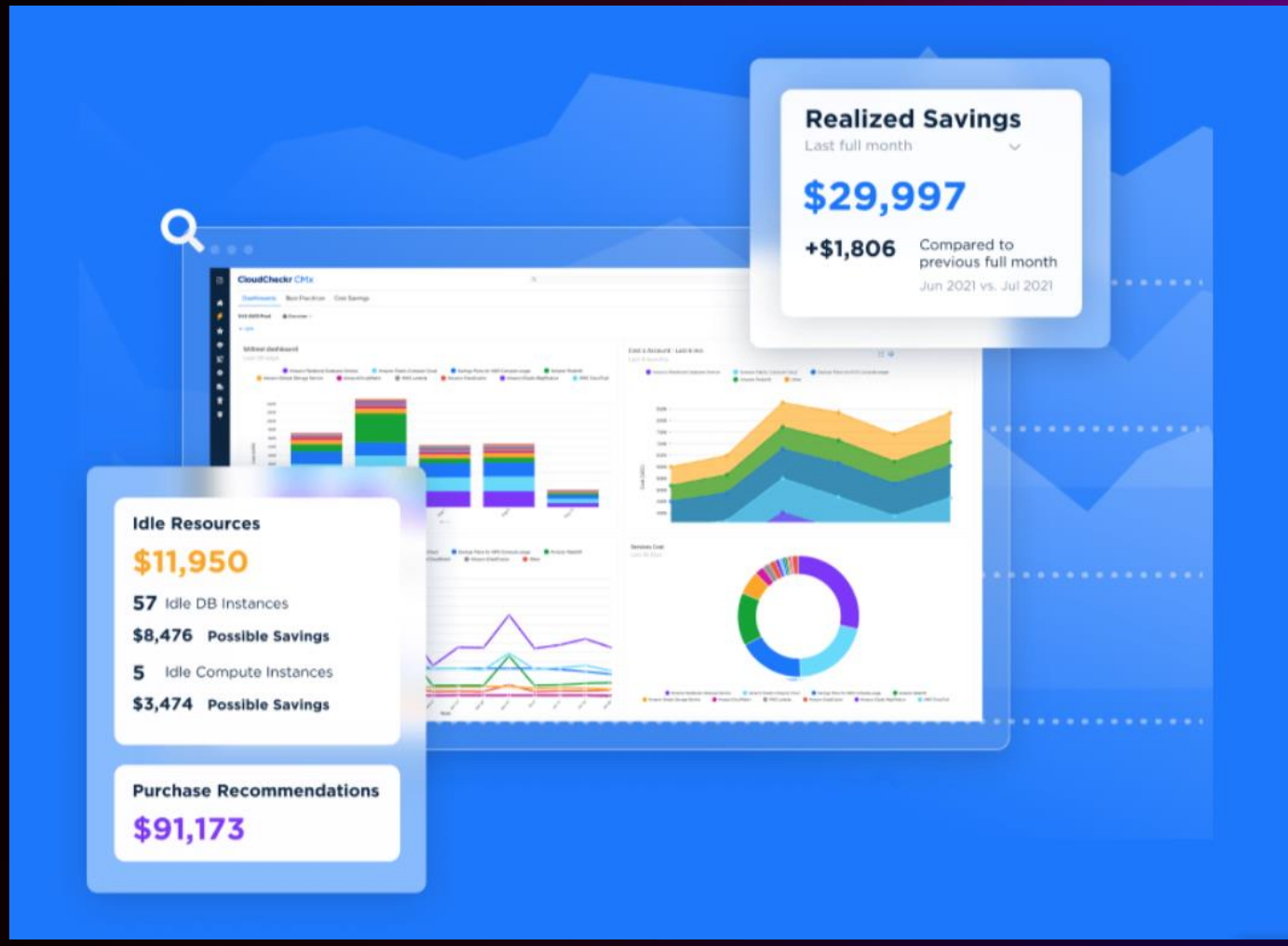


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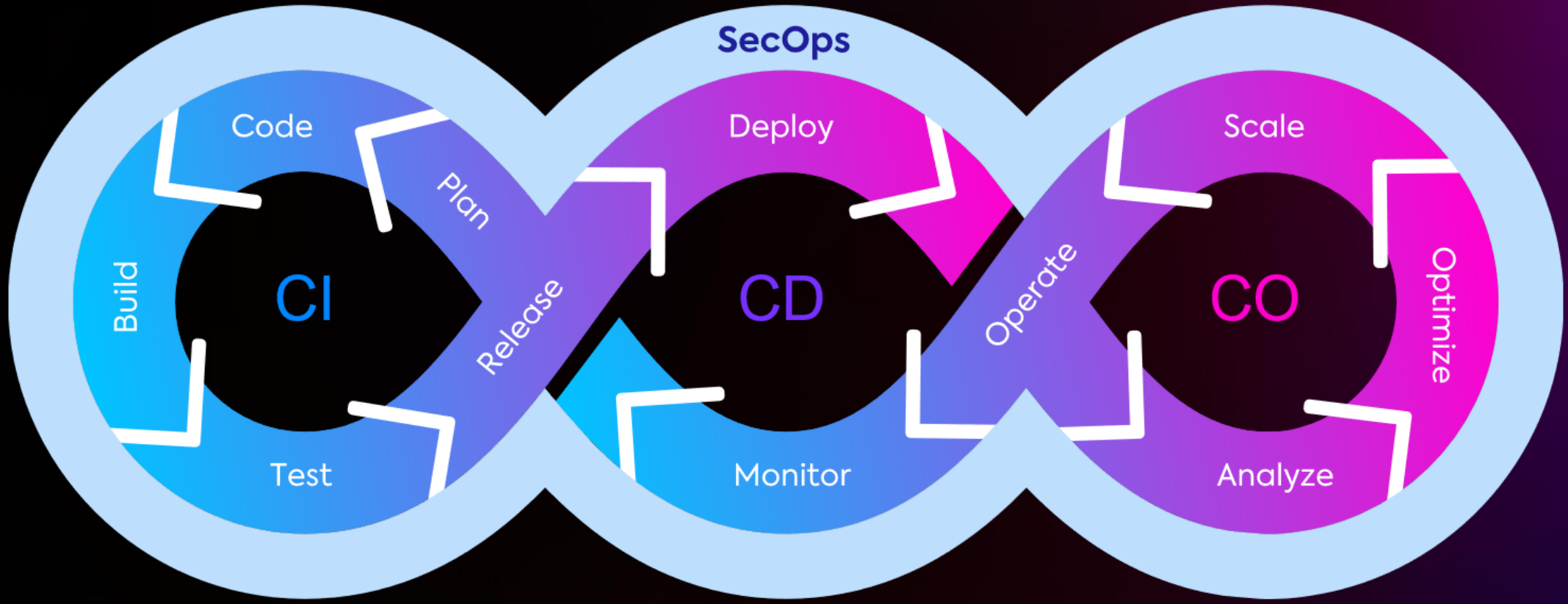
Visibility and insights across your environments

- Deep visibility into cloud spend and resources
- Easily analyze and allocate cloud consumption by business unit, projects, teams, and services
- Prioritize insights and get recommendations to pursue most critical cost, security, and resource improvement opportunities



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Addressing the full lifecycle



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Optimize your workload infrastructure on AWS

- Always **available**
- Always **scalable**
- Always **optimized**

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Thank you!

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