SOLUTION BRIEF

StormForge is now part of CloudBolt

StormForge joins CloudBolt to create a comprehensive closed-loop system for Kubernetes management

Introduction

As Kubernetes adoption accelerates, organizations face mounting challenges with cost management, resource utilization, and performance optimization. According to recent research by the Cloud Native Computing Foundation (CNCF), Kubernetes has driven up cloud spend for 49% of organizations, with 70% citing overspend directly related to workload overprovisioning.

CloudBolt's acquisition of StormForge brings together two complementary technologies to create a comprehensive solution that addresses these challenges head-on. This solution brief explores how this integrated platform closes the FinOps loop for Kubernetes, enabling businesses to inform, optimize, and operate with unprecedented efficiency.

The Problem: The Black Box of Kubernetes Costs

Kubernetes environments present unique cost optimization challenges:

1. Dynamic Workload Nature

Container workloads are inherently dynamic, making proper resource allocation and rightsizing extremely difficult. Traditional static approaches fail to account for changing usage patterns, resulting in either overprovisioning (wasting money) or underprovisioning (risking performance).

2. Complexity and Lack of Visibility

The complexity of Kubernetes environments obscures granular cost visibility. Organizations struggle to understand how resources are being used across namespaces, workloads, and teams, making it difficult to identify optimization opportunities.

3. Technical Knowledge Requirements

Effective Kubernetes resource management traditionally requires specialized knowledge and constant attention. Manual tuning is time-consuming and error-prone, diverting engineering resources from value-creating activities.

4. The Insight-to-Action Gap

Many existing tools provide cost visibility but lack automated optimization capabilities, creating an "insight-to-action gap" that requires engineers to manually implement recommendations.

CloudBolt + StormForge

By combining CloudBolt's comprehensive FinOps platform with StormForge's ML-powered optimization capabilities, we've created a closed-loop system for Kubernetes cost management.

Component 1
Comprehensive Visibility

CloudBolt's award-winning FinOps platform provides multi-dimensional cost visibility:

- **Cluster Dashboard:** Real-time visibility into resource utilization across your clusters, comparing provisioned, requested, and actual usage patterns for CPU and memory.

- **Cost Monitoring:** Detailed breakdowns of Kubernetes spending across workloads, namespaces, and allocation groups, with historical analysis to identify trends.

- **Organizational Reporting:** Unified view of compute costs across all clusters for comprehensive management.
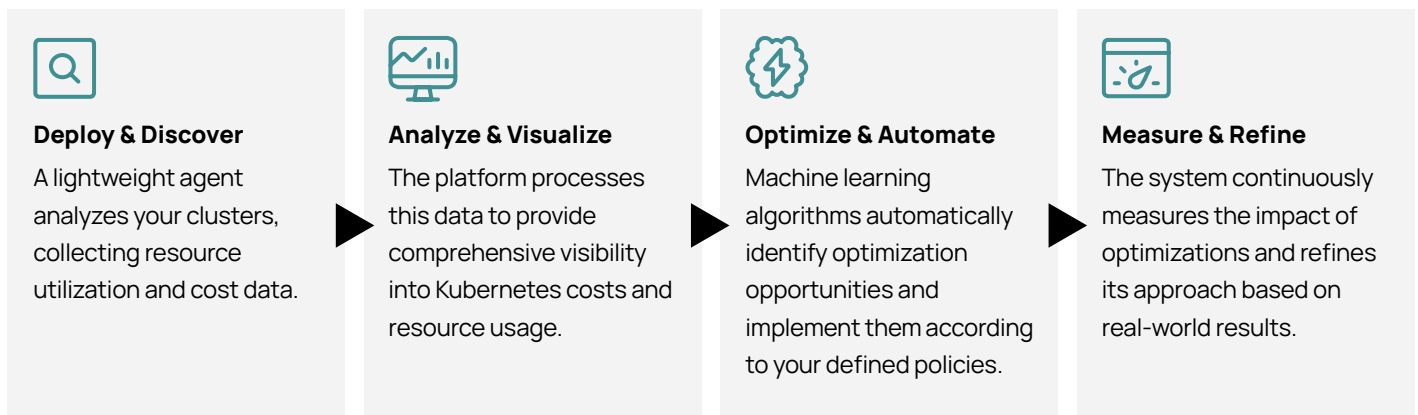
Component 2
ML-Powered Optimization

StormForge's patent-pending machine learning technology enables automated resource optimization:

- **Automated Rightsizing:** ML algorithms analyze workload patterns and automatically adjust resource requests and limits to match real demand, eliminating waste while ensuring performance.

- **Bidimensional Autoscaling:** Unique combination of vertical pod rightsizing with horizontal pod autoscaling configuration optimizes resource utilization on multiple dimensions.

- **Continuous Forecasting:** The system continuously learns from application behavior, adjusting to changing traffic patterns and requirements over time.

- **Enterprise-Scale Automation:** Hands-free lifecycle management across your entire Kubernetes estate with minimal intervention.

The Integrated Workflow

The CloudBolt + StormForge solution creates a seamless workflow:

Deploy & Discover
A lightweight agent analyzes your clusters, collecting resource utilization and cost data.

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Analyze & Visualize
The platform processes this data to provide comprehensive visibility into Kubernetes costs and resource usage.

▶

Optimize & Automate
Machine learning algorithms automatically identify optimization opportunities and implement them according to your defined policies.

▶

Measure & Refine
The system continuously measures the impact of optimizations and refines its approach based on real-world results.

Security & Compliance

The platform is designed with enterprise security in mind:

- **Read-Only Mode:** Option for observation without automated changes.

- **Role-Based Access Control:** Granular permissions for different user types.

- **Audit Trail:** Comprehensive logging of all optimization actions.

- **Compliance Reporting:** Documentation to support regulatory requirements.

Business Impact

Organizations implementing the CloudBolt + StormForge solution typically experience:

Cost Reduction

- **40-70% decrease in Kubernetes cloud costs** through rightsizing and automated optimization.
- Additional savings from reduced operational overhead and improved engineering productivity.

Performance Improvement

- Enhanced application reliability through properly sized resources.
- Reduced risk of outages caused by resource constraints and OOM errors.

Operational Efficiency

- **85% reduction in time spent** on manual resource management.
- Streamlined workflows between FinOps and Platform Engineering teams.

Strategic Value

- Faster application deployment through automated resource configuration.
- Improved decision-making with data-driven insights.

Case Study: Financial Services Leader

A leading financial services organization implemented the CloudBolt + StormForge solution across their Kubernetes environment, which spans multiple clouds and hundreds of clusters.

Challenges

- Rapidly growing Kubernetes footprint with increasing costs.
- Limited visibility into resource utilization.
- Engineering teams spending excessive time on manual tuning.

Implementation

- Deployed the integrated solution across their production environment.
- Established policies for automatic optimization with performance safeguards.
- Integrated with existing CI/CD pipelines and monitoring systems.

Results

- 52% reduction in Kubernetes cloud costs in the first 90 days.
- 90% decrease in manual resource configuration work.
- Zero performance-related incidents during the optimization process.
- Engineering teams redirected 25+ hours per week to feature development.

Getting Started

Implementing the CloudBolt + StormForge solution is straightforward:

1. **Proof of Value:** A no-risk implementation in a subset of your environment demonstrates the potential impact.
2. **Implementation:** Full deployment with comprehensive support and training.
3. **Continuous Optimization:** Ongoing refinement of the solution based on your evolving requirements.

Conclusion

As Kubernetes continues to be a critical component of modern application architectures, effective cost management becomes increasingly important. The CloudBolt + StormForge solution provides a comprehensive approach that combines visibility, intelligence, and automation to close the insight-to-action gap.

By bringing together CloudBolt's FinOps expertise with StormForge's ML-powered optimization, we've created a platform that transforms how organizations manage their Kubernetes clusters. The result is not just reduced cloud spend, but improved application performance, enhanced operational efficiency, and a foundation for sustainable cloud growth.

Learn more

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