A Practical Framework:

How to Optimize Costs in Multi-cloud Environments

Explore insights and strategies from our cloud experts to help you tame your cloud environments – and your cloud bills.

Managing cloud costs has consistently maintained the top spot among cloud challenges for the third year in a row. Budget overruns and the ever-elusive promise of cloud cost savings weigh heavily on the minds of 84% of cloud users and decision-makers. That's why, throughout the month of March, we shared insights and strategies from our cloud experts to help you tame your cloud environments and, in turn, your cloud bills.

THE CLOUD COST WILD WEST:

Why Cost Optimization Matters

> **WHEN YOU FOCUS ON MAXIMIZING CLOUD UTILIZATION, EMBRACING EFFICIENCY, AND REALIZING THE TRUE VALUE OF CLOUD INVESTMENTS INSTEAD OF BASIC COST-CUTTING, MEANINGFUL COST SAVINGS SHOULD FOLLOW ORGANICALLY, WITHOUT COMPROMISING PERFORMANCE OR INNOVATION.**

The very first takeaway from our series should be that cloud **cost optimization is not the same as cost reduction**. In fact, cost reduction is a natural byproduct of cloud optimization. When you focus on maximizing cloud utilization, embracing efficiency, and realizing the true value of cloud investments instead of basic cost-cutting, meaningful cost savings should follow organically, without compromising performance or innovation.

OPTIMIZING CLOUD USAGE MEANS GETTING RID OF KEY INEFFICIENCIES

Over-Provisioned Resources

CPU, memory, and storage allocated beyond actual needs.

Lack of Cost Visibility

Inconsistent tracking of expenses, especially across multi-cloud platforms.

Zombie Resources

Unused instances, orphaned disks, and inactive load balancers.

Inefficient Cost Avoidance

Missing RIs, Savings Plans, Spot Instances, and license management.

Essentially, it's not just about provisioning fewer resources, but strategically **maximizing what you already have before committing to more.** That's easier said than done, because if you don't provision enough resources, you risk performance downgrades and downtime. So, how do you practically achieve that perfect balance between over- and under-provisioning?

> **THE VERY FOUNDATION OF THESE PILLARS IS A CLOUD MANAGEMENT PLATFORM THAT CAN ENABLE END-TO-END VISIBILITY AND DEEP COST INTELLIGENCE ACROSS ALL CLOUD PLATFORMS...**

We discuss 3 strategic pillars of cost optimization and value realization:

- visibility & cost transparency
- optimization & cost efficiency
- governance & FinOps culture

in the first installment of our cost optimization series

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The very foundation of these pillars is a Cloud Management Platform, like emma, that can enable end-to-end visibility and deep cost intelligence across all cloud platforms and allow organizations to switch from reactive cost-cutting to proactive, data-driven decisions for maximizing cloud usage and enhancing operational efficiency to **achieve more from less**.

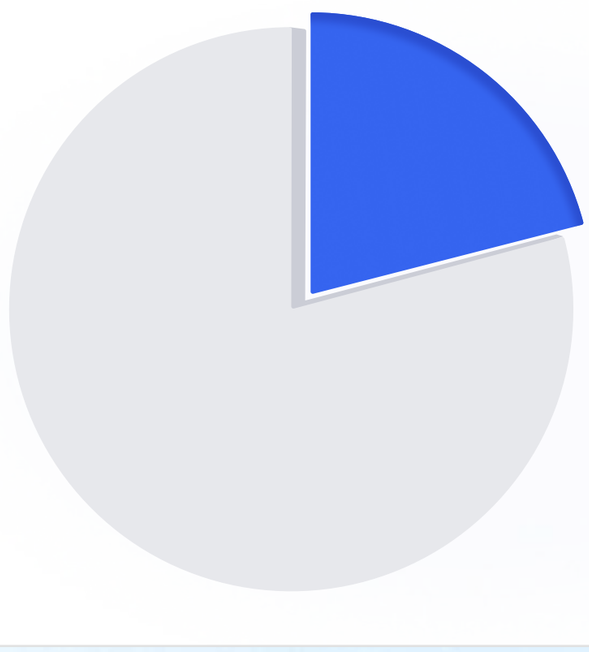
OPTIMIZE

The Fundamentals of Cloud Cost Optimization

Estimates are that $44.5 billion will be wasted on underutilized resources this year. That's 21% of the total cloud spend. The question is **how NOT to waste a third of your cloud spend**.

The answer lies in the second part of our cost optimization series, where we discuss the core strategies for cloud cost optimization.

You can dive into our exhaustive list here, but here's an overview of what you should be looking at:



21%
of the total cloud spend in 2025 or $44.5 billion

Visibility & Cost Transparency

You can't optimize what you can't see. Full visibility into cloud spend and usage is the first step.

Mixed Instance Types

Use a strategic mix of on-demand, reserved, and spot instances, depending on your workload requirements.

Automation & Governance

Enforce cost policies and budget thresholds for teams and projects through automation.

Resource Efficiency

Analyze usage trends to allocate exactly what you need in terms of compute and storage.

Workload Placement & Optimization

Find and run your workloads in the most cost-effective cloud regions.

FinOps Best Practices

Implement department accountability, showback, or chargeback models for establishing cross-team accountability for efficiency.

How emma enables smarter cloud cost optimizations

A cloud management platform is fundamental to executing these strategies effectively

1 A Unified Multi-Cloud View

Provides a unified view to track spend and compare real-time prices across clouds and regions.

2 Predictive Cost Analytics

Uses AI to forecast future cloud expenses based on usage trends.

3 Automated Rightsizing

Suggests rightsizing recommendations based on usage trends and predictive analytics.

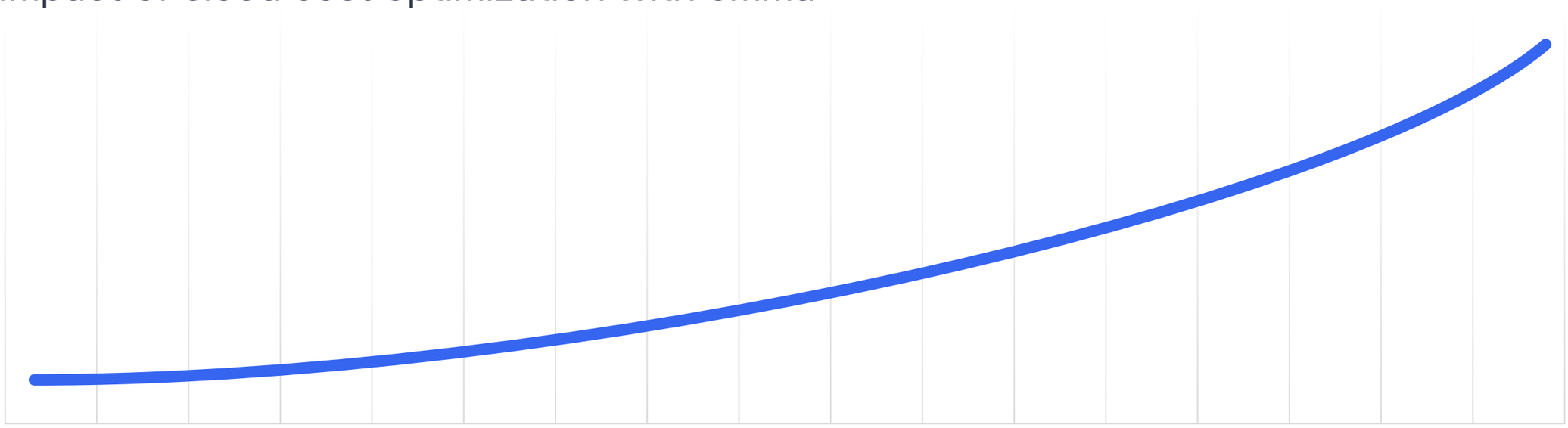
4 Blended Pricing Insights

Instead of building everything from scratch, use the emma cloud management platform. With emma, you can:

5 Budget & Quota Enforcement

Stay informed when nearing or exceeding budgets, with restrictions applied once limits are passed.

Impact of cloud cost optimization with emma



For more strategies and actionable recommendations read our full article

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COMPLEXITY

Addressing Cloud Cost Challenges in Multi-Cloud Environments

CSPs expanding their service portfolios means more complex cloud pricing. Throw multiple cloud providers into the mix, and your cloud bill can become a maze of unexpected and unpredictable expenses. For 86% of organizations, multi-cloud expenses are simply unavoidable.

They must deal with cloud cost management challenges, like:

Pricing & Billing Complexity

All CSPs have different pricing models (on-demand, RIs, Spot, committed-use), and managing these manually or through fragmented tools is time-consuming and error-prone.

Data Transfer Costs & Hidden Fees

Data egress across clouds and regions is costly. Cloud interconnects can lower these expenses, but without ongoing monitoring and optimization, it's not enough.

Lack of Standardized Governance

Teams may use different cloud cost tracking mechanisms for different cloud environments, which can lead to visibility gaps and inconsistencies.

emma's cost optimization works well for single-cloud, but is critical for multi-cloud environments.

Cross-Cloud Cost Aggregation

emma aggregates costs from cloud providers such as AWS, Azure, and GCP into a single report with unified tagging.

Automated Cost Controls

It identifies idle and underutilized resources and recommends downsizing or termination across all environments.

Multi-Cloud Data Transfer Optimization

Reduces egress costs by routing traffic via cost-effective private interconnects using emma's multi-cloud backbone.

This is just the tip of the iceberg. Our third blog in the series dives deep into how you can use emma to maximize your cloud investments.

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3 PHASE

Build a Cloud Cost Optimization Roadmap for Your Organization

You need a strategic framework to successfully implement everything we have discussed above.
Here's how you can go about it:

Phase 1

ASSESSMENT & BASELINE ANALYSIS

The objective of this phase is to gain full visibility into your current cloud costs and identify inefficiencies.

- Conduct a **cloud cost audit** across all cloud environments.
- Establish **spending benchmarks** by department, workload, and project.
- Implement **cost allocation tagging** for better tracking.
- **Identify underutilized** resources using insights from emma.

Phase 2

IMPLEMENTING SMART COST CONTROLS

The goal is to enforce proactive cost management strategies.

- Set up **automated alerts** for unexpected cost spikes.
- Leverage **spot instances**, reserved instances, and savings plans for cost efficiency. Use pricing insights from emma.
- **Enable auto-scaling** to adjust resources based on real-time demand.
- **Apply rightsizing** policies to eliminate overprovisioning. emma's AI-powered recommendations come in handy for this.
- Optimize multi-cloud **workload placement** by comparing pricing across providers.

Phase 3

CONTINUOUS MONITORING & FINOPS ADOPTION

The aim of this phase is to establish a culture of ongoing cloud cost efficiency.

- Establish a **FinOps team** to manage ongoing optimizations.
- Conduct regular **cost reviews and audits** to identify new optimization opportunities.
- Foster **cross-team collaboration** between finance, engineering, and operations to ensure optimization measures align with business objectives.
- Use emma's **AI-driven forecasting** to predict future spending.

Check out our quick-fix guide to cut AWS costs — the tips work for other cloud platforms too. Stay tuned for similar guides on all major CSPs.

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FUTURE TRENDS

In Cloud Cost Optimization

Future trends in cloud cost optimization are influenced heavily by AI, automation and a broad realization among CSPs that they must facilitate cost reduction and optimization to maintain their relevance and competitiveness.

Here are key trends that you need to watch out for and proactively embrace for maintaining optimal cloud costs now and in the future.

AI-Driven Cost Optimization

AI algorithms help predict cloud usage and automate resource adjustments. Platforms like emma provide automated rightsizing recommendations for instance types and compute. Such tools will soon become essential for all cloud users.

Real-time Anomaly Detection

Continuous monitoring coupled with Machine Learning (ML) capabilities can help detect spending spikes and anomalies as soon as they occur, allowing users to stay aware and take action before they become major issues.

Serverless and Elastic Compute

Cloud providers are acknowledging the shift towards serverless and on-demand elastic models that allow users to pay-per-use and reduce idle resource costs.

Automated Workload Placement

Next-generation AI-powered cost optimization tools will not only provide recommendations but also automate strategies like shifting to cost-efficient instance types and optimizing workload placement across regions. They will also enable intelligent spot instance migrations to minimize downtime and interruptions.

Smart Multi-cloud Orchestration

As hybrid and multi-cloud adoption grows, organizations will need smart, seamless orchestration to fully realize their flexibility and cost-saving potential. Fortunately, the emma platform already enables multi-cloud workload orchestration across serverless and Kubernetes environments.

Intelligent Intercloud Optimization

A key challenge in multi-cloud orchestration is intercloud data transfer costs. emma's networking backbone and intelligent routing help optimize egress costs across clouds and regions — a capability that will become essential as more organizations optimize their multi-cloud environments.