

Taming Cloud and Kubernetes Costs Through FinOps

Overview

Overspending is one of the biggest issues related to large-scale cloud deployments. It's no surprise that as organizations scale their cloud-native Kubernetes environments, the associated costs rise along with that growth. However, there is a disconnect between the rising expenses and how well businesses can monitor and control costs in the cloud, across multiple clouds, and in hybrid cloud environments.

According to [Gartner](#), enterprises spend an average of 30% to 40% too much on cloud services. Similarly, a [StormForge survey](#) found that businesses waste more than \$17B a year on unused or idle cloud resources.

That's a significant waste of resources for any organization, and it's why FinOps has become an essential practice to control rising cloud costs.

Why Is FinOps Important?

FinOps emerged to account for the on-demand features of the cloud. With the rise and proliferation of cloud computing came a shift from the traditional capital expenditure (CapEx) model to an on-demand operating expenditure (OpEx) model. While this enables businesses to pay for the time and resources they use rather than a set rate, tracking and optimizing disparate Kubernetes resources across the organization becomes increasingly difficult. Moreover, individuals or teams throughout the organization might be provisioning and using services independently without any sort of central planning or oversight. Gaps in financial accountability and complex cloud pricing structures result in an increase in runaway expenses and a waste of Kubernetes resources.

To effectively address this issue requires a framework that helps organizations better manage cloud Kubernetes costs, which is why FinOps has become so important today.

The goal of FinOps is to provide stakeholders with the visibility and cost understanding they need to make trade-offs between speed, cost, and quality in their cloud and Kubernetes architecture and investment decisions. These decisions can range from cutting costs to making cost a secondary priority after speed or quality.

What Is FinOps?

FinOps, most often defined as [finance and DevOps](#) and **financial operations**, is the discipline that promotes a shared responsibility for an organization's cloud computing infrastructure and costs. Rather than having disparate procurement teams working in silos to identify and approve costs, FinOps brings business, financial, and information technology (IT) leadership together to establish best practices for usage and to manage the total cost of cloud-based Kubernetes deployments across the enterprise.

When implemented successfully, FinOps removes blockers, improves cross-functional collaboration and communication, enables faster application delivery, and provides teams with financial visibility and control to drive better outcomes for the business.

FinOps is also known as *cloud financial management*, *cloud cost management*, *cloud cost engineering*, and *cloud financial optimization*.

FinOps Phases

The [FinOps Foundation](#) recommends a three-phase approach to managing the variable spend in the cloud. This approach is an interactive process; organizations should regularly return to the inform and optimize phases for continuous improvement.

Inform

In this phase, members of the organization work together to gather all of the necessary information about cloud and Kubernetes usage and cost, and make it visible and accessible to stakeholders. Such visibility is essential for benchmarking, budgeting, and forecasting cloud and Kubernetes costs.

Optimize

This phase involves identifying key cost-optimization drivers and providing a standardized process for optimizing cloud and Kubernetes resource consumption. Some organizations may optimize cost savings for long-term instance use. Other organizations might optimize their cloud usage by auto-scaling or right-sizing Kubernetes resources. In addition, organizations can optimize Kubernetes workloads to reap the full benefits of cloud-native services.

Operate

The last phase involves the continuous planning and improvement of cloud and Kubernetes consumption. Stakeholders work together to review cloud and Kubernetes spend metrics and make business trade-offs between speed, cost, and quality.

FinOps Principles

FinOps is driven by a set of principles that play a critical role in the success of the FinOps practice:

Cross-functional Collaboration

- Align engineering and finance teams by encouraging early and ongoing communication so they understand each other's goals and challenges.
- For effective alignment, finance moves at the speed of engineering and engineering makes cost a new efficiency metric.
- Establish and enforce thresholds, budgets, standards, and policies for all Kubernetes resources. This includes defining who (or what teams) within the organization are authorized to use which Kubernetes resources and how to improve forecasting.

Shared Ownership of Cloud Usage

- Establish FinOps as a shared responsibility by collaborating with finance, business, and engineering leadership for cloud financial management.
- Audit all cloud and Kubernetes expenses to understand where costs are coming from and make spending data discoverable and easily available.
- Empower feature and product teams to manage their own cloud and Kubernetes usage against their budget.
- Drive accountability by tracking individual and team-level targets.



Centralized Management	<ul style="list-style-type: none">• Identify and form a central FinOps team or Cloud Center of Excellence (CCoE) to drive the adoption of a FinOps culture and standardize the process for cost optimization.• Take advantage of cloud provider discounts and leverage reserved/spot instances to maximize utilization and cost benefits.• Allocate all costs to the teams and cost centers responsible for them.
Timely and Accessible Reporting	<ul style="list-style-type: none">• Empower teams to provide timely and consistent spend and usage data to all stakeholders.• Gain real-time visibility into costs at all levels to determine if resources are under- or over-provisioned.• Drive continuous improvement by automating resources.
Business Value Realization	<ul style="list-style-type: none">• Focus on value-based metrics to understand why costs increased.• Leverage internal team performance to drive best practices.• Compare internal performance to industry peer-level benchmarking.
Variable Cost Models	<ul style="list-style-type: none">• Rightsize instances and services to drive appropriate resourcing levels.• Compare pricing between services and resource types to drive business-value-based decisions.

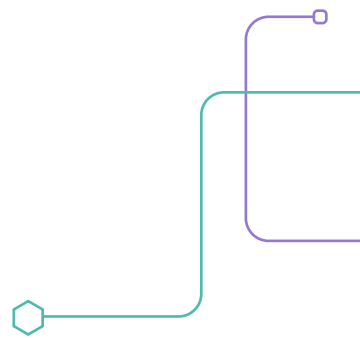
Why Is Integrated Cost Monitoring a Good FinOps Solution?

Kubernetes and the cloud enable businesses to accomplish their goals and accelerate innovation. However, successful adoption requires centralized visibility and management of cloud resource usage and costs to enable faster application delivery while maintaining financial control.

Kubecost running on the D2iQ Kubernetes Platform (DKP) is a centralized cost management solution for monitoring, managing, and optimizing Kubernetes spend in real time and at scale. Kubecost is included with DKP as a platform application available out of the box. Kubecost provides real-time cost visibility and insights for teams using Kubernetes, helping you continuously reduce your cloud costs.

Innovative open-source resource and cost monitoring solutions continue to emerge, such as Resoto. For customers who prefer alternative cost monitoring tools, DKP's flexibility enables easy pluggability.

D2iQ also is a founding contributor to the OpenCost initiative. OpenCost is a vendor-neutral open-source project for measuring and allocating infrastructure and tracking container costs in real time. Built by Kubernetes experts and supported by Kubernetes practitioners, OpenCost shines a light into the black box of Kubernetes spending.



Why Is Integrated Cost Monitoring a Good FinOps Solution? (continued)

Unified Cost Visibility and Allocation

DKP eases the management of Kubernetes through a centralized management plane, a user-friendly control panel that acts as a single point of observability and control. The work required to unify costs across disparate clusters, distributions, and infrastructures is dramatically reduced, enabling the central FinOps team or CCoE to allocate costs to organizational concepts, such as team, department, or environment for showback or chargeback.

Cost Optimization Insights

Kubecost provides standardized cost models, management reports, and customized recommendations across various resource types—including compute, storage, networking, and load balancers—to significantly reduce waste and spend without impacting application performance. Detailed cost data, plus additional insights generated by DKP, enables the central FinOps team or CCoE to understand where exactly their Kubernetes spend is coming from and how and where they can safely optimize it.

Centralized Governance and Access Control

DKP's centralized management plane provides monitoring, alerting, and governance to quickly address budget overruns and inefficient workflows, enabling the central FinOps team or CCoE to establish governance, authorization, and authentication for all Kubernetes resources. This level of standardization enables teams to operate with a single cost-allocation model and manage the process for optimizing costs in a consistent manner.

Instant Platform Engineering for FinOps

Just as platform engineering eases the tasks of DevOps and DevSecOps teams, DKP provides an automated platform and “golden path” for FinOps teams by packaging all the components needed for cost and resource management in a complete, fully integrated, fully automated, fully-tested, easy-to-deploy, production-ready Kubernetes environment.



To learn how D2iQ can help you effectively monitor and control cloud and Kubernetes costs, [speak with the experts at D2iQ.](#)