eBook

The Ultimate FinOps eBook for **Datadog Cost Management**
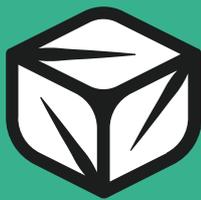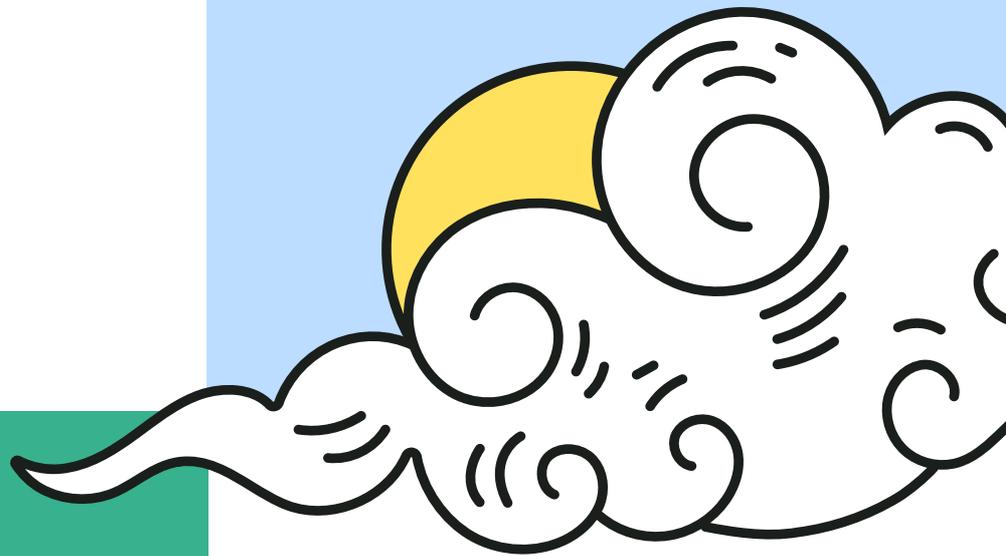
finout

Datadog tracks cloud and on-premises apps and infrastructure.

Contents:

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Introduction

In today's complex world of cloud infrastructure and modern software development, visibility is key. Large and small companies are increasingly turning to observability solutions to see what's happening in real time. [Datadog](#) is among the leaders in this space, providing powerful monitoring and analytics tools that help teams observe their infrastructure, applications, and services with unparalleled clarity.

But with great power comes great responsibility – in this case, that responsibility is financial.

Recently, the eye-watering $65 million bill faced by one of Datadog's customers made headlines and acted as a wake-up call through the tech industry. The incident, analyzed in [this article](#), illuminated a stark reality: understanding and managing Datadog costs effectively is not a mere consideration; it's an essential skill for every business to avoid such surprises.

So, what exactly led to this massive bill? And more importantly, how can your company avoid a similar situation? These pressing questions are at the forefront for many Datadog users, and the answers are not always simple. That's where this ebook comes in, aiming to provide some clarity.

Effectively managing your expenses with Datadog goes beyond just preventing unexpected bills. It's about ensuring you're getting genuine value for every dollar spent, utilizing the platform's resources efficiently, and striking the right balance between top-notch performance, the features you need, and staying within budget.

In the following ebook, we will explore the intricacies of Datadog's pricing model, provide insights into cost-effective usage, and offer step-by-step guidance on how to keep your Datadog costs under control. Whether you're a FinOps, engineer, developer, IT, or you're a decision-maker in your company, the principles and strategies laid out in this ebook will equip you with the knowledge to use Datadog with confidence without breaking the bank.

Here's a glaring irony: while Datadog provides excellent visibility into software systems, its own cost structure is obscured, making it hard to predict and optimize expenses.

It's a bit ironic: Datadog, known for providing excellent visibility into software activities, has a pricing model that many find confusing, making it challenging to predict costs and know where savings can be made.

But before we delve into the nitty-gritty of Datadog's pricing, cost-saving strategies, and optimization, let's start by getting acquainted with the platform's core features and what it brings to the table.

Datadog Essentials: Understanding Its Core Functionalities

What lies at the heart of Datadog's effectiveness? It is, undoubtedly, its suite of core functionalities, each designed meticulously to address specific challenges and operational needs. From effortlessly visualizing vast metrics to managing logs from varied sources, and from gaining insights into application behavior to customizing dashboards for a unique monitoring experience, we'll unpack the features that position Datadog as a key player in the world of system monitoring.

So, without further ado, let's dive in and familiarize ourselves with the core strengths of Datadog:

Metrics Monitoring Seamlessly collect and visualize metrics from a multitude of sources, ranging from cloud services to applications. Empower yourself with insights into resource consumption, evolving performance trends, and emerging bottlenecks.

Centralized Log Management: With Datadog, aggregate, store, and analyze log data from diverse sources. A unified platform to promptly spot issues, troubleshoot challenges, and ensure compliance.

Application Performance Insights: Leverage Datadog's APM to gain granular insights into your application's behavior. Monitor response times, database interactions, and error rates to refine application efficiency and elevate user experience.

Holistic Infrastructure Overview: Stay updated with the health and usage metrics of pivotal cloud infrastructure elements such as virtual machines, databases, and load balancers.

Network Monitoring: A deep focus on network metrics such as latency, throughput, and packet drops ensures you're always aware of potential network challenges.

Proactive Anomaly Alerts: Benefit from Datadog's robust anomaly detection mechanism, which alerts users of any unusual behavior in metrics, logs, or traces. This ensures timely intervention and resolution.

Interactive Dashboards: Tailor your dashboards and leverage intuitive data visualizations to interpret your monitoring data effectively and efficiently.

This chapter offered a deep dive into the essence of Datadog's capabilities, highlighting its robust adaptability to meet varied operational needs. Through an exploration of its features, we discovered how Datadog stands out as a comprehensive monitoring and analytics solution, ensuring that users are equipped with the necessary tools for optimal system performance.

After getting a good understanding of Datadog's main features, it's time to take a closer look at their pricing structure. Datadog's cost structure is intricate, with diverse plans suiting varied needs. As businesses grow, so do the associated costs. However, with strategic planning, organizations can leverage Datadog's potential while ensuring cost efficiency. As we proceed, let's delve further into understanding the details of Datadog's pricing, with the goal of providing businesses the knowledge they need for optimal performance and cost-effectiveness.

Datadog Pricing Model Unveiled

The Datadog typical invoice can easily get to 4-10% of your cloud provider invoice, and since we know how expensive your cloud provider is, you can understand how expensive Datadog is too.

Understanding [Datadog's cost structure](#) is like unraveling a web, where different threads represent various influencing factors. From Infrastructure Monitoring and Application Performance Monitoring (APM) to Log Management and Synthetic Monitoring, each component adds complexity to the overall cost.

Diverse Plans for Diverse Needs

Free Trial: Your 14-day pass to explore the Datadog world. Use this time to see what the platform can offer you.

Pro Plan: Catering to the majority, the Pro plan offers essential monitoring and analytics capabilities. With many integrations available, this plan's cost depends on several user-driven factors.

Enterprise Plan: Tailored for the big companies. This plan caters to expansive infrastructures with a suite of advanced tools and support mechanisms.

Understanding the Elements of Datadog's Pricing Structure

At its core, Datadog's pricing is influenced by the volume of data ingested and the suite of features utilized. Here's a snapshot:

Infrastructure Monitoring: Cost incurred for monitoring servers, containers, and other components of your digital ecosystem.

Application Performance Monitoring (APM): Costs arising from tracing application activities to determine performance metrics.

Log Management: Associated with the retention and management of logs generated by your applications and infrastructure.

Synthetic Monitoring: Costs stemming from the simulation of user interactions to evaluate application performance.

Datadog Cost 101

The essential principle to grasp with Datadog's pricing is simple: the more you utilize, the more you're charged.

Here's a breakdown:

> **Billing on Hosts:** The number of hosts you monitor or profile directly impacts your costs.
>
> **Billing on Log Volume:** The amount (in GB) of logs you send and index will determine the corresponding charge.
>
> However, If you have a rough idea of your expected usage, there are strategies to make your spending more efficient:
>
> **Commit to Usage:** By agreeing to a certain level of usage for specific Datadog products, you can receive a good discount.
>
> **Opt for a Base Fee:** This involves making an upfront payment. Once done, you're eligible for discounted rates on the products used. Think of it as a prepaid debit card—your usage gets deducted from the prepaid amount.
>
> The challenge? Predicting your usage accurately. Once committed, it's a waiting game, hoping that your consumption doesn't exceed the anticipated amount.

Unraveling the Complexities of Datadog Cost Prediction

Despite being a phenomenal product, Datadog's cost structure can be perplexing. The expenses tied to Datadog can quickly overshadow other cloud bills. Its pricing is simple on the surface: the more you use, the more you pay. However, estimating future usage can be tricky, leading to financial surprises. Why you're asking?

1. Datadog, while crucial, is a supplementary tool, not your primary service. Your investment in it is a reflection of your commitment to concentrating on your core value. However, it's crucial to monitor expenses on services outside of your primary expertise. While there's always a potential to expand monitoring, this also means increased costs. So, where should we set the boundary?

2. The scalability of Datadog, although beneficial, carries the risk of costs spiraling quickly. Whether it's due to launching a new service that generates an excessive number of logs, developer errors, or simply the sheer volume of traffic served by a

newly launched service, even minimal necessary logging can lead to significant expenses. What might begin as a $100 monthly expense can easily escalate to $1500, underscoring the need for careful management and consideration of how Datadog is utilized.

3. As your business infrastructure grows, Datadog costs will rise in turn.

4. Forecasting Costs? Good Luck. Ask any developer about log volume or throughput, and you'll likely get a shrug. Trying to predict the next quarter's needs feels like a guessing game, and pinning down a commitment to Datadog is like shooting at a moving target. The standard approach seems to be: dive in, guess, and adjust as everything keeps changing.

Datadog is beyond powerful. However, as its costs become a significant line item in your budget, it's wise to closer examine and optimize. With strategic usage analysis and effective planning, businesses can save substantially without compromising on the solution's benefits. Remember, the key is to get the most out of Datadog without letting the costs bite into your bottom line.

# Datadog Products in High Level

You now got the big picture of how Datadog pricing works. Yet, if you're still wondering why your end-of-month bill might be higher in some months and lower in others, it's essential to recognize the significant role played by the diverse Datadog products utilized. With such expansive capabilities, there comes a challenge: the potential for costs to skyrocket without proper oversight. Let's zoom into the specifics of these products and shed some light on what might be affecting your monthly expenses. Ready? Let's break it down.

Host-Based Products

Datadog's host-based products, like APM, infrastructure, and CSM, each offer a range of monitoring capabilities. Customers commit to a monthly rate based on the number of hosts they monitor. While the upfront cost might seem affordable, Datadog's charging structure relies on the hourly average of active hosts over 5-minute intervals.

This approach can pose challenges tricky for dynamic systems that scale automatically, as a commitment for 100 hosts during peak hours could turn into 170, dropping to 70 during off-peak times. This requires customers to strategically commit to a specific number to avoid incurring high on-demand rates.

Additionally, without a commitment, Datadog utilizes the 99th percentile of active hours for billing, which isn't tied to actual usage and can lead to unpredictability. This model possibly arises from Datadog's need to anticipate usage, aiming to ensure that they don't under-provide resources, though the justification for the 99th percentile billing remains open to debate.
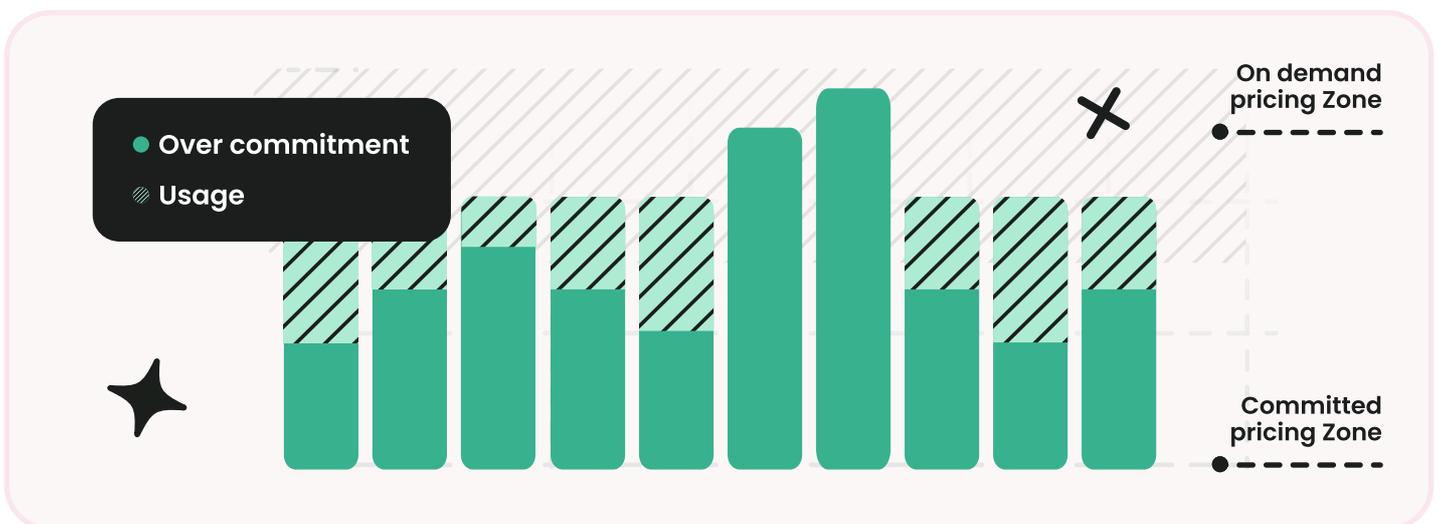
Volume-Based Products

Volume-based products like Logs and Synthetics follow a per-usage billing model, common among SaaS offerings. For instance, if you send 100GB of logs, you're charged for that precise amount; similarly, your's billed for the exact amount of synthetic checks, like 1M checks. Opting for a committed volume grants a discount, but exceeding the committed volume leads to elevated on-demand rates, often significantly higher.

Logs, a popular Datadog product, has multiple billing layers:

Ingestion: Charges are tied to the volume of logs sent, usually at a fixed rate.

> **Indexing:** Costs are determined by the number of stored logs and their retention duration, with longer retention translating to higher prices.
>
> **Rehydration:** Accessing logs post-retention period incurs additional charges.
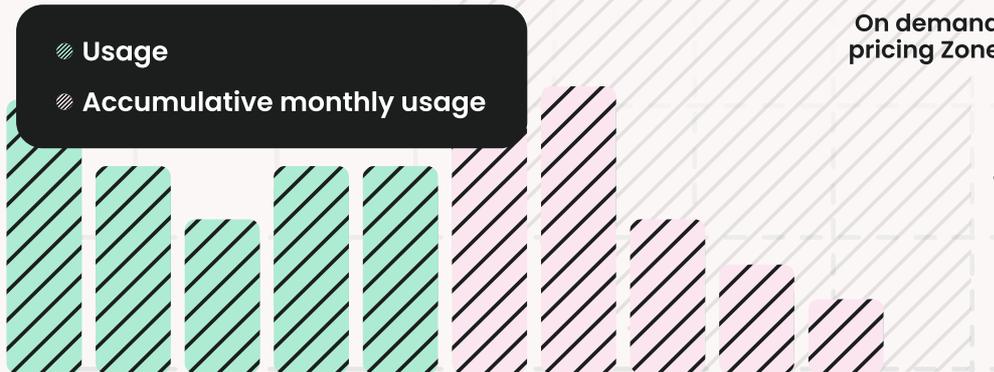
User-Based Products

User-based products operate on a simple per-active-user model, offering transparency and clarity in pricing.

It's also easy to inadvertently exceed commitments in usage-based products. Simple changes, like adjusting the frequency of a synthetic API test or deploying a new service, can result in substantial cost increases, making it imperative to be conscious of usage and its financial implications.

Complimentary Products

1. Container Monitoring in Dynamic Environments:

In dynamic environments like Kubernetes, each host (such as a cloud instance) can support numerous active containers. This variability can result in significant monitoring cost spikes, sometimes even as much as a 50% increase. Datadog attempts to balance these costs by averaging out anomalies, but the transient nature of containers in modern systems, especially within Kubernetes environments, can lead to unexpected additional charges.

2. Managing Custom Metrics Costs:

The expenses tied to Custom Metrics are influenced by the uniqueness or 'cardinality' of metric tags. As you introduce more unique combinations, costs rise, and not just linearly. Adding more tags can disproportionately amplify expenses, especially if tags possess high cardinality or interdependence.

Further complexity emerges when selecting the right metric type. For instance, distribution or histogram metrics might cost up to five times more than simpler gauges or counters. Those immersed in intricate microservice systems can indicate how quickly these tag combinations can become both management challenges and increased costs.

Now that you have a solid understanding of how Datadog's pricing works and have explored the specifics of its product offerings, you're well-equipped to grasp why your monthly expenses may vary. The different Datadog products you use play a key role in this, adding a layer of complexity to your bill. But don't worry—there are practical strategies available to help you manage and optimize these costs effectively. In the next section, we'll take a closer look at these strategies, providing insights on how to ensure your Datadog usage remains efficient while minimizing unexpected financial surprises.

Shrinking Datadog End Of Month "Bill Shock"

Imagine that you're standing on the threshold of a remarkable breakthrough with your tech company, witnessing your systems experience exponential growth. You've already invested in Datadog as your observability platform, a choice reflecting your commitment to excellence. Yet, growth brings not only opportunities but also complexities, often accompanied by rising costs. Suddenly, that monthly bill isn't just a number; it's a challenge. How do you maximize your observability without letting costs run wild? The answers lie ahead. From managing committed prices to encouraging a monitoring state of mind, let's explore the keys to mastering Datadog without compromising performance:

Leverage Committed Prices: Commitment to Datadog is wise, but it requires regular management of spend and commitments through collaboration with your dedicated account manager. By analyzing usage and adjusting

accordingly, you can save 10% to 30% without the need for extensive engineering efforts.

Daily Monitoring of Commitments: After setting commitment levels, maintaining a daily monitoring routine is essential. By setting up alerts for anomalies and identifying threats to commitment levels, you'll ensure closer control over your expenditure.

Establishing a Cost Governance Process: With an understanding of the pricing model, a cost governance process is achievable and must be repeated periodically.

Preventing "Bill Shock": Transitioning to daily cost monitoring allows to detect cost spikes early on. Watch out for contributing factors such as accidental debug logs in production environments or the introduction of high cardinality tags.

Understand Unit Economics: With Datadog invoices potentially comprising 4-10% of your overall cloud provider expenses, maintaining scalability within a reasonable ratio of infrastructure spend, typically 2%-6%, is crucial.

Reduce Waste and Idle Monitoring: Eliminate unnecessary logs and metrics by capitalizing on Datadog's "logs as metrics" feature and don't hesitate to delete unused custom metrics.

Consider Metrics Cardinality: Strive for reasonable cardinality of sent tags, and opt for the appropriate observability primitives for each metric to strike the right balance.

Optimize Synthetic Tests and Host Monitoring: Schedule Synthetic tests wisely and prioritize monitoring essential hosts. For non-critical workloads, consider integrating open-source tools.

Encourage an Effective Monitoring State of Mind: Empower your engineering team with insights into the cost implications of observability. Encourage a focus on custom metric tag cardinality and log throughput.

Navigating Datadog's intricate billing doesn't mean compromising on the quality of observability. By adopting these strategic measures, ranging from daily monitoring to fostering cost awareness among your team, you can seamlessly manage expenses.

Through vigilance and a proactive approach, you'll be able to keep the Datadog experience finely tuned, ensuring your technological advancement doesn't come at the cost of a financial breakdown. Embrace these strategies, and let your company grow without the fear of unpredictable expenses.

In the upcoming chapter, we shift our focus to the finer details of fine-tuning Datadog to work in the most efficient manner possible. Let's explore how organizations can tap into the full potential of Datadog without letting expenses overshadow its benefits.

Optimizing Datadog Costs: Maximize Efficiency, Minimize Expenses

The combination of Datadog's features with the complexities of modern cloud operations, could quickly translate into excessive expenses. The question then becomes: how can organizations strike the perfect balance? How can we fully utilize Datadog's capabilities for flawless monitoring, while also implementing safeguards and best practices to prevent cost overruns?

The Rationale Behind Datadog Cost Optimization

Scalability and Growth: Any unchecked rise in data volume directed to Datadog can inflate costs, creating budgetary concerns and constraining potential growth.

Operational Efficiency: Refining Datadog operations allows for the channeling of resources towards paramount monitoring, cultivating an agile and strategic approach.

Financial Predictability: By proactively managing their resources, companies can avoid unforeseen Datadog expenses and maintain a steady alignment with their budgets.

Resource Reinvestment: Money saved from optimized monitoring can be rerouted to core business areas, propelling further growth and innovation.

Best Practices to Optimize Datadog Costs

Streamline Data Volume: Examine your data flow. Are you sending excessive or redundant information? Opt for selective logging and fine-tune retention policies.

Intelligent Use of Custom Metrics: Custom metrics, though invaluable, can inflate costs. Use them judiciously, prioritizing their creation based on genuine business needs.

Embrace Tags and Filters: Organize resources using tags and deploy filters to determine which resources require Datadog's attention.

Selective Metric Collection: Consider deactivating less crucial metrics to lower data ingestion and save on costs.

Cardinality Control: Be wary of tagging that can skyrocket costs (like using instance-ids or user-ids). Also, ensure you're utilizing the most cost-effective metric type.

Harness Log Patterns and Tracing Sampling: Extract only essential fields from logs and use sampling techniques to send selective APM data to Datadog.

Evaluate Custom Integrations: Reassess the need for custom agent integrations to sidestep unnecessary expenditures.

Routine Resource Utilization Checks: Periodically cleanse Datadog of redundant or seldom-used components.

Smart Anomaly Detection: Use Datadog's tools to be alerted only of significant deviations, preventing alert overloads.

> **Embrace Continuous Monitoring Evolution:** Periodically revisit your Datadog configurations, ensuring alignment with changing business needs.

Cost optimization for Datadog isn't about compromising quality- it's about smart utilization. By integrating the strategies outlined, organizations can ensure robust monitoring without overstepping budgetary boundaries. The goal is clear: maximize Datadog's potential without letting costs get out of hand. By regularly checking and updating the usage, and by always staying on top of our monitoring, organizations can achieve top-notch performance without breaking the budget.

Implementing a Cloud Cost Management Solution

In today's fast-paced digital realm, businesses leveraging Datadog's advanced monitoring capabilities understand the criticality of a specialized cloud cost management solution. Far more than just an analytical tool, it dives deep into the intricacies of Datadog spending, revealing real-time usage patterns and pinpointing areas where costs can be optimized. With this detailed insight, organizations can carve out a cost strategy that's efficient, ensuring the sustained quality of monitoring services.

The payoff? Achieving the right mix of operational excellence and fiscal responsibility, making sure every dollar allocated to Datadog is money well-spent. A hallmark of a superior cloud cost management solution is its capacity to present Datadog expenses in the context of wider cloud spending. As many modern organizations employ a mix of cloud platforms like AWS, Azure, and GCP, having a holistic financial snapshot becomes crucial.

This bird's-eye view aids in thorough cost analyses, pinpointing potential savings, and guiding cloud-related financial decisions with precision.

Armed with such comprehensive insights, businesses are in a vantage position to make astute, cost-effective choices. The overarching benefit? A sophisticated strategy to manage Datadog costs, ensuring optimal outcomes for every cloud-related venture.

Moreover, the transparency of a centralized cost management platform means that all teams, from finance to product development, can see the full picture of cloud expenses. This shared view fosters collaboration, enabling each department to understand and manage their Datadog-related costs more effectively.

Benefits of a Cloud Cost Management Solution

Deep Dive into Spending: Beyond basic analytics, the solution delves into the nitty-gritty of Datadog expenditures, offering a detailed understanding of where funds are allocated.

Real-Time Insights: The tool surfaces real-time usage patterns, enabling businesses to adapt and adjust their strategies promptly as needs evolve.

Optimization Opportunities: By pinpointing areas ripe for cost reduction, organizations can ensure efficient spending without compromising on service quality.

Strategic Financial Planning: Armed with granular data, companies can formulate a cost strategy that prioritizes both efficiency and the integrity of monitoring services.

Holistic Overview: The tool's capacity to integrate Datadog's financials with broader cloud expenses, especially when using multiple platforms, provides businesses with a comprehensive view of their cloud spend.

Enhanced Decision Making: The comprehensive insights from the tool position businesses to make informed and cost-effective choices, optimizing their cloud investment.

Collaborative Transparency: With a centralized platform, there's unified visibility into cloud costs. All teams, from finance to R&D, gain a clear picture, fostering inter-departmental collaboration.

Cost-Effective Choices: Organizations are better positioned to steer their financial resources effectively, maximizing the returns on their Datadog investments.

Encourages Accountability: A shared view of expenses ensures that each department remains accountable for their spending, promoting prudent financial behavior across the board.

> **Future-Ready Approach:** The continuous insights and updates from the solution mean businesses are always equipped to navigate future financial challenges and opportunities in the cloud realm.

After understanding the multiple benefits of a cloud cost management solution, it's important to explore how these advantages can be actualized in real-world scenarios. Finout's integration with Datadog offers a tangible example of this. Let's take a closer look at how Finout bridges the gap between the theoretical benefits and practical applications in the realm of cloud cost management.

Finout's Datadog Cost Solution

[Finout's](#) integration with Datadog refines cloud cost management, granting in-depth visibility into cost distribution across teams and projects. This seamless integration simplifies the comprehension of Datadog expenses, leveraging advanced FinOps layers tailored for Datadog's ecosystem.

Designed to be code-free, Finout ensures straightforward monitoring of Datadog expenses alongside other providers and data storage platforms. Users can effectively categorize expenses, whether by organization, sub-product, region, usage type, or custom tags, enhancing the precision of their cloud financial insights.

Diving deeper into the Finout suite, tools are available that pinpoint cost governance inefficiencies, such as anomalies and overages. These tools also help in setting budget parameters and projecting future expenses. Moreover, the specialized Finout Ai tool identifies areas of overspending within Datadog's logs and metrics, offering targeted suggestions for cost reduction.

The overarching benefit of merging Finout and Datadog's capabilities is an unparalleled cloud cost management experience. Businesses not only achieve efficiency but also gain comprehensive oversight of their expenditures.

This holistic approach fosters inter-departmental collaboration, maintains accountability, encourages informed decision-making, and equips businesses with strategic foresight, preparing them for the evolving fiscal challenges of the cloud domain.

Tired of end of the month "bill shock" or do you just want to maximize your cloud efficiency? [Get started today!](#)