



# How to Optimize Cloud Costs with TRiA

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Businesses of all sizes and across all industries are leveraging cloud computing to create a more agile, cost-effective IT organization. But, as the average number of clouds per organization continues to climb, it's easy to lose track of cloud resources and end up paying more than you need to. A Cloud Management Platform (CMP) can help you optimize cloud costs without sacrificing security or performance.





# The Challenge of Cost Optimization in the Cloud

Cost optimization of IT resources is one of the benefits that first attracts enterprises to the cloud. They love the idea of not having to staff and maintain an on-premises data center. And, converting CapEx to a more easily managed and predictable OpEx can help them gain tighter control over finances and free up capital for other investments.

Cloud computing can also help businesses better utilize their human as well as non-human resources. For many IT and business leaders, being able to outsource some of their IT responsibilities to a knowledgeable managed service provider means essential tasks are getting done – and getting done right. Experienced MSPs work with many other clients with similar issues, so they don't need to spend time “coming up to speed” every time there's a new challenge.

But, many organizations still struggle with cost optimization of cloud resources. The IBM Institute for Business Value recently surveyed over 1000 executives across 19 different industries and found that 85% of these execs leveraged multiple cloud environments across their organization; 98% of them expect to do so by 2021. In a multi-cloud environment, a variety of platforms and so many moving parts can make cost optimization of cloud resources a challenge.

To optimize cloud costs without sacrificing security or performance, you need the right tools. In this ebook, we'll take you on a mini-tour of our TRiA Cloud Management Platform and demonstrate how you can use TRiA to optimize your cloud costs.





# What is TRiA?

TRiA falls into that category of tools called a Cloud Management Platform or CMP.

TechTarget describes a cloud management platform this way:

A cloud management platform is a suite of integrated software tools that an enterprise can use to monitor and control cloud computing resources. While an organization can use a cloud management platform exclusively for a private or public cloud deployment, these toolsets commonly target hybrid and multi-cloud models to help centralize control of various cloud-based infrastructures.

Of course, cloud management tools are nothing new. Cloud providers and independent software vendors have been offering solutions for cloud management since the early days of cloud computing. A CMP is an evolution in cloud management toward more holistic cloud governance that provides three things earlier cloud management tools often lacked:

**Visibility across cloud environments.** Cloud vendors often offer tools designed to work on their particular platform. CMPs have evolved to provide visibility across diverse, multi-cloud environments. For example, many organizations house sensitive workloads in a private cloud and other workloads in public clouds such as Azure, AWS, or GCP (Google Cloud Platform). A CMP should provide visibility across all of these environments from the same tool.

**Breadth of functionality.** In the past, many cloud tools have been point-solutions focused on one particular area of concern, e.g., resource utilization. Today's CMPs focus on a broader array of capabilities than their earlier predecessors, often covering cost optimization, performance, resource utilization, security, compliance, identity management, and more.

**A unified environment.** Users will understandably be reluctant to rip out a legacy cloud management tool, such as a trouble ticketing application, simply because IT leaders want to deploy a CMP. A CMP should provide integration capabilities that allow these organizations to integrate legacy systems, creating a unified platform for cloud management and streamlined workflows.



Not all cloud management platforms are alike, and some vendors promote simple cloud tools as cloud management platforms, though they lack the breadth of functionality today’s multi-cloud environments need. Always do your due diligence before selecting a solution.

Though TRiA is designed to help an organization achieve many different types of objectives, our focus for this ebook is specifically on cost optimization. First up, let’s take a look at the TRiA console that serves as the command-and-control center for your cloud management strategy.

The screenshot shows the TRiA Home console dashboard. At the top, it displays 'TRiA Home' and 'Software Version: 18.7.3'. The main section is titled 'Cloud Resources Dashboard' and provides a 'View all of your cloud resources' link. Below this is a table summarizing resources across different categories:

	COMPUTE	STORAGE	NETWORK	CONTAINERS	IDENTITY	TOTAL
AZURE	5	176	42	0	1317	1540
AWS	626	878	1833	108	1239	4704
IBM	188	25	187	0	4	404

The dashboard is divided into several functional areas:

- Cost Optimization:** View cost structure and optimize spend. Shows Total Savings of \$294.58 and Upcoming Forecasted Monthly Spend of \$1,799.05 vs \$820.80.
- Security & Compliance:** Setup and view automated compliance checks. Includes progress indicators for various cloud providers.
- Operations & Performance:** Setup and view performance monitors. Features an LPAR Status Chart with items like STLREPT-V7R2M0 (green), PHLREPT-V7R250 (green), and CCS503B-V7R2M0 (red/yellow).
- Support & Ticketing:** 24/7 support, create tickets, receive alerts. Includes an 'Active Tickets' pie chart (93.0% green) and a 'Recent Ticket Activity' list.
- BotFactory:** Create bots for self healing and auto remediation. Lists 31 Security, 0 Optimization, 0 Best Practices, 0 Curation, and 0 Miscellaneous.

The TRiA Home Page provides a bird's eye view across cloud environments.

# Cost Explorer: Your Cost-Optimization Command-and-Control Center

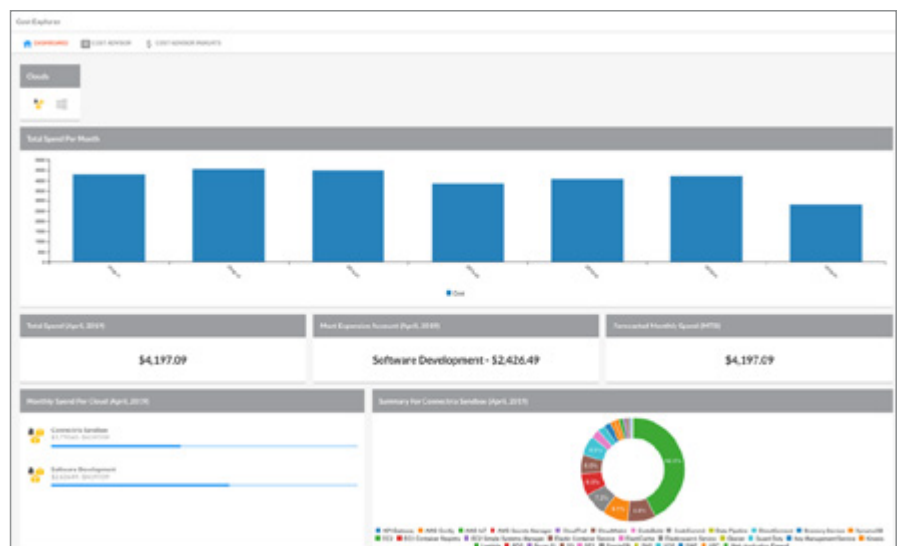
The TRiA home page shown above gives us a snapshot of two important metrics: potential savings from optimizing your current cloud environments and forecasted monthly spend. Both of those can be helpful in planning, but we really need more detail to help us understand how to control costs.

Drilling down from this home page brings us to Cost Explorer, which provides a more detailed breakdown of cloud spending, identifies your most expensive account, and forecasts your monthly spend.

This screen gives the FinOps professional or IT leader a little more to work with. For example, knowing which cloud account is the most expensive gives you some idea of where to focus your cost-savings efforts for maximum impact. You can also see macro-level information such as total spend by month to identify any unusual spikes in spending.

Still, this bird's eye view of spending isn't enough for true cloud cost optimization. We still need more details.

From the Cost Explorer dashboard, we can click on Cost Advisor to identify opportunities for cost savings across cloud environments. This includes elements such as underutilized resources that might be spun down, Reserves Instances, unattached volumes, and more.



TRiA Cost Explorer



The sandbox account we're using for our demonstration is a heavy user of AWS. In the analysis shown below, Cost Advisor has identified more than \$53k in savings that could be realized through Reserved Purchases. If we scroll down to the bottom of the screen, we see that nearly \$32k of that is Reserved Instance recommendations and another almost \$21k is Reserved DB recommendations.

To follow these recommendations, the cloud administrator simply clicks on the Request Savings button. This will take them to a control panel with more information on these individual recommendations, which they can use to make an informed decision on whether these actions make sense for their workloads and environment.

We've found enterprises leveraging public cloud platforms like AWS, Azure, and GCP are particularly prone to paying more than they should. Public cloud resources are easy to spin up – and also easy to forget about.

One scenario where we often see this is in development. During the development process, your dev team may spin up multiple types of environments to test different scenarios. Ideally, once they are no longer needed, development would be responsible for releasing the compute and storage resources they used during development and testing.

### **What are Reserved Purchases?**

Reserved Purchases are dedicated resources on platforms like Azure or AWS. Unlike “pay as you go” resources, you pay up front for these resources whether you use them or not. If you know you're going to need the capacity, Reserved Purchases make sense. At discounts as high as 75% off the standard hourly rates, they can help you dramatically lower your monthly cloud spend.



We call this “cleaning up the sandbox.” Unfortunately, in the rush to bring a product to market and the excitement of a roll-out, this step is easily missed, leading to an abundance of orphaned and under-utilized resources that drive up monthly cloud costs.

The screenshot displays the AWS Cost Explorer interface, specifically the 'Cost Advisor' section. It provides a summary of potential savings and lists specific resource categories that can be optimized.

Category	Item	Cost
Total Saving	Total Saving	\$57,330.36
	Idle Resources	\$2,202.48
	Unused Resources	\$962.38
	Previous Generation Resources	\$681.12
	Mis-Provisioned Resources	\$0.00
Idle Resources	13 Idle DynamoDB Tables	(\$30.14)
	4 Idle EC2 Instances	(\$26.98)
	1 Idle ElastiCache Nodes	(\$48.96)
	2 Idle RDS DB Instances	(\$110.16)
	Unused Resources	18 Unused Elastic Load Balancers
23 Unattached Volumes		(\$572.52)
7 Unused Elastic IP Addresses		(\$41.68)
Previous Generation Resources		15 Previous Generation EC2 Instances Should Be Migrated
	4 Previous Generation RDS DB Instances Should Be Migrated	(\$410.68)
Reserved Purchase Recommendations	150 EC2 Reserved Instance Purchase Recommendations	(\$32,853.14)
	33 RDS Reserved DB Instance Purchase Recommendations	(\$20,641.24)

TRiA Cost Advisor



# 5 More Ways TRiA Can Help You Cut Cloud Costs

Now that we've given you a look at Cost Explorer, let's dig down into some additional ways TRiA can help you optimize cloud costs. Many of these fall into the category of doing more with existing resources.

**#1 Automate tasks.** TRiA allows you to automate tasks that you want to establish as core best practices. Spinning down of under-utilized resources is a good example. You set the threshold and let TRiA take care of the rest. Many of the organizations we work with start at 10% and then increase it from there as they monitor the balance between performance and costs.

Automating best practices like these helps ensure they are followed because your systems engineers don't need to remember to do anything. You can also apply these practices across clouds and geographies to ensure consistency. And, if a practice no longer works for you, you can roll it back or change it just as easily.

**#2 Compliance checks.** As most IT leaders are painfully aware, there is a severe shortage of IT security professionals, and the situation is only going to get worse. According to Cyber Seek<sup>1</sup>, the US faced a shortfall of almost 314,000 cybersecurity professionals as of January 2019, and the US Bureau of Labor Statistics<sup>2</sup> expects the number of IT Security positions to grow by 28% between 2016 and 2026. There simply isn't enough supply to meet demand.

Unfortunately, this means that many organizations trying to cover IT security and compliance with in-house staff are stretched thin – dangerously thin. According to the Disaster Recovery Journal<sup>3</sup>, **human error is the root cause of about 52% of security breaches.**

TRiA's more than 200 built-in compliance checks can help you catch any mistakes your in-house team might have made because they are short-handed or are just getting up to speed on a technology. These checks cover all the most common standards (PCI-DSS, HIPAA, SOC 2, GDPR, etc.) as well as many of the more regional or niche-industry standards.

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<sup>1</sup> <https://www.cyberseek.org>

<sup>2</sup> <https://www.bls.gov/oes/current/oes151122.htm#nat>

<sup>3</sup> <https://www.drj.com/myblog/five-ways-to-thwart-a-cybersecurity-nightmare-1.html>





**#3 Lower the cost of remediation.** Not all IT security breaches are preventable, but according to the Ponemon Institute's [2018 Cost of a Data Breach](#)<sup>1</sup> report, the faster breaches are contained, the lower the cost of remediation. In 2018, when the Mean Time to Containment (MTTC) was less than 30 days, the average cost to the organization was \$3.09 million. When MTTC exceeded 30 days, the average cost rose to \$4.25 million.

TRiA's compliance checks can help you catch any compliance mistakes in your production environment and decrease time-to-remediation by sending alerts to the appropriate personnel. If your team is using another application, like Pagerduty, to manage IT incident response, TRiA can incorporate alerts into your existing workflow.

The screenshot shows the TRiA Insights + Insight Library interface. The left sidebar contains navigation options like 'Home', 'Create Ticket', 'Support', 'Operations', 'Cost Explorer', 'Security & Compliance', 'Dashboard', 'Clouds', 'Resource Groups', 'BuildFactory', and 'Resources'. The main content area displays a table of findings for SOC 2 compliance. The table has columns for 'Insight', 'Risk', 'Severity', 'Favorite', 'Impacted Resources', and 'Exemptions'. Several findings are listed, such as 'Cloud Account Without Global API Accounting Config' and 'Storage Container Exposing Access To World', each with a risk level of 1 and a severity of 'Critical'.

Insight	Risk	Severity	Favorite	Impacted Resources	Exemptions
Cloud Account Without Global API Accounting Config	1	Critical	★	1/8	
Cloud Root Account API Access Key Present	1	Critical	★	0/8	
Storage Container Exposing Access To World	0	Critical	★	3/85	
Cloud Account Without Root Account MFA Protection	1	Critical	★	1/8	
Database Instance Publicly Accessible	1	Critical	★	2/3	
Network Load Balancing	1	Critical	★	22/800	

SOC 2 Compliance Dashboard

<sup>1</sup> [https://www.ibm.com/account/reg/us-en/signup?formid=urx-33253&cm\\_mmc=Search\\_Google\\_-\\_Global+Technology+Services\\_GTS+Resiliency+Services\\_-\\_WW\\_NA\\_-\\_%2Bcost%20%2Bof%20%2Bdata%20%2Bbreach\\_b\\_OV65329&cm\\_mmca1=00000XA&cm\\_mmca2=10000924&cm\\_mmca7=2840&cm\\_mmca8=kwd-298500517189&cm\\_mmca9=\\_k\\_EAlalQobChMI0oeDzIz74gIVBttkCh1PAgZ5EAAYASAAEgKkV\\_D\\_BwE\\_k\\_&cm\\_mmca10=341591158470&cm\\_mmca11=b&gclid=EAlalQobChMI0oeDzIz74gIVBttkCh1PAgZ5EAAYASAAEgKkV\\_D\\_BwE](https://www.ibm.com/account/reg/us-en/signup?formid=urx-33253&cm_mmc=Search_Google_-_Global+Technology+Services_GTS+Resiliency+Services_-_WW_NA_-_%2Bcost%20%2Bof%20%2Bdata%20%2Bbreach_b_OV65329&cm_mmca1=00000XA&cm_mmca2=10000924&cm_mmca7=2840&cm_mmca8=kwd-298500517189&cm_mmca9=_k_EAlalQobChMI0oeDzIz74gIVBttkCh1PAgZ5EAAYASAAEgKkV_D_BwE_k_&cm_mmca10=341591158470&cm_mmca11=b&gclid=EAlalQobChMI0oeDzIz74gIVBttkCh1PAgZ5EAAYASAAEgKkV_D_BwE)



**#4 Improved oversight of cloud expenses.** In IDG's most recent [Guide to the CIO's Tech Priorities & Spending Plans](#), 67% of respondents said they expected to grow their cloud computing budgets in 2019. This upward trend highlights the increasing importance of cloud computing for many organizations. However, as cloud spending grows, cost optimization is vital. Empowering employees lets IT and business leaders focus on strategic initiatives, but occasionally empowered employees exceed their authorization. TRiA allows you to create custom compliance checks specific to your organization.

For example, let's say you want to empower your team to provision cloud resources without prior approval. However, to control costs, you might set a compliance check that includes alerting you to any newly provisioned resource over a certain dollar amount so you can investigate the situation before the new resource has an outsized impact on the budget.

**#5 Tag resources for greater productivity.** There's only so much your people can do in a day, so you need to focus their efforts. For example, dev/test environments that don't contain live data probably don't need to comply with any but the most basic of security requirements. That is, you need to keep intruders out to avoid giving them a backdoor into your production systems, but you probably don't need to worry about maintaining full HIPAA compliance just yet.

To avoid diluting your security focus by monitoring compliance across all of your resources, you can tag each resource with the compliance standards it must uphold. As we mentioned earlier, you can also focus your efforts by creating custom security and compliance checks specific to groups of resources.

**67%**  
of CIOs expect to  
**grow their cloud  
computing budgets  
in 2019.**

IDG, [Guide to the CIO's Tech Priorities & Spending Plans](#)

# Take the Next Step on Your Cloud Journey

If you'd like to learn more about the TRiA Cloud Management Platform or our IBM Managed Cloud services, here are several next steps you can take:

**Visit our website** – Both our [website](#) and our [blog](#) contain additional resources that can help you learn more.

**See a demo** – One of our support engineers would be happy to give you a personalized tour of the TRiA Cloud Management Platform. [Request a demo](#).

**Download a free trial** – We have a free, 14-day trial available for AWS and Azure cloud environments. [Start your free trial](#).

**Watch a webinar** – If you're managing an IBM i environment, you might be interested in watching the webinar we co-sponsored with IBM: [Benefits of a Cloud Management Platform](#).

**Download our resumes** – If you're looking to augment your in-house IBM system administration skill set, you can download our [IBM i resume](#) or our [IBM AIX resume](#).

As always, if you have questions, you can [reach out to us here](#). We'd love to discuss strategies for cost optimizing your cloud environments with TRiA.

## About Connectria

From Fortune 100 enterprises to medium and small businesses, Connectria provides managed cloud, managed services, and compliant cloud security solutions to more than 1,000 global customers. Working as an extension of each customer's IT team, we deliver technology-agnostic solutions consistently, with depth and breadth of engineering expertise, scalable solutions, and speed to market. Our "No Jerks Allowed®" philosophy includes flexible terms, straight-forward pricing, and custom solutions. With a culture based on integrity and an unwavering employee commitment to treating every customer with a relentless focus on satisfaction, it's easy to do business with Connectria.



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Talk to one of our IT advisors by calling **800.781.7820** or reaching out to us by email: [sales@connectria.com](mailto:sales@connectria.com).

