A Report by CloudKeeper

What's New with Cloud Cost Optimization in 2025?

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Executive **Summary**

01 **About** the Report

This report 'What's New with Cloud Cost Optimization in 2025?' is a comprehensive study that examines the evolving landscape of cloud cost management. It is designed to help Engineering and finance leaders understand emerging challenges, harness innovative technologies, and implement best practices that drive sustainable cost efficiencies. The report was crafted using a unique blend of CloudKeeper's Cloud consumption data from over 500 organizations and qualitative insights from leading industry experts.

01 What's in this report?

We provide an in-depth analysis of cloud cost optimization trends for 2025, covering key areas such as Well-Architected Reviews (WAR), usage optimization, cost visibility, and modernization initiatives.

02 Why create the report?

As cloud spend continues to rise exacerbated by the surge in AI-driven workloads and the complexities of multi-cloud environments, organizations must adapt their strategies to remain agile and cost-efficient.

03 How was the report created?

Leveraging robust data from CloudKeeper's internal studies and expert interviews from leading industry experts, we synthesized actionable insights and recommended practices for 2025.

02 **Key Highlights** and Takeaways:

Persistent Cost Inefficiencies

Idle resources, over-provisioned instances, and misconfigured storage continue to drive unnecessary cloud spend, with 60% of organizations struggling with underutilized network resources and 90% having opportunities to migrate to lower-cost compute instances.

AI & Automation Are Transforming Cost Optimization

Companies leveraging AI-driven anomaly detection and predictive cost analytics have reduced unexpected cloud bill spikes by up to 20% and improved rightsizing efficiency by 15–30%.

Modernization & Multi-Cloud Strategies Are Driving Savings

Adoption of Graviton (ARM-based compute), serverless, and multi-cloud cost governance is reshaping cost models, with some businesses reporting 40% lower compute costs after migrating to Graviton-based infrastructure.

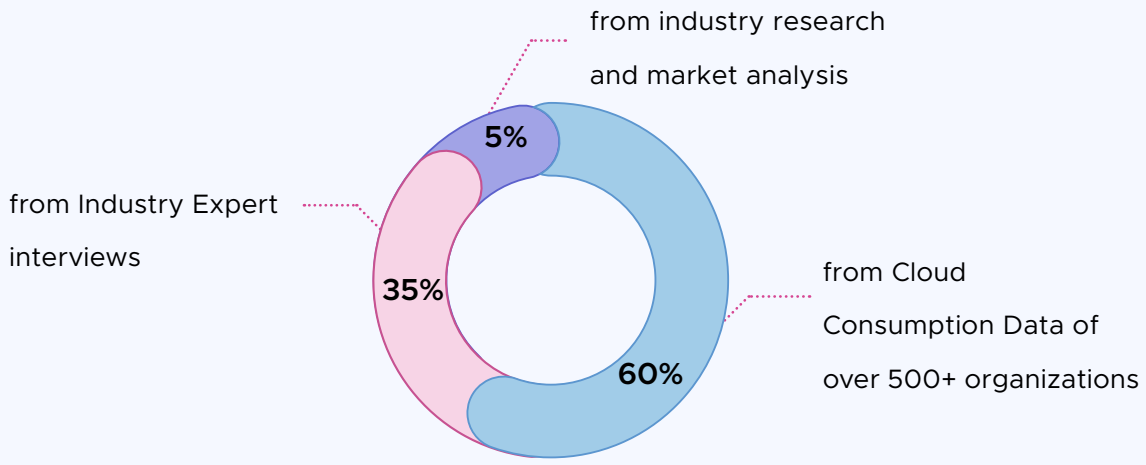
Commitment-Based Discounts Are Evolving

While Reserved Instances (RIs) and Savings Plans remain valuable, organizations are moving toward AI-assisted commitment strategies, blending Spot, On-Demand, and Flexible Compute Savings Plans for greater cost efficiency.

Multi-Cloud Cost Visibility Is Becoming Essential

As organizations scale across AWS, Azure, and GCP, standardization frameworks like FinOps Open Cost and Usage Specification (FOCUS) are being adopted to improve multi-cloud cost governance and reduce financial blind spots. In line with this trend, FinOps X 2025 emphasized the rapid adoption of FOCUS 1.2, a unified specification that now integrates SaaS, PaaS, and IaaS billing data. Supported by AWS and Google Cloud, this advancement signals a major shift toward Cloud+ cost governance, enabling organizations to gain total visibility across their entire tech stack.

Data source distribution of the report



This report explores the challenges, technological drivers, innovative tools, and **best practices shaping cloud cost optimization in 2025**, blending proprietary data with expert insights to deliver actionable recommendations.

Introduction & Methodology

01 **Purpose and Scope** of the Report

Cloud cost optimization is no longer just about reducing expenses- it's about enabling financial sustainability, performance efficiency, and strategic modernization.

As cloud adoption accelerates, businesses are facing new and complex cost challenges:

01

The rise of automation-driven workloads has significantly increased compute demand, making predictive cost governance and workload efficiency critical.

02

Human-assisted remediation, automated reporting, and FinOps standardization are reshaping how organizations manage cloud finances, demanding a more proactive and intelligent approach.

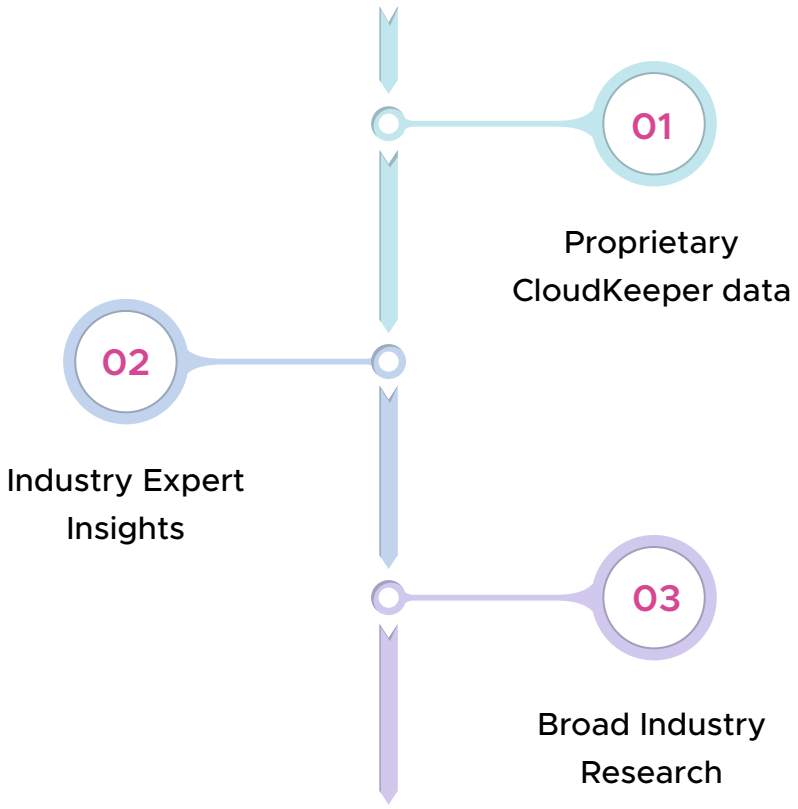
03

Multi-cloud strategies are gaining momentum, but fragmented cost visibility and vendor lock-in continue to create inefficiencies.

This report, What's New with Cloud Cost Optimization in 2025?, provides data-driven insights and strategic recommendations to help organizations tackle these evolving challenges. By analyzing real-world cloud cost trends, expert perspectives, and optimization strategies, this report serves as a guide for engineering leaders, cloud architects, and FinOps practitioners looking to enhance their cloud financial operations.

02 Sources of Insights

To ensure a comprehensive and balanced perspective, this report is built upon three key data sources:



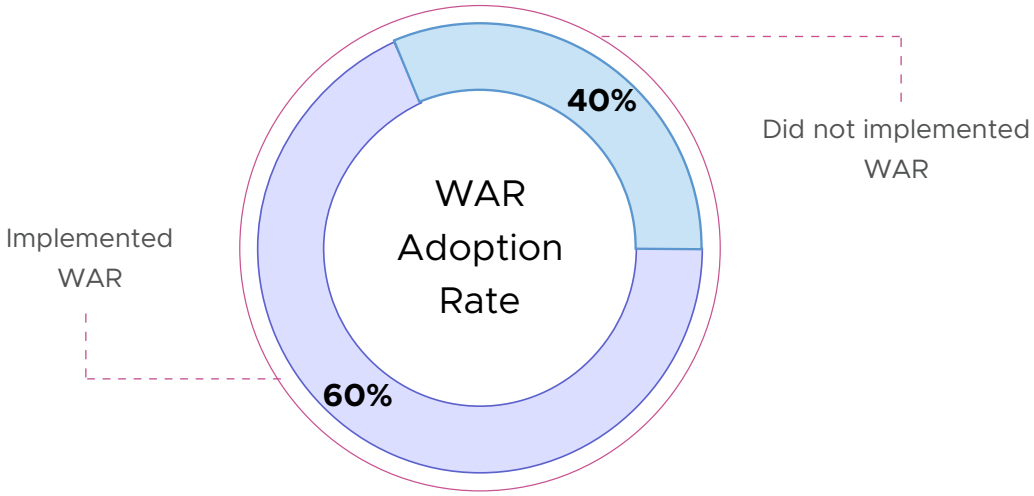
1. Proprietary Data from CloudKeeper

CloudKeeper's internal data (from Well-Architected Reviews (WAR) and CloudKeeper Tuner) provides a quantitative foundation for cloud cost optimization trends. This data captures real-world cost-saving insights from over 500 organizations:

- Recurring inefficiencies, such as idle resources, over-provisioned instances, and underutilized Reserved Instances (RIs).
- Usage optimization results, with CloudKeeper Tuner enabling savings of 5-25%, including a 40% reduction in over-provisioned EC2 instances.

Key Insights from Cloudkeeper Proprietary Data

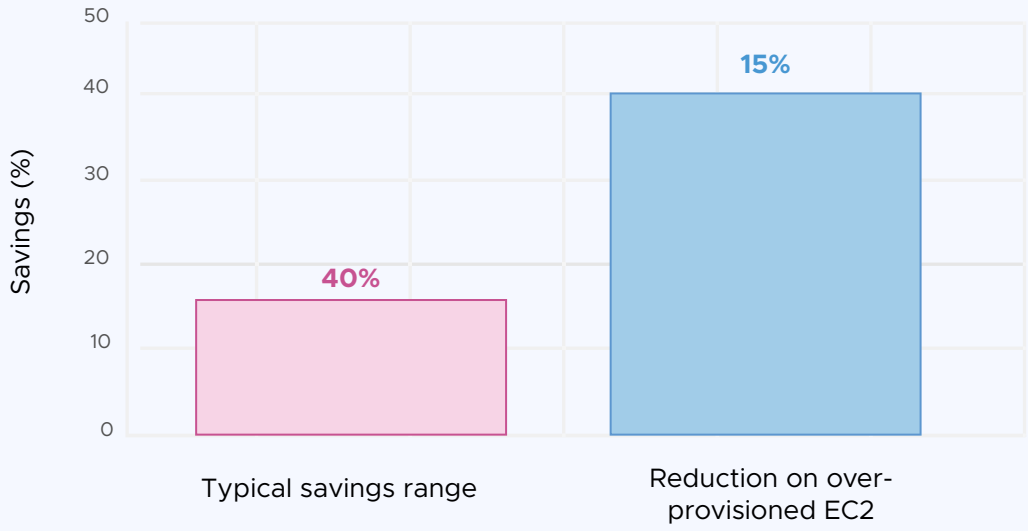
Impact of remediation actions, **showing that 60% of customers** who implemented WAR recommendations saw an 8% reduction in their cloud bills.



Avg. cost reduction for adopters: 8%

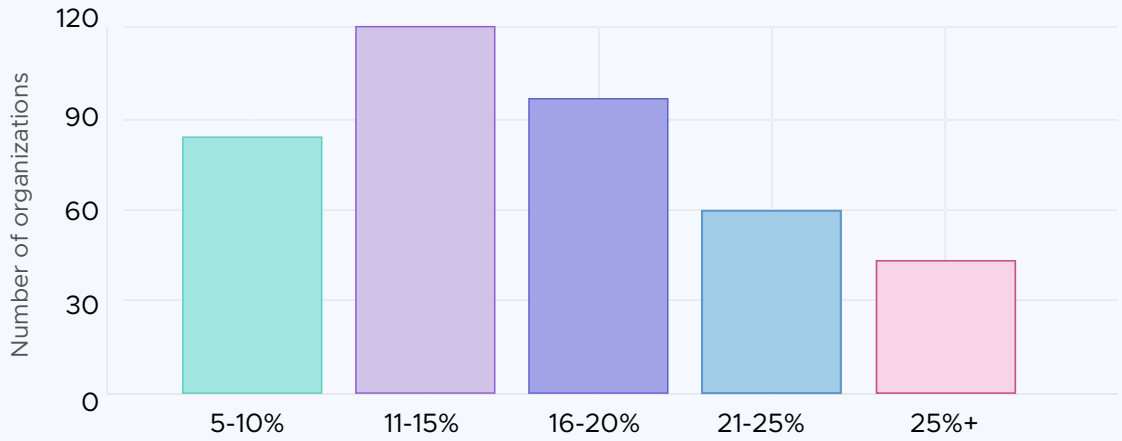
Cloudkeeper Tuner Optimisation Impact

CloudKeeper Tuner enabled up to 40% reduction in over-provisioned EC2 instances through dynamic rightsizing.



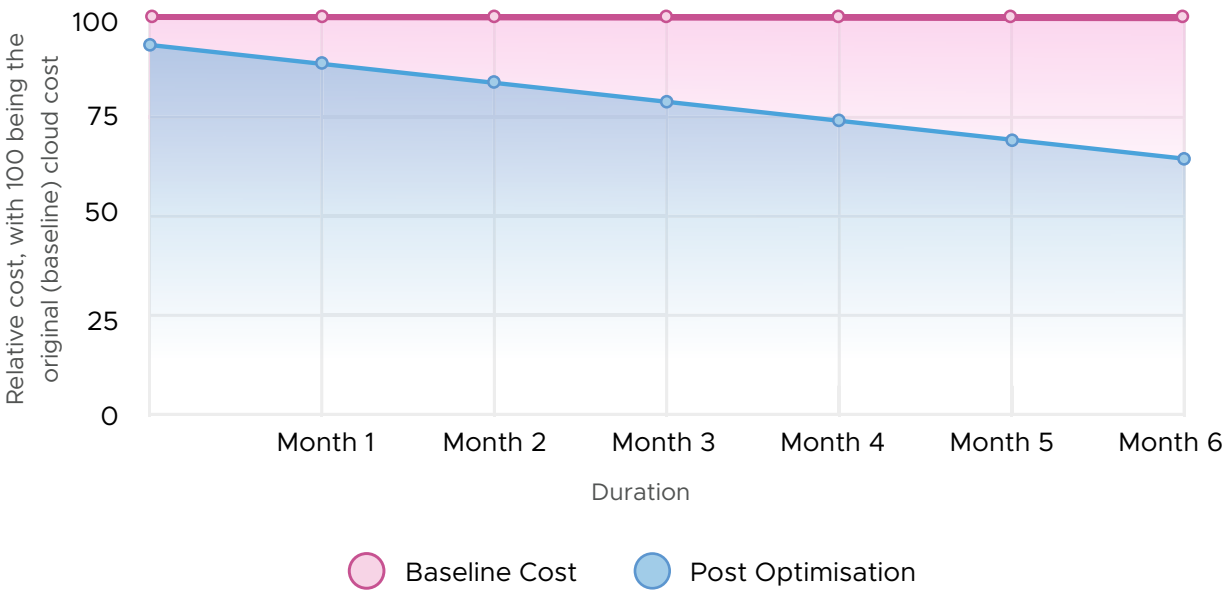
Savings Distribution (5-25%)

Over 70% of customers achieved 11–20% savings usage optimization, with total savings ranging from 5–25%+.



Cloud Optmization Timeline

Cloud cost optimization delivers consistent monthly savings over six months, driven by rightsizing, automation, and sustained optimization efforts.



Overview

CloudKeeper's proprietary insights are derived from a comprehensive dataset spanning **500+ customers** across diverse industries, geographies, and organizational scales. This section provides transparency into the composition of our client base, demonstrating the breadth and depth of data that powers our cloud cost optimization recommendations.

CloudKeeper Data Transparency

Proprietary Cloud Cost Optimization Insights

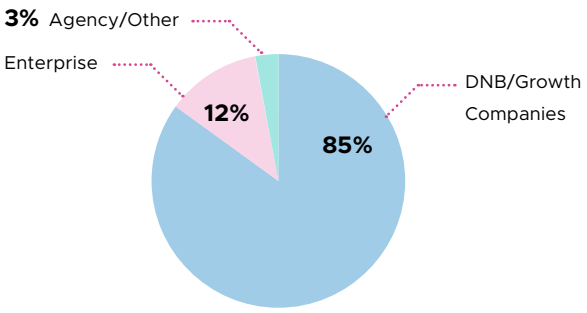
500+ Active Customer Portfolio

Global Data Distribution

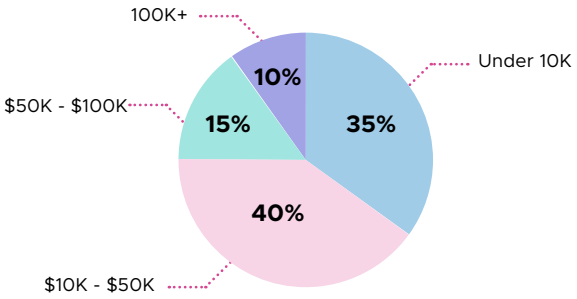
60%	**25%**	**8%**	**7%**
India	North America	Asia-Pacific	EMEA

Portfolio Composition

Organisation Type

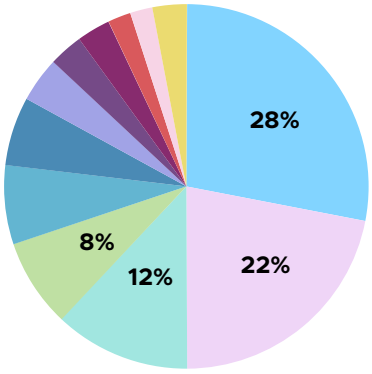


MRR Distribution



Industry Vertical Analysis

- Financial Services & Fintech **(28%)**
- SaaS & Technology **(22%)**
- E-commerce & Retail **(12%)**
- Education Technology **(8%)**
- Healthcare & Life Sciences **(7%)**
- Media & Entertainment **(6%)**
- Automotive **(4%)**
- Travel & Hospitality **(3%)**
- Supply Chain & Logistics **(3%)**
- Real Estate **(2%)**
- Agriculture **(2%)**
- Others **(3%)**



Key Portfolio Insights

95%+

Single cloud usage indicating optmization opportunities

Tier 1

VC-backed companies including Sequoia, Andreessen Horowitz

$1K-$400K+

MRR range from startups to large enterprises

12+

Industry verticals represented in our dataset

2. Industry Expert Insights

We conducted structured interviews with four cloud cost optimization experts to gather qualitative insights on:

01

Emerging cost-saving technologies (e.g., ARM-based processors, human-assisted remediation)

02

Challenges in multi-cloud cost management and FinOps maturity models.

03

Best practices for leveraging third-party platforms and cost reporting innovations

The experts provided perspectives based on hands-on experience in FinOps and cloud financial management.

Pankaj Bajaj
FinOps Leader, Mercari

Shahnawaz Khan
Principal - Google Cloud, Alliances Operations, HCLTech

Dieter Matzion
FinOps Ambassador, Roku

Victor Garcia
Founder, FinOps Weekly

3. Broader Industry Research & FinOps Trends

To contextualize CloudKeeper's findings within the broader cloud landscape, we referenced reports from leading research organizations, including:

FinOps Foundation's State of FinOps 2025 report for trends in cost governance and automation adoption.

Gartner & Forrester's cloud cost management analysis, which highlights the growing impact of AI in cloud financial operations.

03 Research Methodology and Data Collection Approach

This report follows a dual-method research approach that combines quantitative analysis with qualitative expert insights to ensure credibility and real-world applicability.

STEP 01

Data Collection

- CloudKeeper's Cloud consumption data from 500+ organizations analyzed for cost inefficiencies and optimization success rates.
- Expert interviews are structured around emerging trends, best practices, and future predictions.
- Industry reports reviewed for cross-verification of trends and strategic recommendations.

STEP 02

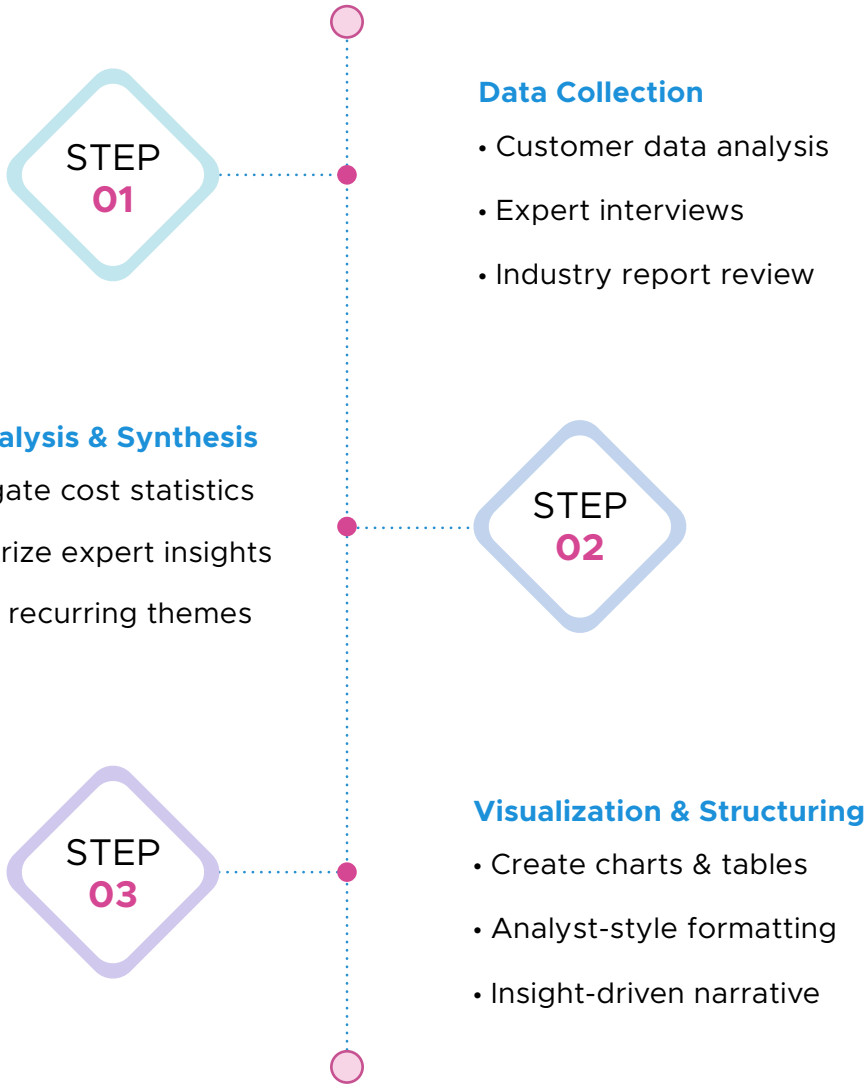
Data Analysis & Thematic Synthesis

- Proprietary cost-saving statistics aggregated and compared against broader industry benchmarks.
- Expert responses categorized into four key areas: Trends & Challenges, Technologies, Tools & Innovations, and Best Practices.
- Actionable insights derived from recurring themes in data, such as multi-cloud cost governance, AI-driven FinOps, and commitment management best practices.

STEP 03

Visualization & Report Structuring

- Key findings represented through charts, graphs, and tables for better readability.
- Sections structured to align with leading analyst-style reports, ensuring a data-first, insight-driven approach.



04 About the Sections

The report is further divided into five key sections that provide a structured roadmap for cloud cost optimization in 2025:

Trends & Challenges in Cloud Cost Management

- Identifies the most common cost inefficiencies seen in cloud environments.
- Explores emerging challenges, including AI-driven costs and network expense management.

Technologies Driving Cost Optimization in 2025

- Analyzes the impact of AI, automation, and ARM-based processors on cost efficiency.
- Highlights multi-cloud strategies and cost governance frameworks.

Tools & Innovations in Cloud Cost Optimization

- Examines cost visibility tools, RI/SP commitment management solutions, and automated cost optimization platforms.
- Discusses the role of standardization efforts like FOCUS.

Best Practices for Comprehensive Cost Optimization with Human-Assisted Remediation

- Provides actionable FinOps strategies, including automation-driven governance, intelligent budgeting, and proactive anomaly detection.
- Discusses how businesses can benefit from human-assisted remediation in cost optimization

Insights from Cloud Consumption Data of 500+ Organizations & Future Outlook

- Presents a data-backed analysis of cost savings trends across CloudKeeper's customer base.
- Offers predictions on the next wave of cloud cost optimization advancements.

Cloud Cost Optimization 2025

Structured Roadmap for Enterprise Cost Management

01 Trends & Challenges in Cloud Cost Management

- Recurring Inefficiencies in Cloud Cost Management
- Emerging Cost Challenges in 2025
- Strategic Shifts in Cloud Cost Management

02 Technologies Driving Cost Optimization in 2025

- AI & Human-assisted Remediation in Cost Optimization
- Workload Modernization & Alternative Compute Architectures
- Automation in Cloud Cost Management
- Multi-Cloud Cost Optimization & Governance

03 Tools & Innovations in Cloud Cost Optimization

- Cost Visibility & Reporting Tools
- Automated Usage Optimization & Rightsizing Tools
- Innovations in Cloud Commitment & Cost Management
- Emerging Innovations in Cloud Networking Cost Optimization

04 Best Practices for Comprehensive Cost Optimization

- Establishing a Strong Cloud Cost Governance Framework
- Intelligent Cloud Resource Management
- Optimizing Storage & Network Costs
- Automating Cloud Cost Governance
- Enhancing Multi-Cloud Cost Management

500+	5	2025
Organizations Analyzed	Key Sections	Future-Ready Strategies

Trends & Challenges in Cloud Cost Management

Cloud cost management has evolved significantly in the past decade, yet organizations continue to grapple with inefficiencies that drive unnecessary expenditures. While over-provisioned compute resources and underutilized commitments remain persistent issues, the rise of AI-driven workloads, multi-cloud adoption, and growing network costs are emerging as new financial pain points.
This section explores the recurring inefficiencies, emerging cost challenges, and strategic shifts in cloud cost management, backed by CloudKeeper's proprietary data and expert insights from industry experts.

01 Recurring Inefficiencies in Cloud Cost Management

Despite cloud providers offering a variety of cost-saving options, many organizations fail to take full advantage due to a lack of visibility, misconfigured resources, and outdated cost management strategies.

1. Zombie & Idle Resources Continue to Drain Cloud Budgets

Well-Architected Reviews (WAR) reveal that a large number of organizations continue to pay for resources that provide no business value.

Key Findings:

60%

of customers have idle network resources, such as unattached Load Balancers and NAT Gateways.

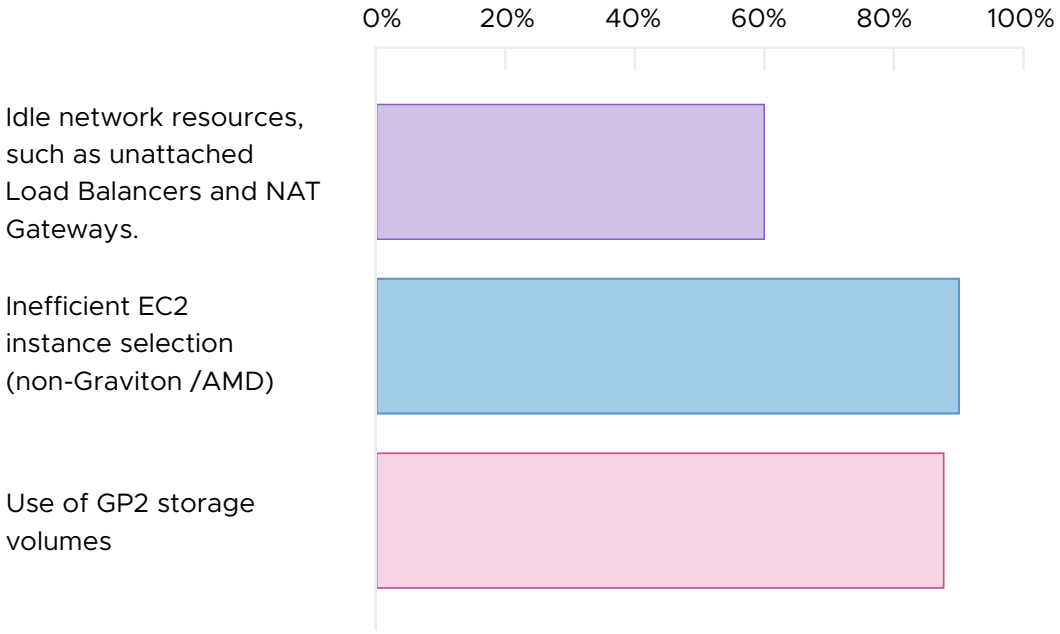
90%

of customers have EC2 instances that could be migrated to lower-cost options like Graviton or AMD-based instances.

88%

of organizations still use older GP2 storage volumes, despite GP3 offering 20% lower costs with better performance.

Key Inefficiencies in Cloud Cost Management



Prediction on next-wave optmization advancement

Expert Takeaway:

> "RDS is often an overlooked and under-optimized cloud service, leading to inefficiencies and unnecessary costs. Common issues include oversized instances, idle databases, underutilization of reserved instances, excessive IOPS provisioning, and automated backups exceeding retention requirements."

Dieter Matzion
FinOps Ambassador, Roku

2. Over-Commitment & Unused Reserved Instances (RI) and Savings Plans (SP)

Organizations often commit to Reserved Instances (RI) and Savings Plans (SP) without accurately forecasting their cloud usage, leading to either underutilization (wasted spend) or overcommitment (financial lock-in).

Key Findings:

Organizations struggle with **underutilization of RI/SP commitments**, leading to wasted costs on compute instances that are no longer needed.

Enterprise Discount Programs (EDPs) can lead to overcommitment, forcing organizations to consume more cloud resources than required just to meet contract minimums.

Expert Takeaway:

> “Some organizations tend to over-commit to get a higher enterprise discount while contract sign-up or renewal. This can be proactively mitigated by due diligence with the engineering teams, then doing a cloud consumption forecast and committing the solid base for the contract time-period.”

Pankaj Bajaj
FinOps Leader, Mercari

02 **Emerging** Cost Challenges in 2025

1. AI Workloads Are Driving Up Cloud Costs

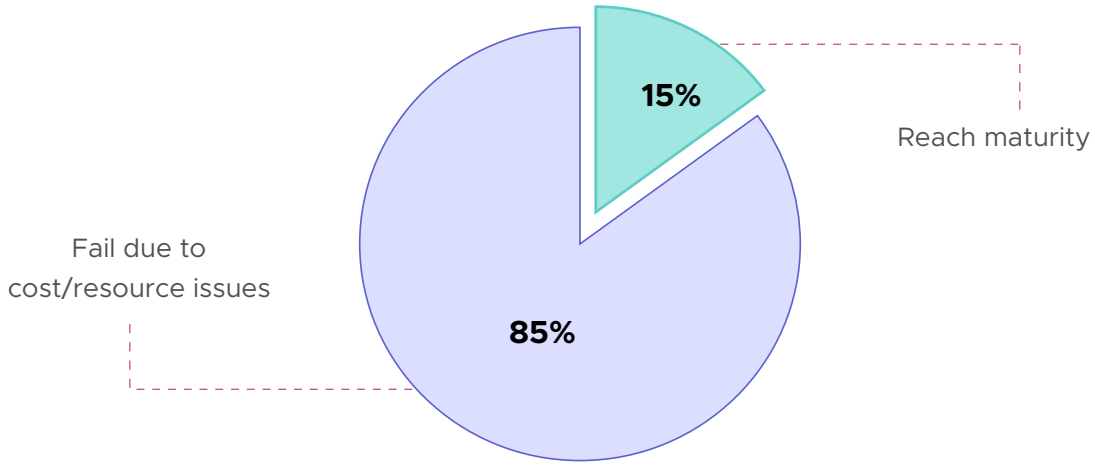
AI was a dominant theme at FinOps X 2025, with discussions on token-based pricing, GPU marketplaces, and FinOps for AI emerging as critical focus areas. Organizations are beginning to treat AI spend with the same rigor as cloud infrastructure aligning unit economics, usage policy, and budget controls to prevent runaway costs.

The adoption of AI and machine learning workloads is accelerating, but organizations are struggling to balance high-performance AI infrastructure with cost efficiency.

Key Findings (Source: Cloud Consumption Data):

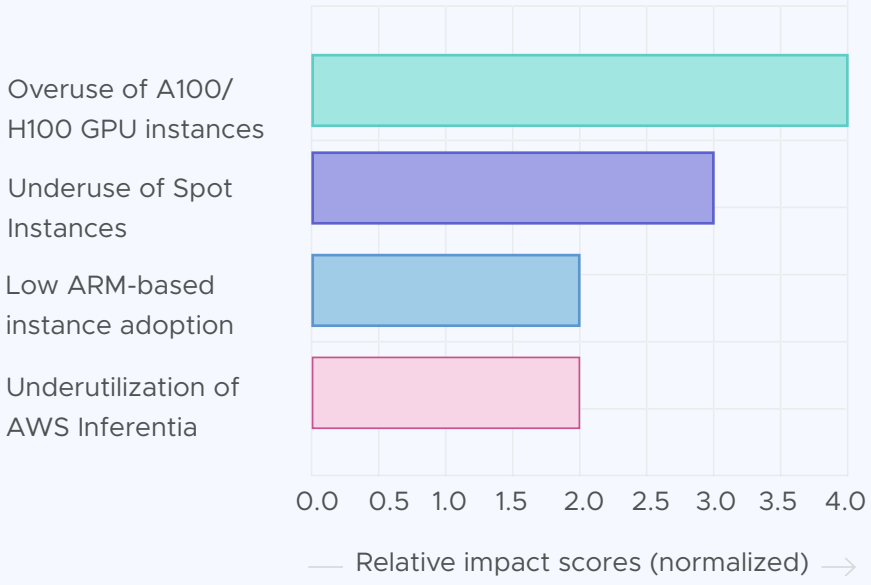
AI Project Maturity Outcomes

85% of AI projects fail to reach maturity due to **cost overruns and lack of resource planning.**



Common Infrastructure Cost Inefficiencies in AI Workloads

Organizations often use **high-cost GPU-based instances** (A100, H100) unnecessarily, instead of optimizing for Spot Instances, ARM-based alternatives, or AI accelerators like AWS Inferentia.



Expert Takeaway:

> "The FinOps fundamentals remain the same; the only thing that changes with AI workloads is what to monitor and measure. Identify the unit of measurement on both the tech consumption and business side. Monitor trends, such as token-based service monitoring, to ensure cost efficiency."

Pankaj Bajaj
FinOps Leader, Mercari

2. Multi-Cloud Cost Management Remains a Challenge

As organizations expand across multiple cloud providers, cost visibility and governance have become increasingly complex. The FinOps Foundation's keynote at FinOps X 2025 further highlighted that 65% of enterprises now feed SaaS data into their FinOps pipelines, up from 38% in the prior year. This surge underscores that multi-cloud visibility is no longer enough — organizations are demanding total tech spend oversight, including SaaS, private cloud, and even licensing.

Key Findings:

Organizations struggle with inconsistent cost **reporting across AWS, Azure, and GCP, leading to financial blind spots.**

FOCUS is emerging as a potential solution to standardize cost reporting across cloud providers.

3. Network Costs Are Becoming a Silent Drain on Budgets

Network costs, particularly data transfer charges, have emerged as a hidden cost that many organizations fail to track effectively.

Key Findings:

Organizations incur high costs due to **inter-region and inter-AZ data transfers**, often due to poor network design.

Private VPC endpoints and AWS Transit Gateway adoption are increasing as companies look for ways to reduce networking expenses.

Expert Takeaway:

> "Network cost is a significant portion of cloud bills. Especially with growing multi-tier applications and hybrid/multi-cloud architectures, the best way to control costs is to design network architecture that minimizes unnecessary data transfer and ensures detailed cost breakdown reports are shared regularly."

Shahnawaz Khan
Principal - Google Cloud, Alliances Operations, HCLTech

03 Strategic Shifts in Cloud Cost Management

1. Automation & FinOps Are Becoming Essential

With increasing cloud complexity, manual cost management is becoming impractical. Organizations are shifting towards automated cost monitoring, automated anomaly detection, and policy-based governance.

Key Findings:

Organizations leveraging cost reporting tools report **20% faster cost anomaly detection and 15% higher cost** optimization efficiency.

Instance scheduling and auto-shutdown policies are **reducing Dev environment costs by 30-50%.**

Expert Takeaway:

> "Automation like Instance Scheduling saves engineers' time. We can have pre-agreed, pre-approved decisions in place to shut down Dev instances at night and weekends. Automation should also be leveraged for anomaly detection, alerting users on unexpected usage spikes, and enforcing policy-based actions."
>
> **Pankaj Bajaj**
> FinOps Leader, Mercari

Cloud cost optimization in 2025 presents both persistent inefficiencies and emerging challenges. While idle resources, overcommitment, and misconfigured workloads remain significant cost drivers, organizations must also tackle rising AI costs, multi-cloud complexities, and hidden network expenses.

The next section will explore how new technologies such as AI, automation, and FinOps standardization are driving cost optimization in 2025.

Technologies Driving Cost Optimization in 2025

As cloud usage scales, cost optimization technologies are becoming more advanced, data-driven, and automated. The evolution of AI, automation, workload modernization, and multi-cloud cost governance is reshaping how businesses manage their cloud spending.

This section explores key technologies and strategies that are driving cost efficiency in 2025, supported by CloudKeeper's Cloud consumption data from over 500 organizations, and insights from industry experts.

01 AI & Human-assisted Remediation in Cost Optimization

1. Impact of AI-Powered Cost Monitoring

> Artificial intelligence (AI) is playing an increasingly critical role in identifying cost inefficiencies and automating cost governance. Experts noted that AI-driven anomaly detection and automated insights are increasingly critical for early identification of cost inefficiencies.
>
> **(Source: Industry expert insights)**

AI copilots are no longer aspirational — demos at FinOps X showcased tools like AWS Q for Cost Optimization and Gemini-powered FinOps Hub, which automatically explain cost anomalies and shut down idle GPUs. As FinOps tooling shifts toward LLM-enabled experiences, cost management is moving from dashboards to conversations.

2. How human-assisted remediation is creating a difference?

"While AI-powered tools have become indispensable for identifying cost anomalies, forecasting spend, and automating actions, human expertise continues to play a critical role in cloud cost optimization especially when it comes to context-aware decisions, prioritization, and cross-team collaboration.

AI-driven anomaly detection and automated recommendations enable organizations to monitor cloud environments in real-time and flag inefficiencies faster than manual methods. However, the true potential for cost savings is unlocked when automation is combined with human remediation.
Human oversight ensures that cost optimization actions are aligned not only with technical efficiency but also with business priorities. Engineers and FinOps practitioners can evaluate AI-generated insights in context, determining which recommendations make sense for production workloads, compliance requirements, or upcoming scaling events.

Furthermore, organizations leveraging 24/7 human-assisted support models where optimization suggestions from AI systems are reviewed, validated, and acted upon by experts report a significantly higher success rate in reducing costs. Human intervention ensures that optimization is not a one-size-fits-all process but a customized, continuous cycle of improvement tailored to the unique needs of the environment.
This combined approach of AI automation for speed and scale, with human remediation for precision and contextual judgment, is proving to be one of the most effective strategies for minimizing cloud waste and maintaining long-term cost efficiency."

Aman Aggarwal, COO,
CloudKeeper

The industry trends also points towards a strong shift toward automation tools for anomaly detection and continuous optimization, highlighting human assisted remediation as a key enabler for improving both speed and consistency in identifying cost inefficiencies.

02

Workload Modernization & Alternative Compute Architectures

1. ARM-Based (Graviton) & AMD Instances Are Delivering High Cost Savings

The adoption of ARM-based AWS Graviton processors and AMD instances is increasing as organizations seek better price-performance ratios. These alternatives are reducing compute costs by up to 40% compared to traditional x86 instances.

Key Findings:

90% of our customers have the scope to adopt **Graviton-based workloads for databases, web applications, etc.**

Companies that migrated from Intel to AMD EPYC instances saw **an average of 15-20% cost reduction without impacting performance.**

Industries such as financial services, gaming, and e-commerce are leading the shift toward Graviton due to better energy efficiency and lower per-core pricing.

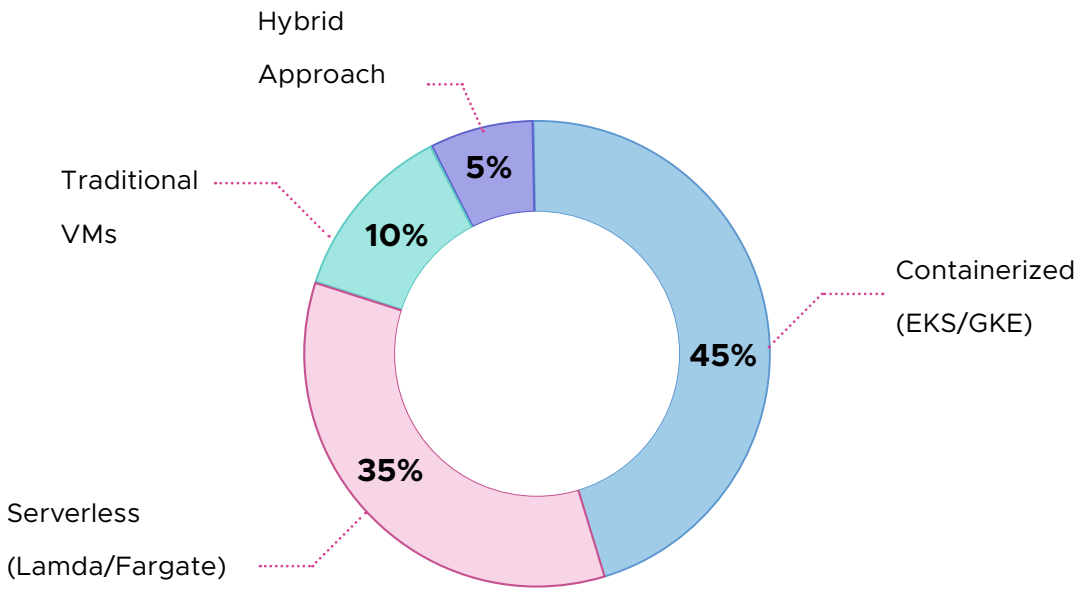
2. Serverless & Containers Are Reshaping Cost Strategies

Organizations are transitioning from traditional virtual machines (VMs) to serverless and containerized workloads to improve efficiency and reduce operational overhead.

Key Findings (Source: Industry Expert Insight):

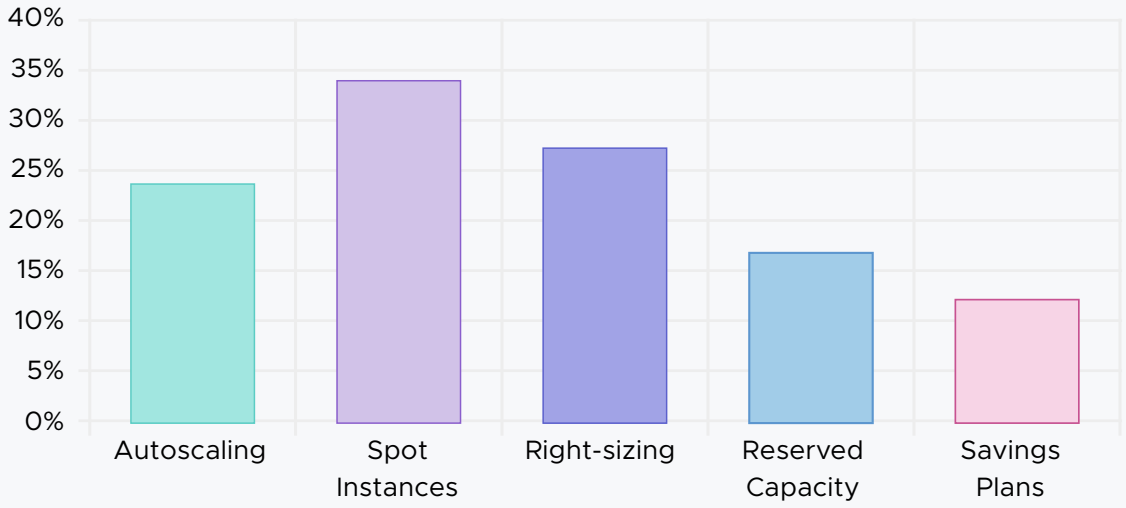
Workload Modernization Adoption

Over 90% of organizations have modernized their workloads to containers (EKS, GKE) and serverless solutions (Lambda, Fargate), significantly reducing management costs.



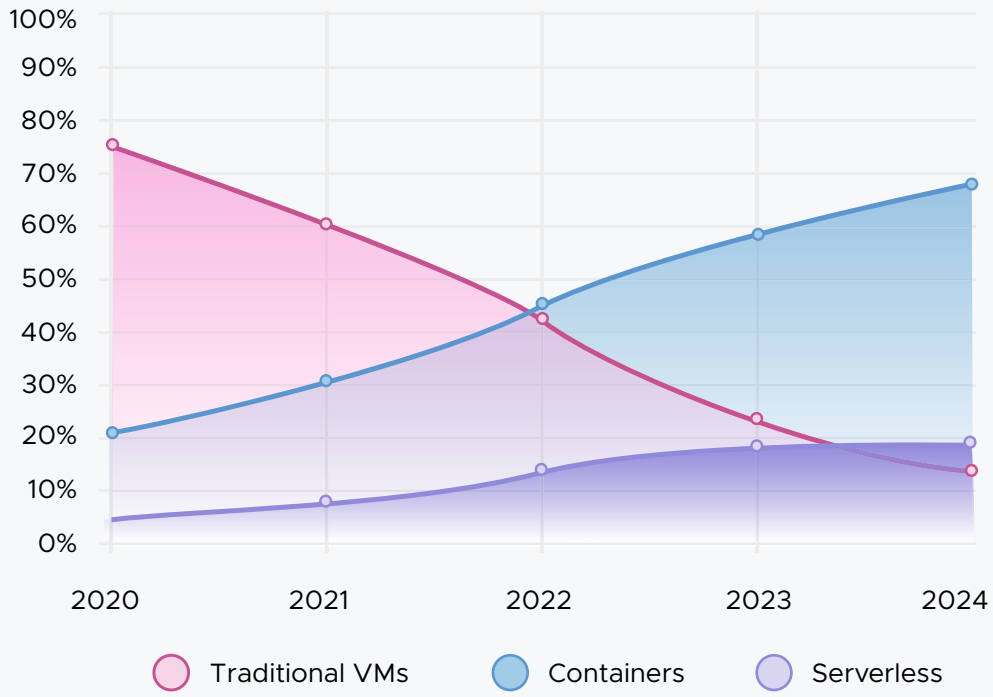
Cost Optimization Strategies

Companies are optimizing container deployments by leveraging autoscaling and spot instances, **reducing containerized workload costs by up to 35%.**

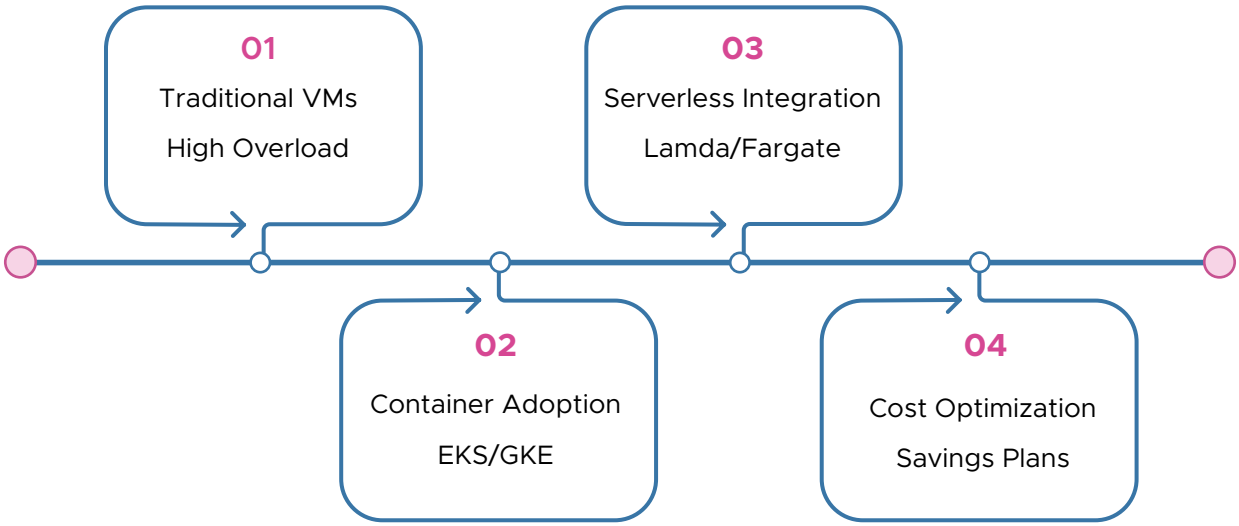


Technology Stack Evolution

Workload-specific pricing models, such as **AWS Compute Savings Plans**, are making serverless adoption more financially viable.



Cost Modernization Journey



Cost Reduction Breakdown

35%
Autoscaling + Spot Instances

Container Optimization

65%
Reduce Ops Complexity

Management Overhead

45%
Better Resource Utilization

Infrastructure Efficiency

03 **Automation** in Cloud Cost Management

1. Automated Instance Scheduling & Anomaly Detection

Automation is becoming a necessity in cloud cost governance, with organizations increasingly relying on policy-driven automation for cost control.

Key Findings:

Usage optimization has enabled organizations to realize savings ranging from 5% to 25%, depending on the size and scale of their environment.

Specific optimization use cases, such as rightsizing EC2 instances and eliminating overprovisioned resources, have in some cases reduced cloud costs by up to 40% for individual services.

> “Use Instance Scheduler to automatically stop non-production EC2 and RDS instances during off-hours, minimizing costs without affecting operations.”
>
> **Dieter Matzion,**
> Sr. Cloud Governance Engineer, Roku

> “The primary areas where automation plays a vital role are tagging of the resources, anomaly detection and workload monitoring and optimization”

Shahnawaz Khan,
Principal - Google Cloud, Alliances Operations, HCLTech

The optimization process identifies:

Idle compute resources (EC2 instances) and recommends downsizing or decommissioning.	Unattached or underutilized storage volumes, such as legacy GP2 volumes, and recommends moving to lower-cost alternatives like GP3.	Overprovisioned or unused network resources such as Load Balancers and NAT Gateways.

Automated detection of idle resources and over-provisioned instances is a recurring factor behind successful cost-saving actions.

An automated system continuously identifies resource inefficiencies especially for compute, storage, and network components and recommends corrective actions, which are frequently acted upon through automated scripts and processes

04 Multi-Cloud Cost Optimization & Governance

FOCUS is Standardizing Multi-Cloud Cost Management

With more organizations moving towards multi-cloud strategies, cost reporting across different cloud providers (AWS, Azure, GCP) remains a major challenge. FOCUS 1.2 was positioned at FinOps X 2025 as the new “Rosetta Stone” of cost reporting, linking cloud and SaaS billing with dual-currency support and invoice-level IDs. This aligns with growing demand for real-time cost normalization and portfolio-wide financial governance across Cloud+ environments.

Key Findings (Source: Industry Expert Opinion):

FOCUS is being adopted to normalize cloud cost reporting across multiple providers.

Companies using **multi-cloud cost governance tools are reducing financial blind spots by 25%**, improving their ability to track spending across cloud platforms.

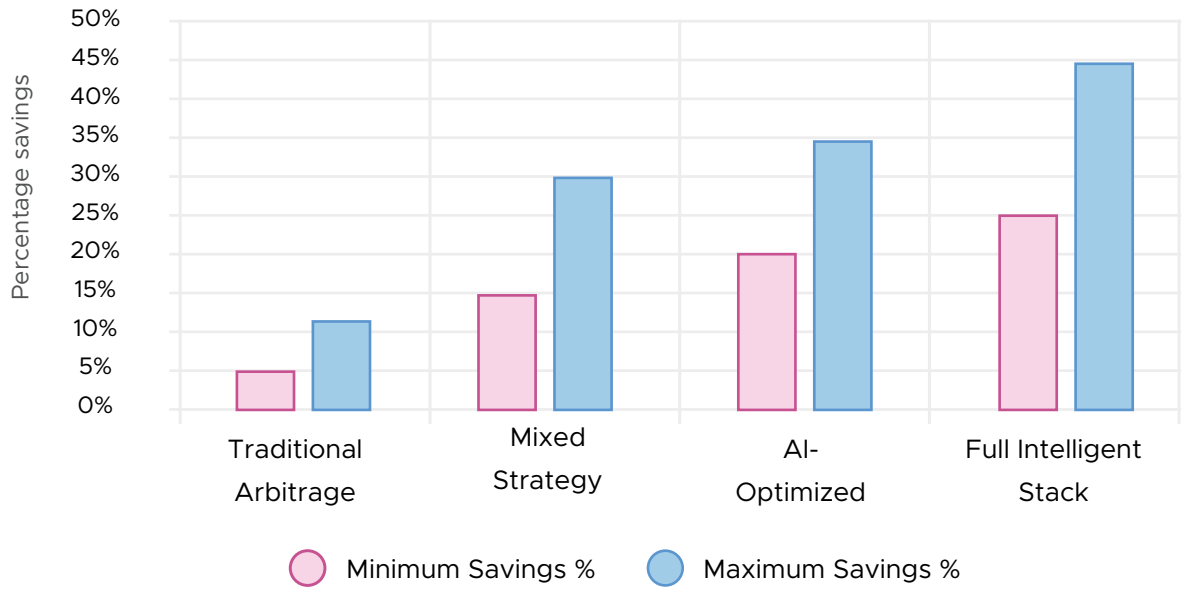
05 Evolving Commitment & **Cost Management Strategies**

Moving Beyond AWS Arbitrage: Intelligent Commitment Management

With AWS arbitrage becoming obsolete, businesses are adopting data-driven, flexible commitment strategies that use Compute Savings Plans, Spot Instance automation, and AI-powered forecasting.

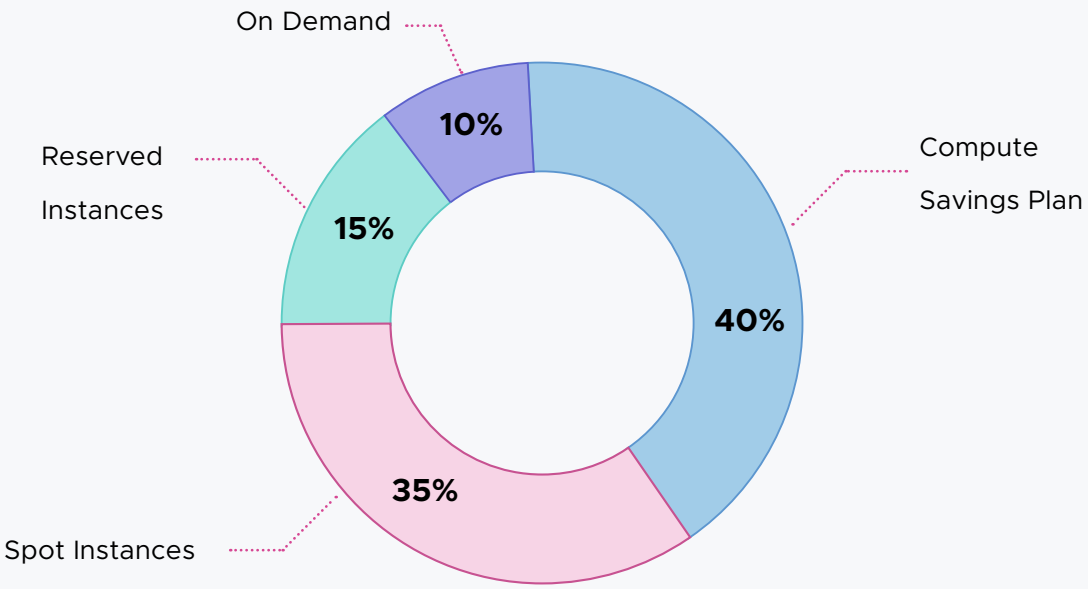
Savings Performance: Traditional vs Intelligent Strategies

Organizations mixing Compute Savings Plans with Spot Instance automation are **achieving consistent savings of 15-30%.**



Commitment Mix Distribution

Commitment forecasting tools along with human assistance are improving accuracy in RI/SP purchasing decisions, **reducing underutilization by 20%.**



Tools & Innovations in Cloud Cost Optimization

Cloud cost management is shifting from manual monitoring and reactive interventions to automation-driven, AI-enhanced, and FinOps-integrated solutions. Organizations are increasingly adopting cost visibility dashboards, AI-powered anomaly detection, automated usage optimization tools, and multi-cloud governance frameworks to improve efficiency and reduce costs.

This section explores the latest tools and innovations transforming cloud cost optimization, supported by CloudKeeper's Cloud consumption data and aggregated insights from industry experts.

01 Cost Visibility & Reporting Tools

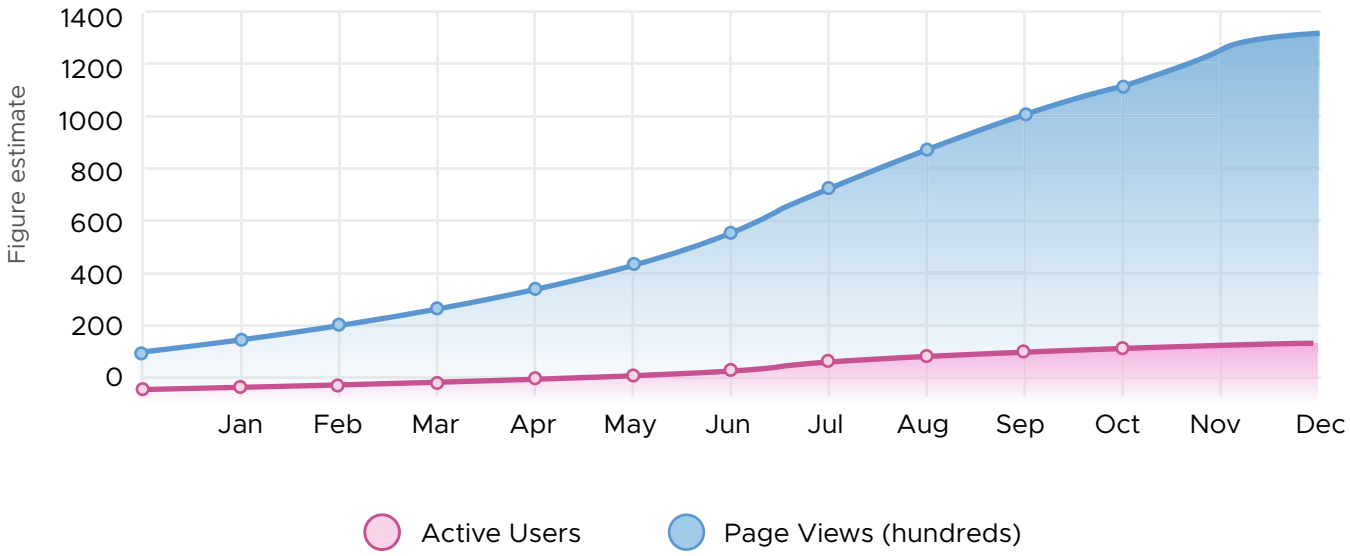
1. Real-Time Cost Dashboards & Granular Cost Allocation Are Becoming the Norm

Organizations are increasingly relying on real-time cost dashboards to gain granular insights into cloud spending and identify cost inefficiencies more effectively.

Key Findings (Source: CloudKeeper's Proprietary Data):

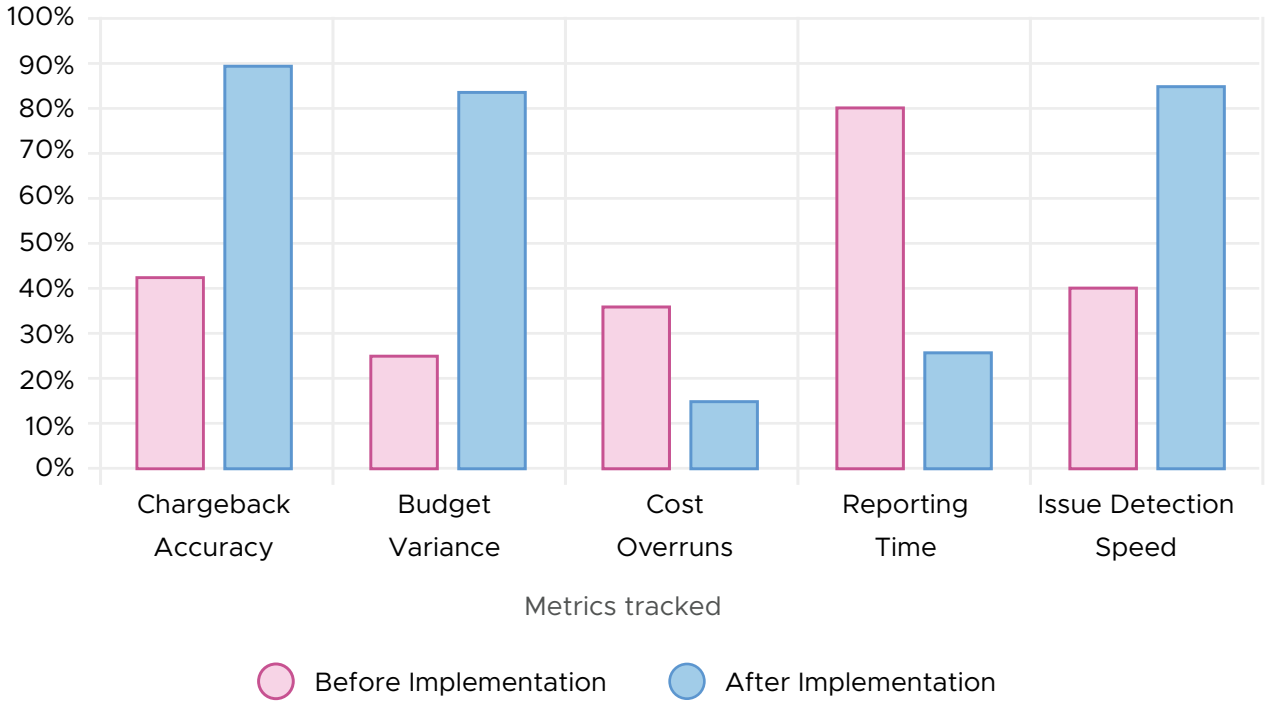
Cost Visibility Dashboard Usage Growth Trend

Organizations integrating automated budget alerts and threshold-based notifications have **reduced unexpected cost overruns.**



Impact of Granular Cost Allocation on Financial Governance

Companies using granular cost allocation tagging have improved resource chargeback accuracy, leading to better financial governance.



The cost reporting dashboards have an average of 1.32K active users generating 20K monthly page views, indicating a growing reliance on real-time cost visibility.

20K

Monthly Page Views

Dashboard engagements
indicating high demands

1.32K

Active Users

CloudKeeper dashboard users
actively monitoring costs

85%

Daily Active Rate

Users checking
dashboards regularly

2. Automated Anomaly Detection Is Reducing Unexpected Cost Spikes

Automated cost monitoring is enhancing financial governance by automatically detecting cost anomalies and providing predictive insights on potential budget deviations.

Key Findings (Source: Industry Expert Insight):

Automated anomaly detection tools are improving cloud cost monitoring, enabling faster response to cost spikes and preventing 10-20% of unnecessary spending.

AI-based commitment forecasting tools are improving accuracy in RI/SP purchasing decisions, **reducing underutilization by 20%.**

02 Automated Usage Optimization & Rightsizing Tools

1. Automated Resource Optimization Is Driving Cost Savings

With workload demands fluctuating dynamically, organizations are turning to AI-powered tools for automated rightsizing and real-time usage optimization.

Aurora I/O Optimized Recommendations and Cost Comparisons in AWS Cost Explorer were also launched in 2025, helping FinOps teams perform real-time cost assessments, detect cost spikes, and generate AI-informed savings plans — all integrated within native tooling ecosystems.

Key Findings (Source: CloudKeeper's Proprietary Data):

Usage optimization has helped organizations reduce cloud costs by 5-25%, with right-sizing strategies yielding significant savings on specific workloads.

Companies automating instance type recommendations (e.g., shifting from x86 to Graviton or AMD-based compute) have seen **performance improvements with a 40% lower TCO.**

Automated storage tiering between S3 Standard and Infrequent **Access has optimized storage costs by 30% without performance degradation.**

2. Automated Scheduling & Shut Down Policies Are Reducing Dev/Test Costs

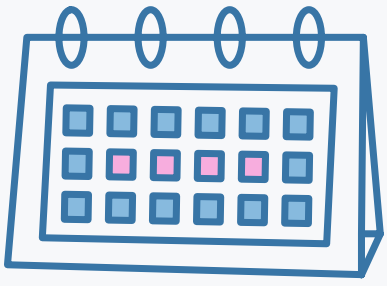
Key Findings (Source: CloudKeeper's Proprietary Data):

24-Hour Automated Scheduling Pattern

Organizations using automated scheduling tools to shut down workloads during off-hours have **reduced Dev/Test costs by 30-50%.**

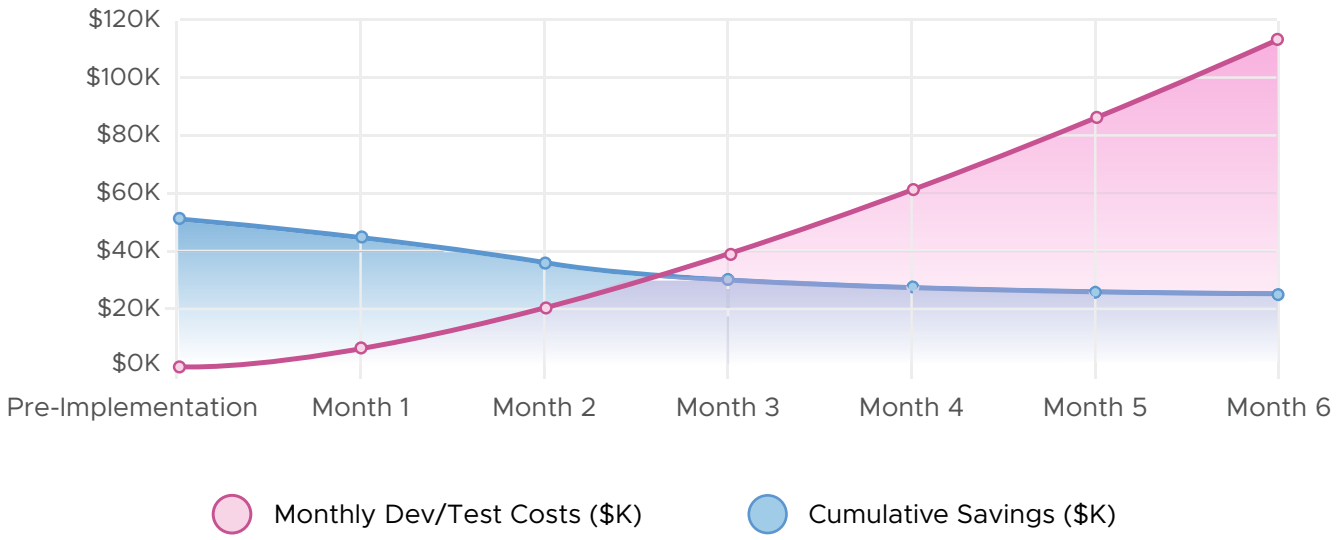
Visual representation of typical dev/test workload scheduling

- Active Hours (Work Time)
- Shutdown Hours (Cost Savings)



Monthly Cost Savings Trend After Implementaion

Implementing predefined shutdown policies for idle workloads has led to a **20% reduction in unnecessary compute expenses.**



03 **Innovations** in Cloud Commitment & Cost Management

Automation-Based Commitment Optimization Is Replacing Manual RI/SP Planning

Key Findings (Source: CloudKeeper's Proprietary Data):

Organizations using automation-based commitment forecasting tools have reduced RI/SP underutilization, **leading to higher cost efficiency.**

Companies mixing Compute Savings Plans with Spot Instance automation have achieved an **average savings of 15-30%.**

Flexible commitment strategies that blend **Convertible RIs, Compute Savings Plans, and Spot automation** are replacing traditional static RI/SP planning models.

15-30%

Average Cost Savings

Achieved by mixing Compute Savings Plans and Spot Instances automation

04 Emerging Innovations in Cloud Networking Cost Optimization

Automated Network Cost Governance Is Reducing Data Transfer Expenses

Key Findings:

Companies implementing AI-powered network cost monitoring tools have reduced **inter-region and inter-AZ data transfer expenses.**

Adoption of AWS Transit Gateway and PrivateLink for internal workloads has led to lower data transfer costs and improved network efficiency.

Cloud cost optimization tools have evolved significantly, enabling organizations to move from reactive cost tracking to proactive, AI-driven financial governance.

> “Network cost is a significant portion in cloud bills of an enterprise. The best way is to design the network architecture in ways that unnecessary data transfer must be avoided and a detailed breakdown cost report of network components should be shared regularly with the stakeholders to optimize it following an iterative process.”

Shahnawaz Khan,
Principal - Google Cloud, Alliances Operations, HCLTech

The next section will explore best practices for implementing these tools and optimizing cloud costs sustainably.

Best Practices for Comprehensive Cost Optimization

Cloud cost optimization requires a structured, data-driven approach that goes beyond simple rightsizing or discount commitments. Organizations that implement automation, integrate FinOps best practices, and continuously refine their cost strategies achieve sustained financial efficiency.

This section compiles proven best practices derived from Cloud consumption data and aggregated insights from industry experts, offering a blueprint for organizations looking to optimize their cloud costs in 2025.

01 Establishing a Strong **Cloud Cost Governance Framework**

1. Integrating FinOps Across Engineering, Finance & Operations Teams

A fragmented approach to cost management often results in underutilized cost-saving opportunities. Companies that establish cross-functional FinOps teams- bringing together engineering, finance, and operations, improve accountability and cost predictability.

“Tracking and managing AI workload costs require a structured FinOps approach. Tools like AWS Cost Anomaly Detection, GCP Recommender, and Azure Cost Management provide real-time insights into AI spend. Implementing unit economics metrics, such as cost-per-inference and cost-per-training epoch, helps measure efficiency and optimize resource allocation.
To ensure cost accountability, chargeback and showback mechanisms should be established, attributing AI training costs to specific business units. Defining cost thresholds for model retraining frequency prevents unnecessary compute cycles, ensuring that resources are only used when truly needed.”

Dieter Matzion,
Sr. Cloud Governance Engineer, Roku

2. Setting Up Real-Time Cost Monitoring & Budget Alerts

Key Findings (Source: CloudKeeper’s Proprietary Data):

Organizations implementing automated cost alerts for unusual spending patterns have **reduced unplanned cloud cost overruns.**

Teams using automated anomaly detection tools identify cost spikes **20% faster than those relying on manual monitoring.**

Real-time Cost Monitoring & Budget Alerts

Automated anonmaly detection and cost spike identification system

Current Spend	Budget Usage	Alert Triggered	Detection Speed
$8826.13	**88.3%**	**12**	**20% Faster**

Budget Progress

Monthly Budget: $10,000 — $8826.13 / $10,000

0% 50% 80% Alert 100%

Automated Alert System

Budget Alert Triggered

Spending has exceeded 80% of your budget

Anomaly Detection Active

Monitoring for unusual spending patterns in real-time

02

Intelligent **Cloud Resource Management**

1. Rightsizing & Automated Instance Scheduling

Optimizing compute, storage, and database resources is fundamental to cloud cost savings.

Key Findings (Source: CloudKeeper's Proprietary Data):

Right-sizing RDS databases based on actual utilization has resulted in **significant cost reduction.**

> “Automating instance shutdown schedules on environments lowers Dev/Test cloud spend by 30-50%.”
>
> **Pankaj Bajaj,**
> Cloud FinOps Leader, Mercari

2. Leveraging Spot & Savings Plans for Cost Optimization

Key Findings (Source: CloudKeeper’s Proprietary Data):

A mix of Compute Savings Plans and Spot Instance automation is yielding **15-30% cost reductions for organizations** with variable workloads.

Automated commitment purchasing tools are **reducing RI/SP underutilization.**

Companies shifting to flexible commitment strategies **(e.g., Convertible RIs instead of Standard RIs)** have reduced financial lock-in risks.

03 Optimizing Storage & Network Costs

1. Storage Tiering & Lifecycle Policies

Key Findings (Source: CloudKeeper’s Proprietary Data):

Nearly 30% of storage costs can be reduced by implementing automated lifecycle policies for S3, archiving rarely accessed data to Glacier.

Transitioning from GP2 to GP3 volumes has **cut EBS storage costs without performance loss.**

2. Optimizing Data Transfer & Network Costs

Key Findings (Source: CloudKeeper's Proprietary Data):

Companies using AWS Transit Gateway & PrivateLink have **reduced inter-region data transfer costs**

Tagging and monitoring NAT Gateway usage has helped organizations identify and eliminate unnecessary costs, improving network efficiency.

04 Automating **Cloud Cost Governance**

1. Automated Anomaly Detection & Cost Forecasting

Automated cost forecasting is helping businesses improve spending predictability and prevent unnecessary cloud expenses.

Key Findings (Source: Industry Expert Opinion):

Automated anomaly detection tools detect spending anomalies **20% faster, preventing unexpected cost spikes.**

Companies using predictive cost forecasting tools achieve significant accuracy in cloud budget planning.

2. Automating Governance with Policy-Based Cost Controls

Real-time guardrails, enabled by invoice-ID-level granularity, were presented as the next frontier at FinOps X 2025 with cost gates in CI/CD pipelines being explored to prevent waste from reaching the bill. This move from reactive alerts to proactive control is reshaping cloud governance practices.

Key Findings (Source: CloudKeeper's Proprietary Data):

Enforcing automated tagging policies ensures **100% cost allocation accuracy,** preventing untracked cloud expenses.

Organizations implementing predefined spending limits and automated policy enforcement **report 15% lower cloud wastage.**

05 Enhancing **Multi-Cloud Cost Management**

1. Standardizing Cloud Cost Reporting with FOCUS

Key Findings (Source: Industry Expert Insight):

FOCUS adoption has improved multi-cloud cost reporting efficiency by 25% - **Victor Garcia**

AI-powered cost normalization tools shorten financial reporting time, enabling **real-time visibility across AWS, Azure, and GCP.**

The best practices for cloud cost optimization in 2025 revolve around automation, AI-driven governance, and proactive cost management strategies. Organizations that implement automated instance scheduling, storage tiering, AI-based forecasting, and FinOps alignment achieve significant cost reductions while improving financial predictability.

The next section will provide a deep dive into statistical insights from expert opinions and Cloud consumption data, offering data-backed trends and predictions for the future of cloud cost management.

Conclusion & Future Outlook

01 Key Takeaways from the Report

Cloud cost optimization in 2025 has evolved beyond traditional cost-cutting measures like reserved instances and manual rightsizing. As cloud infrastructure grows in complexity, organizations must embrace AI-driven automation, predictive cost governance, and FinOps best practices to proactively manage cloud spending.

This report highlighted several critical trends and strategies that are reshaping cloud financial management:

Persistent cost inefficiencies:

Despite growing FinOps adoption, idle resources, over-provisioned instances, misconfigured storage, and unmonitored network costs continue to drive unnecessary cloud spend

(Source: CloudKeeper's Proprietary Data).

AI and automation are defining the future of cost optimization:

Organizations that automate cost monitoring, anomaly detection, and instance rightsizing are seeing faster cost savings, fewer unplanned expenses, and better financial predictability

(Source: Industry Expert Insight).

Modernization and multi-cloud strategies are reshaping cost structures:

The shift to Graviton (ARM-based compute), containerization, and multi-cloud architectures is reducing total cost of ownership while increasing operational agility

(Source: CloudKeeper's Proprietary Data).

Commitment-based discounts are evolving:

While Reserved Instances and Savings Plans remain valuable, many organizations are moving toward AI-assisted commitment strategies, blending Spot, On-Demand, and Flexible Compute Savings Plans to maximize efficiency

(Source: Industry Expert Insight).

Multi-cloud cost visibility is now critical:

As companies expand across AWS, Azure, and GCP, standardization frameworks like FinOps Open Cost and Usage Specification (FOCUS) are emerging as essential tools for unified cost reporting and governance

(Source: Industry Expert Insight).

02 Future Outlook: Where Cloud Cost Optimization is Heading

The future of cloud cost management will be defined by AI-driven intelligence, deeper automation, and greater standardization across providers. Cloud providers like AWS, GCP, and Azure are already signaling shifts in pricing models, sustainability goals, and FinOps innovation that will reshape cost optimization strategies in the coming years.

1. AI-Driven Cloud Cost Management Will Become the Norm

AWS, GCP, and Azure are integrating AI-powered cost monitoring and forecasting tools into their native cost management platforms. Organizations that embrace AI-driven FinOps automation will gain a competitive edge in cost efficiency.

Predictive cost modeling and intelligent anomaly detection will help businesses proactively adjust workloads before cost spikes occur, reducing cloud bill surprises by 20 to 30 percent.

2. Sustainability and Energy-Efficient Compute Will Be a Major Cost Driver

Cloud providers are aligning cost optimization with sustainability goals, introducing carbon-aware computing, ARM-based instances, and serverless-first strategies to improve energy efficiency.

AWS Graviton, GCP's Tau T2A, and Azure's Ampere ARM instances are seeing rapid adoption, with enterprises expected to cut compute costs by 30 to 40 percent through energy-efficient architectures.

Green FinOps, the integration of cost and carbon efficiency metrics, will become a key decision factor in workload placement strategies.

3. Multi-Cloud and FinOps Standardization Will Mature

Organizations will increasingly demand unified cost governance tools as they scale across AWS, Azure, and GCP.

FOCUS adoption will continue to gain traction, simplifying multi-cloud billing and normalizing cost visibility across providers.

AI-powered cost allocation and chargeback models will eliminate manual financial reporting bottlenecks, improving cross-team cloud cost accountability. The broader narrative from FinOps X 2025 also points in a similar direction: FinOps is evolving into a "Cloud+" discipline, encompassing SaaS, PaaS, private cloud, and even labor and licensing costs. The Foundation's strategic alignment with ITAM signals the start of a unified Technology Business Management (TBM) control plane for all tech spend.

4. Cloud Pricing Models Will Evolve Toward Greater Flexibility

The days of static Reserved Instances and rigid discount models are fading. AWS, GCP, and Azure are rolling out more dynamic, flexible, and usage-based pricing structures.

Consumption-based pricing will extend beyond compute to cover storage, network traffic, and AI workloads, optimizing costs across hybrid and multi-cloud architectures.

Spot and preemptible instances will become increasingly automated, allowing organizations to continuously shift workloads based on real-time pricing intelligence.

03 **Final Thoughts:** How Organizations Should Prepare for the Future

The next five years will fundamentally redefine cloud cost management. Organizations that embrace AI-driven automation, modernized compute architectures, and multi-cloud FinOps standardization will see better financial governance, lower cloud spend, and increased operational agility.

Adopt AI-driven cost intelligence

AI-powered anomaly detection and predictive analytics will become a necessity rather than an optional tool.

Shift to modernized, energy-efficient workloads

Migration to ARM-based compute, serverless, and energy-efficient architectures will drive long-term cost and sustainability benefits.

Enhance FinOps collaboration and automation

Organizations must align finance, engineering, and operations in a data-driven FinOps culture to eliminate waste and maximize cloud ROI.

Prepare for the next phase of flexible cloud pricing

Moving beyond static Reserved Instances to AI-assisted, demand-driven commitments will unlock significant savings.

03 Next **Steps**

STEP

Assess your current cloud cost structure using AI-powered anomaly detection and predictive analytics.

STEP

Build a future-proof FinOps strategy by integrating cross-functional cost governance practices.

STEP

Evaluate modernization opportunities by migrating workloads to ARM-based compute, serverless, and sustainable cloud solutions.

STEP

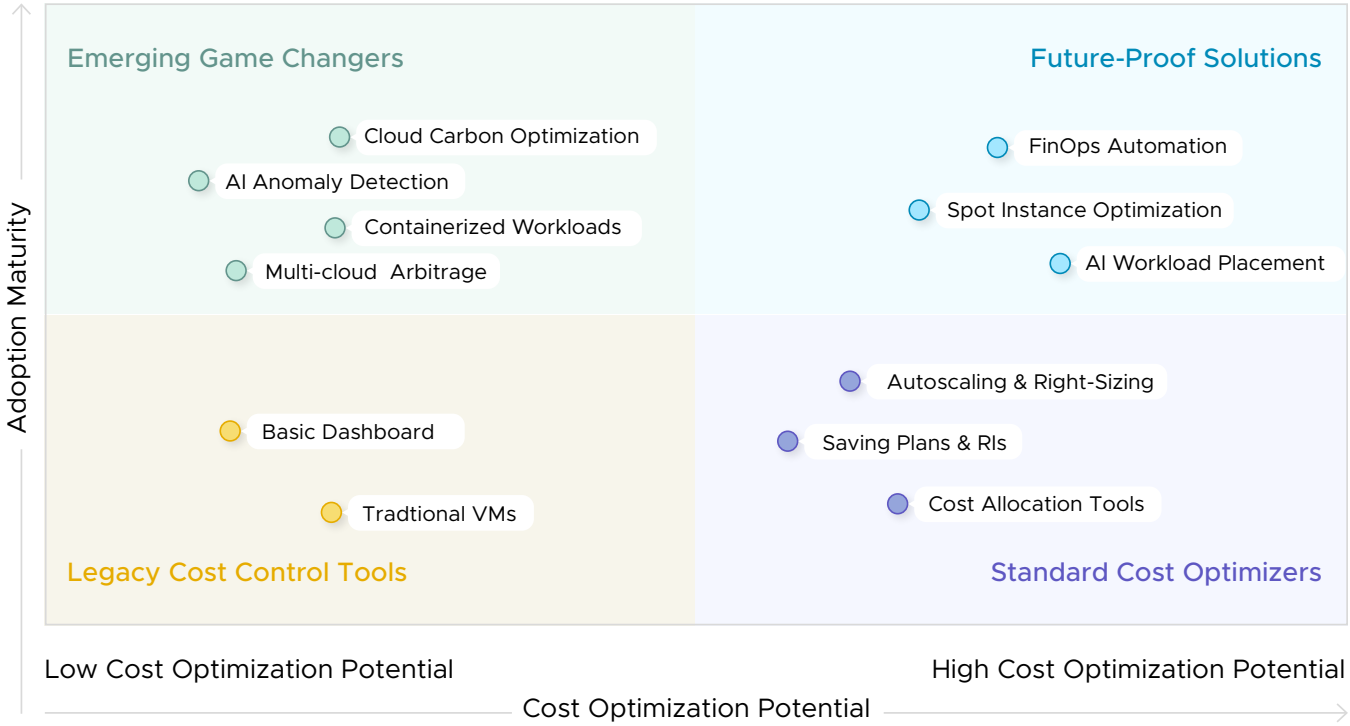
Leverage AI-assisted commitment optimization to improve cost flexibility and workload agility.

Organizations that proactively adapt to these changes will lead the next era of cloud financial management, ensuring cost efficiency, operational agility, and long-term competitive advantage in an increasingly digital world.

Cloud Cost Optimization Index 2025

Cloud Cost Optimization Index 2025

Technology postioning based on cost optimization potential and adoption maturity



How to Read the **Cloud Cost Optimization Index 2025**

01 **Understanding** the Framework

The Cloud Cost Optimization Index 2025 plots cloud technologies and tools across two critical dimensions to help organizations make informed decisions about their cost optimization investments.

The Two Axes

X axis: Cost Optimization Potential	Y-Axis: Adoption Maturity
• Measures how significantly a technology can reduce your cloud spending • Ranges from basic cost visibility (left) to transformational savings (right) • Consider both immediate impact and long-term optimization capabilities	• Indicates how widely the technology is adopted across organizations • Ranges from emerging/experimental (bottom) to mainstream practice (top) • Reflects market readiness, vendor ecosystem maturity, and skill availability

02 The Four Quadrants Explained

1. Emerging Game Changers (Top-Left)

High Cost Potential + Low Adoption Maturity

What it means: These technologies offer revolutionary cost savings but are still in early adoption phases.

If you're in this quadrant:

- **Early adopter advantage:** Potential for significant competitive advantage
- **Higher risk:** Limited vendor ecosystem, fewer best practices, skills gap
- **Investment approach:** Pilot programs, proof-of-concepts, strategic partnerships
- **Timeline:** 1-3 years for mainstream adoption

Example focus: Cloud Carbon Optimization, AI Anomaly Detection

2. Future-Proof Solutions (Top-Right)

High Cost Potential + High Adoption Maturity

What it means: The “sweet spot” - technologies delivering proven, significant cost savings with mature implementation options.

If you’re in this quadrant:

- **Immediate priority:** Should be core components of your cost optimization strategy
- **Lower risk:** Established vendors, proven ROI, available expertise
- **Investment approach:** Full implementation, scale across organization
- **Timeline:** Implement now for immediate impact

Example focus: FinOps Automation, Spot Instance Optimization

3. Legacy Cost Control Tools (Bottom-Left)

Low Cost Potential + High Adoption Maturity

What it means: Widely used foundational tools that provide basic cost management but limited optimization opportunities.

If you’re in this quadrant:

- **Necessary foundation:** Essential for cost visibility and basic governance
- **Limited upside:** Don’t expect major cost reductions from these alone
- **Investment approach:** Maintain existing tools, prepare migration path
- **Timeline:** Use as stepping stones to more advanced solutions

Example focus: Basic Dashboards, Traditional VMs

4. Standard Cost Optimizers (Bottom-Right)

Moderate Cost Potential + High Adoption Maturity

What it means: Established practices that provide consistent, moderate cost savings across most organizations.

If you're in this quadrant:

- **Baseline implementation:** Should be standard in mature cloud operations
- **Optimization opportunity:** Often poorly configured - focus on maximizing existing tools
- **Investment approach:** Optimize current implementations before adding new tools
- **Timeline:** Immediate wins through better configuration and management

Example focus: Autoscaling, Reserved Instances, Cost Allocation

03 How to Use This Framework

1. Assess Your Current Position

- Plot your organization's current tools and practices on the quadrant
- Identify gaps in coverage across quadrants
- Evaluate your cost optimization maturity level

2. Plan Your Journey

- **Start with Standard Cost Optimizers:** Ensure you're maximizing existing tools
- **Move to Future-Proof Solutions:** Prioritize high-impact, low-risk implementations
- **Experiment with Emerging Game Changers:** Pilot promising technologies for future advantage
- **Phase out Legacy Tools:** Plan migration paths to more effective solutions

3. Investment Prioritization

- **High Priority:** Future-Proof Solutions (immediate ROI, proven impact)
- **Medium Priority:** Standard Cost Optimizers (optimize existing) + Emerging Game Changers (strategic pilots)
- **Maintenance Mode:** Legacy Cost Control Tools (necessary but limited investment)

4. Risk Management

- **Lower Risk:** Technologies in the right half (high adoption maturity)
- **Higher Risk:** Technologies in the left half (emerging adoption)
- **Balance portfolio:** Mix proven solutions with strategic emerging technology investments

04 **Reading** Individual Technology Positions

Position Indicates Priority and Approach

1. Top-Right Corner Technologies

- Highest priority for immediate implementation
- Proven ROI with mature vendor ecosystem
- Allocate significant budget and resources

2. Technologies Moving Right

- Increasing cost optimization potential
- Monitor for implementation opportunities
- Often indicate technology evolution or improved tooling

3. Technologies Moving Up

- Growing adoption and market maturity
- Reduced implementation risk
- Good candidates for broader deployment

Proximity Matters

1. Technologies clustered together

- Often complementary or competing solutions
- Consider integrated approaches or choose between alternatives
- May indicate natural implementation sequences

2. Isolated technologies

- Unique value propositions
- May require specialized skills or infrastructure
- Consider strategic importance vs. complexity

05 Actionable **Next Steps**

For Different Organizational Maturity Levels

1. Cloud Cost Optimization Beginners

- Start with Legacy Cost Control Tools for visibility
- Implement Standard Cost Optimizers for quick wins
- Plan Future-Proof Solutions roadmap

2. Intermediate Organizations

- Optimize existing Standard Cost Optimizers
- Implement 2-3 Future-Proof Solutions
- Pilot 1-2 Emerging Game Changers

3. Advanced Organizations

- Maximize Future-Proof Solutions
- Lead with Emerging Game Changers
- Share learnings and best practices

03

Key Takeaways:

Beyond One Solution

Build a balanced portfolio across quadrants

Maturity matters

Consider your organization's capabilities when selecting technologies

Evolution is constant

Technologies move between quadrants as markets mature

Start where you are

Build foundation before pursuing advanced optimization

Measure everything

Track cost optimization impact to validate positioning and ROI

Remember:

This framework represents the current market landscape. Technology positions will evolve as adoption grows and capabilities mature. Regularly reassess your strategy against emerging trends and organizational needs.

Appendix &
Additional Resources

Data sources

1. CloudKeeper's Cloud Consumption Data from 500+ organizations

The team provided real-world observations and quantitative insights derived from extensive customer engagements across industries. This includes:

- Optimization patterns identified through Well-Architected Reviews (WAR) and CloudKeeper Tuner deployments.
- Metrics on idle resources, commitment management practices, usage inefficiencies, and modernization efforts (e.g., migration to Graviton, GP2 to GP3 transitions).
- Direct feedback on customer adoption, success rates, and recurring cloud cost challenges observed in practice.

2. Perspectives from Industry Experts

A focused set of insights was collected from industry experts and cloud practitioners through structured interviews, specifically designed to cover four core dimensions of cloud cost optimization:

- **Trends:** Emerging patterns, common cost challenges, and market observations.
- **Technologies**: New architectures and solutions (such as Graviton, ARM-based processors, and AI-driven anomaly detection) impacting cost efficiency.
- **Tools**: Cost visibility dashboards, anomaly detection, automated rightsizing, and cloud governance tooling.
- **Best Practices**: Recommendations on FinOps adoption, tagging hygiene, commitment strategies, and automation of governance.

Additional references and recommended readings (Blogs/WPs)

- https://www.capgemini.com/insights/research-library/world-cloud-report/
- https://www.cloudkeeper.com/insights/blog/decoding-state-finops-2025-report
- https://data.finops.org
- https://www.cloudkeeper.com/insights/blog/cloud-cost-management-trends
- https://www.cloudkeeper.com/insights/whitepaper/complete-guide-cloud-cost-optimization

ABOUT CLOUDKEEPER

CloudKeeper is a comprehensive cloud cost optimization partner that combines the power of group buying & commitments management, expert cloud consulting & support, and an enhanced visibility & usage optimization platform to reduce your cloud cost & help maximize the value from AWS, Google Cloud & Microsoft Azure.

An AWS Premier Partner, Google Cloud Partner and Azure Technology Consulting Partner, CloudKeeper has helped 400+ global companies save an average of 20% on their cloud bills, modernize their cloud set-up and maximize value — all while maintaining flexibility and avoiding any long-term commitments or cost.

Google Cloud Partner

aws PARTNER Premier Tier Services

Recognized Globally for our Cloud FinOps Expertise

Everest Group® IDC Overall Rating G2 ISG Provider Lens™ Gartner peerinsights

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