CloudHealth® TECHNOLOGIES | ParkMyCloud

Maximize Savings in your Multi-Cloud Environment with Policies and Automation

AUTHORS: NILESH DEO, CLOUDHEALTH TECHNOLOGIES & KATY STALCUP, PARKMYCLOUD

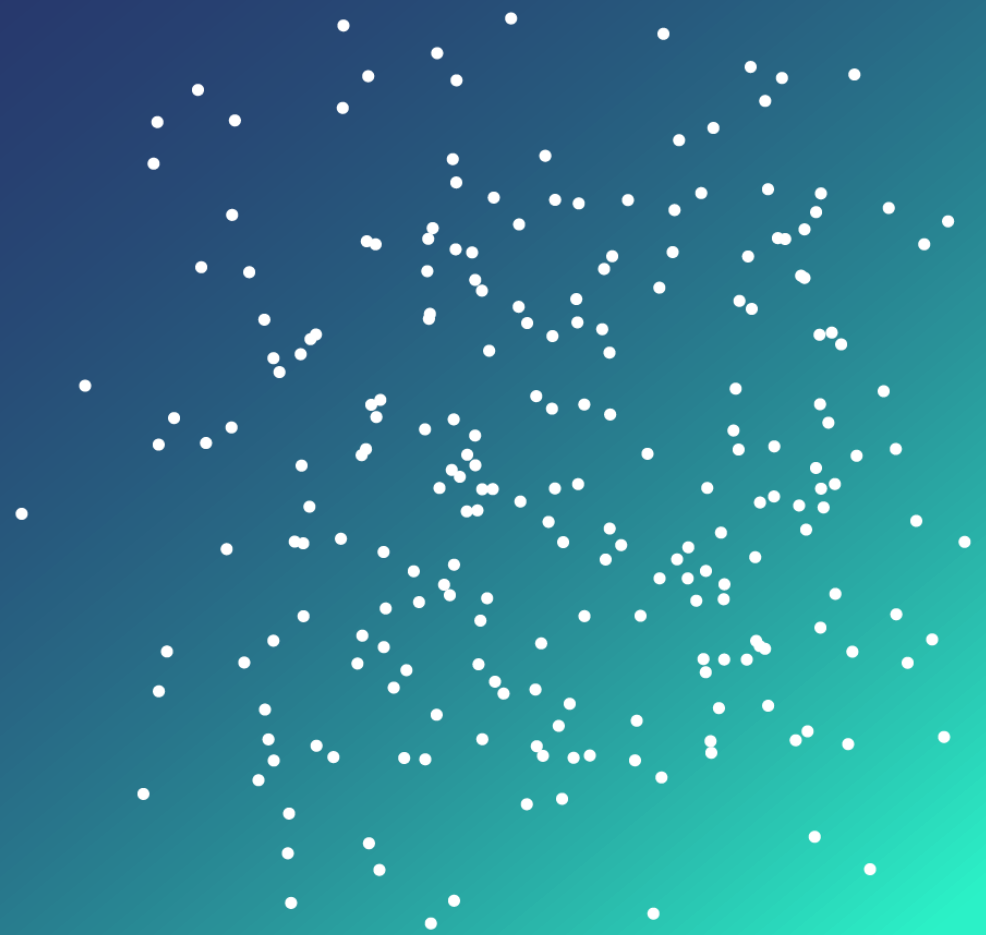
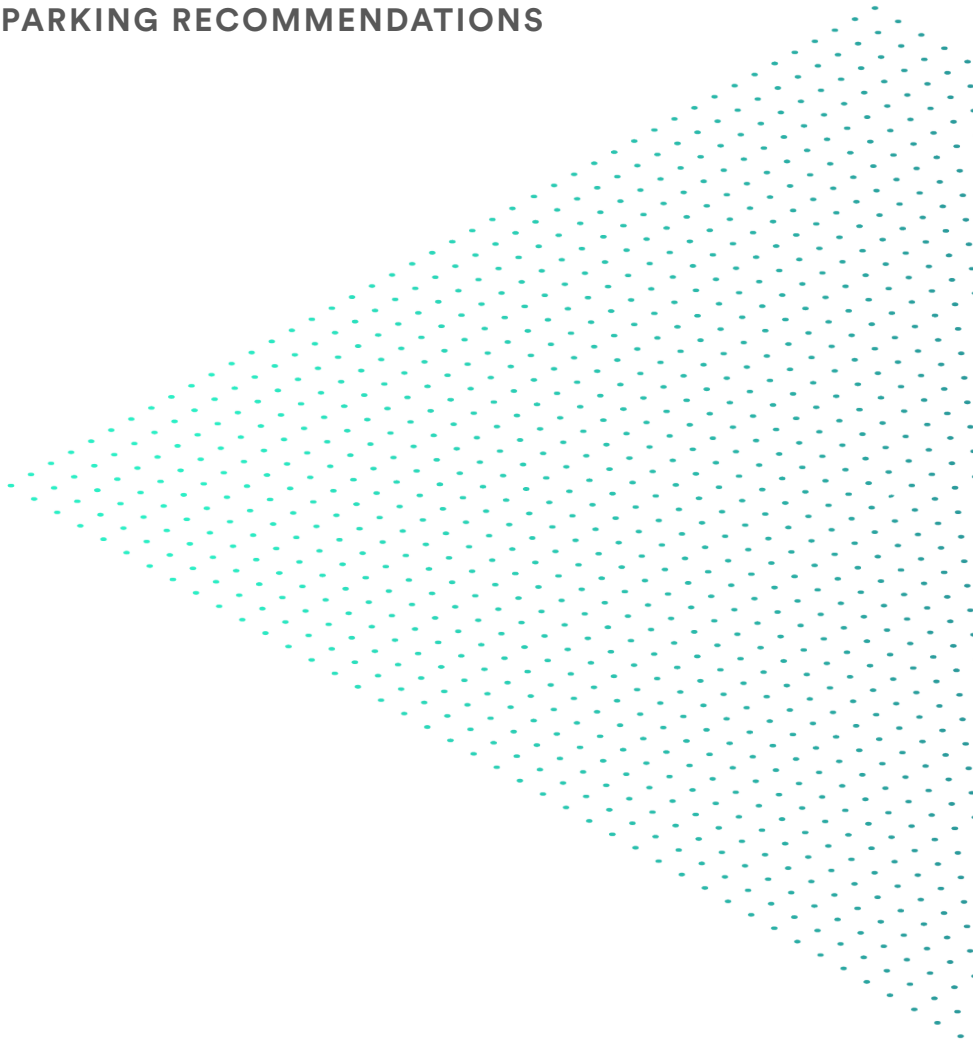


TABLE OF CONTENTS



EXECUTIVE SUMMARY

TO IMPROVE COMPETITIVENESS IN A FAST-PACED WORLD, organizations are embracing a multi-cloud strategy to help them drive more agility and efficiency while creating differentiation. In this multi-cloud environment, many developers deploy resources in a way to optimize productivity and efficiency. However, this leaves organizations vulnerable to the possibility of overspending when resources are left untracked.

In this whitepaper, CloudHealth Technologies along with ParkMyCloud present a simple way in which organizations can save money through policies and automation while using our proven platforms.

INTRODUCTION

THE WORLD IS MOVING RAPIDLY TOWARD CUSTOMER-FOCUSED applications developed in a multi-cloud environment. From news organizations to financial behemoths, across healthcare, manufacturing, retail, and government, irrespective of organization size and type,everyone wants to leverage multi-cloud platforms to achieve agility, efficiency and security. In short, disrupt using multi-cloud or be ready to be disrupted.

Some existing companies are heavily invested in data centers while others are born in cloud. However, for most organizations it's not an "all or nothing" conversation. Combining the reliability and security of on-premises infrastructure with the agility and flexibility of public clouds can be transformational.

Balancing these needs with spending limits can be a serious challenge for many organizations. Multi-cloud environments increase the need for a single pane of glass that gives them complete visibility into resource consumption and analytics so they can make informed decisions and simplify governance. Developing a platform in-house would require development time, resources and right skills which many organizations do not have. A compounding factor is the complexity of integrating new releases, testing them, patch updates and more. Not to mention the security concerns than must be addressed in many industries as well. High availability, real-time updates and security of the cloud management is equally important as the multi-cloud resources are. However, over-provisioning is a serious concern that can lead to spending for resources that are not used by the organizations.

In this whitepaper, we highlight how using policies and automation will help you curb your multi-cloud costs. Using policies, you can empower your team without worrying about resource sprawl and have complete control over your environment.

CLOUDHEALTH TECHNOLOGIES & PARKMYCLOUD CAN HELP

IN JANUARY 2018, CLOUDHEALTH TECHNOLOGIES AND PARKMYCLOUD ANNOUNCED A STRATEGIC PARTNERSHIP.
With CloudHealth's expertise in cloud governance, optimization and management and ParkMyCloud's specialization in automated cloud cost control, together we can provide complete visibility and control over multi-cloud environments, enabling customers to drive better business value.

CloudHealth Technologies is the most trusted Cloud Management Platform to accelerate business transformation for organizations of varying types and sizes. We provide a single platform for multi-cloud management through cloud cost control, resource optimization, governance & policies and custom reporting.

ParkMyCloud is a cost-effective, lightweight SaaS platform that allows cloud computing customers to pay only for the computing power they're actually using. It does this by automatically scheduling on/off times (also known as "parking") for idle cloud computing services.

Let's start by understanding how organizations can save money in their multi-cloud environments. Below are the 4 steps through which you can optimize while staying agile and flexible.

1. LEVERAGE GOVERNANCE POLICIES

The first step is to get unused infrastructure under control. Using the CloudHealth platform, customers can build a policy that will execute actions based on certain conditions. This helps you immediately identify and remediate over-provisioned or zombie infrastructure, which lead to wasted costs. One example of a governance policy is to identify EBS volumes in non-production environments that have been unattached for 2 weeks and terminating them. This policy could run continuously (every 15 minutes), or be configured to run at a specific time and date. Here are some examples of some actions that can be configured for the AWS/Azure platforms:

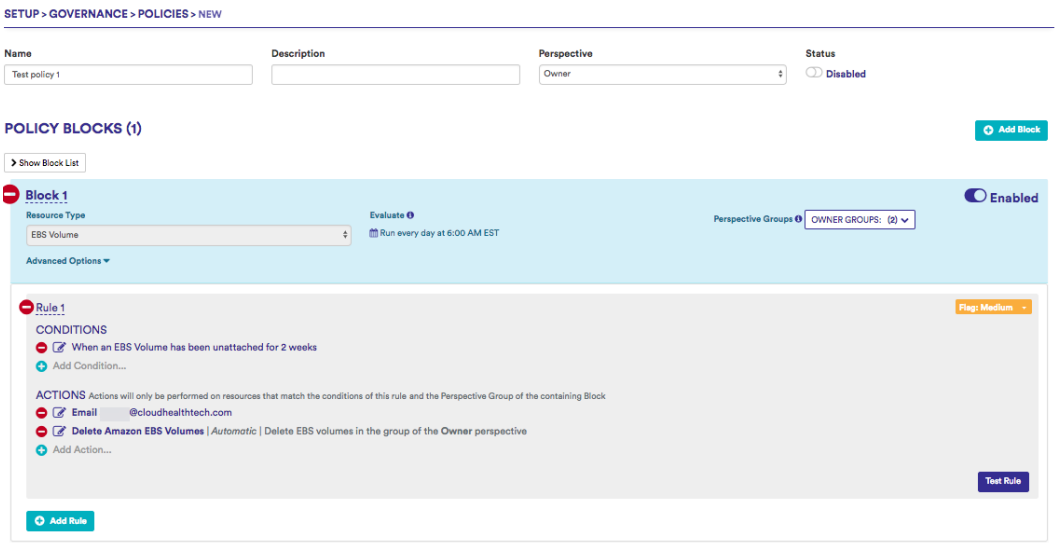
Through this partnership, we aim to provide following benefits to our customers. We will cover some of them in more detail in this whitepaper.

- *Save significant time and money with automated cost control and hybrid cloud governance.*
- *See a cloud environment grouped by teams, apps, or environments.*
- *Realize immediate cost savings with non-disruptive policy driven automation.*
- *Gain competitive advantage by shifting focus from keeping the lights on to continuous innovation, while also getting time back to pay down customer's technical debt.*
- *Together, we improve customer's return on investments, drive more strategic projects, automate cloud cost control and simplify governance.*

- *Start instance/ virtual machine (AWS/ Azure)*
- *Stop instance/ virtual machine (AWS/ Azure)*
- *Reboot/ Restart instance/ Virtual Machine (AWS/ Azure)*
- *Terminate instance (AWS)*
- *Purchase Reserved Instance (AWS)*
- *Resize virtual machine (Azure)*
- *Modify Reserved Instance (AWS)*
- *Delete snapshots (AWS)*
- *Delete volumes (AWS)*
- *Release Elastic IPs (AWS)*
- *Run Lambda function (AWS)*

> *We've implemented policies around tagging so that we can better organize resources for cost allocation and reporting. And we wouldn't feel comfortable making an RI purchase without CloudHealth-- you can easily save 30% off the bat.*
>
> *- Adam Japhet, Scholastic*

The CloudHealth platform can take these actions on its own or after an approver has signed off on the action. These policies are used heavily to drive automation within our current customers' environments to reduce spend or be more agile. "We've implemented policies around tagging so that we can better organize resources for cost allocation and reporting. And we wouldn't feel comfortable making an RI purchase without CloudHealth — you can easily save 30% off the bat." - Adam Japhet, Scholastic. Setting up policies in the CloudHealth platform is simple, yet flexible, as you can see below.



2. RIGHTSIZE YOUR CLOUD ENVIRONMENT

The next step after you have eliminated all the wasted infrastructure is to balance your provisioned resources using rightsizing. Organizations tend to provision more infrastructure than necessary either to give themselves more headroom or because they are unaware of their performance requirements. Rightsizing of volumes, instances, and virtual machines (VMs) is an optimization technique that helps you reduce costs. Rightsizing is a three step process:

1. Analyzing the utilization and performance metrics of your infrastructure, such as instances, volumes, and VMs.

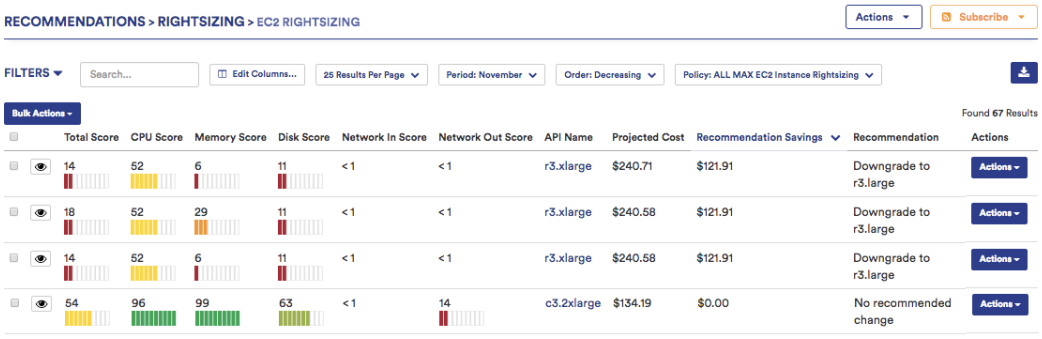
2. Determining whether or not they are running efficiently, and what actions you should take to improve efficiency.

3. Modifying the infrastructure as needed (upgrading, downgrading, terminating).

So what are the metrics you need to consider when rightsizing? On the compute side, the core utilization metrics to take into account are CPU, network, disk, and memory. It is a best practice to have pre-defined thresholds for what constitutes normal behavior for your infrastructure.

The two key benefits of rightsizing are infrastructure optimization and reduced costs. Throughout your analysis you will come across assets that can be downsized or terminated to save money, or upgraded to improve performance. When assets have low utilization for core performance metrics, such as 20% or less, that often means the asset is underutilized. In this case, the best practice is to downgrade the asset to a smaller footprint.

The following is an example of how the CloudHealth platform can help you with rightsizing. In this example we show how different infrastructure pieces are scored against desired metrics.



You can also set notifications based on your desired outcomes. You can either use them to drive cost or operational efficiencies.

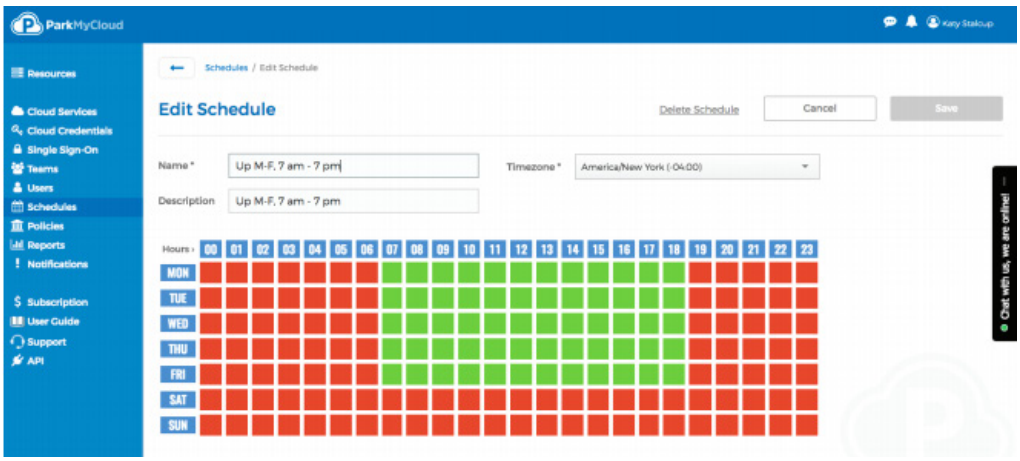
3. 'PARK' ASSETS WHEN NOT IN USE TO SAVE MONEY

Now that you have rightsized your environment and cleaned up zombie infrastructure, the next step for optimization is to 'park' your resources on weeknights and weekends when they aren't in use. Imagine you were trying to reduce your electric bill in your home. There are certain things that need to run all the time, like your refrigerator, but there are other items in your house that could easily be turned off when not in use to help reduce your bill, such as your lights. The same concept applies to your cloud environment: some things must be left on all the time (i.e., production), but others could easily be turned off when not in use (e.g. development, QA, testing).

Using ParkMyCloud's platform, you can apply 'parking' (on/off) schedules to underutilized or unused instances or virtual machines. This is especially helpful for non-production resources used for development, testing, and staging that are not needed 24×7. It is easy to apply parking schedules individually or automatically based on usage and resource tags.

You can also add as many schedules as necessary to park certain resources at the appropriate times. You can also temporarily override schedules on parked resources to use them outside of normal hours. By applying a schedule to park resources outside of a normal work week, you can reduce the cost of the resource by more than 65%.

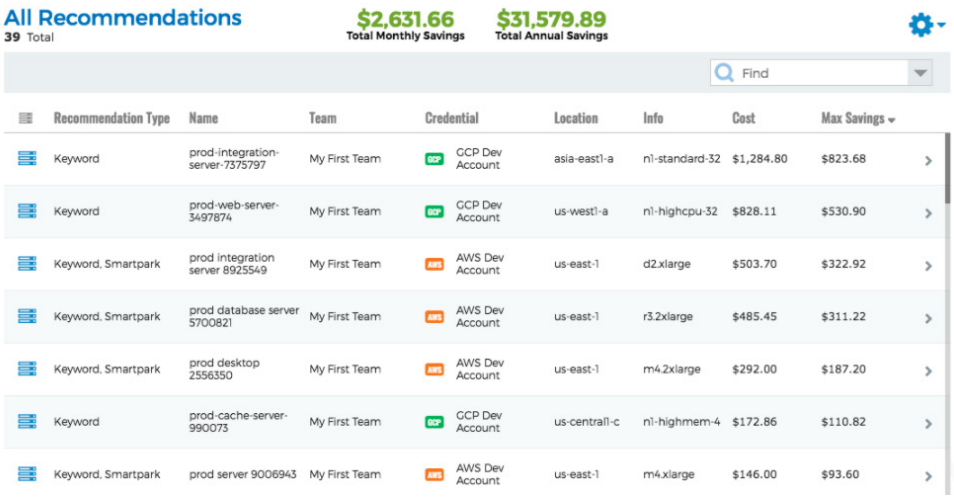
Resources can be grouped into teams with role-based access control to limit which team members can apply parking schedules to which resources.



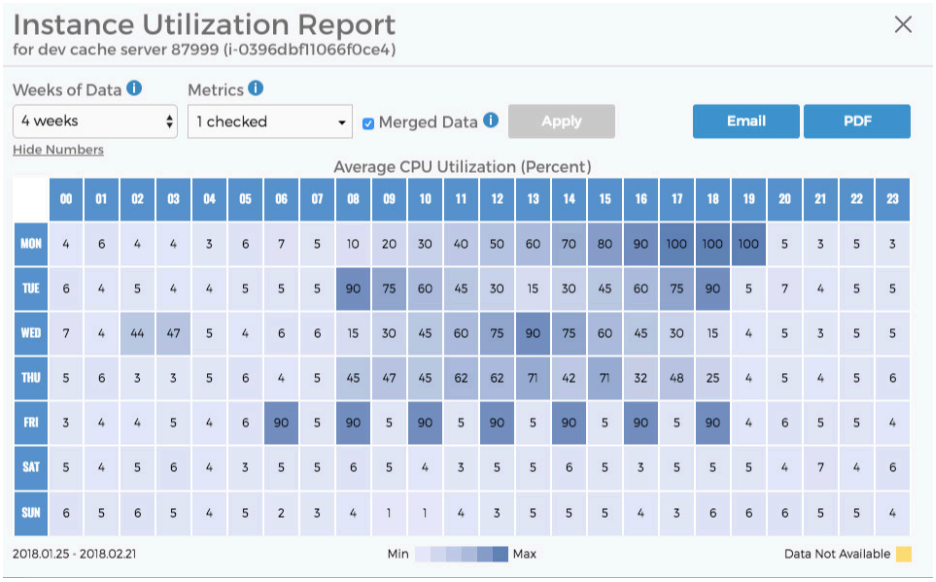
4. GET SMARTPARKING RECOMMENDATIONS

Finally, in addition to the parking described above, ParkMyCloud can also automatically suggest parking schedules based on your actual usage history. ParkMyCloud analyzes your cloud metric data to find patterns in the usage for each of your resources. Based on those patterns, ParkMyCloud creates recommended on/off schedules for each resource to turn them off when they are idle. This maximizes your savings by ensuring that no resource is running when it's not needed — while also saving you the time and frustration of trying to figure out when your colleagues need their resources running. You do not need to go through the process of creating your own schedule or manually shutting your resources off – unless you want to. SmartParking automates the scheduling for you, minimizing idle time and cutting costs in the process.

SmartParking can be used by organizations that have a large number of resources and are looking for ways to save money in their development or testing environments. The ease of saving on multiple resources with single click has been embraced by customers large and small.



Potential savings (monthly and annual) are updated as the schedule is changed for a chosen metric threshold. Additionally, an option is provided for viewing the heatmap for this resource, which will display utilization data in the form of a heatmap for each available metric, as below.



> *ParkMyCloud has helped my team save so much on our AWS bill already, and SmartParking makes it even easier," said Tosin Ojediran, DevOps Engineer at a FinTech company. "The automatic schedules save us time and make sure our instances are never running when they don't need to be.*
>
> *- Tosin Ojediran, DevOps Engineer at a FinTech company*

CONCLUSION

Multi-cloud solutions are swiftly embraced by organizations to gain agility and flexibility, and to focus on strategic differentiators. Overspending and underutilization of resources is becoming a real challenge as teams lose sight of resources.

CloudHealth Technologies and ParkMyCloud have joined forces to empower their customers to gain complete visibility and take actions with a few clicks. Customers can start using these platforms and save 65% or more on the cloud infrastructure that they are leveraging. Using built-in and customizable policies and parking features, organizations can identify and 'park' instances when they are not needed and can bring them back on as required.

Leveraging public clouds like Amazon Web Services, Microsoft Azure and Google Cloud Platform should be easy and cost effective. CloudHealth Technologies and ParkMyCloud offer you the ease and simplicity to manage your infrastructure while saving more in your multi-cloud environment.

ABOUT CLOUDHEALTH TECHNOLOGIES

CloudHealth is the trusted cloud management software platform used to accelerate business transformation in the cloud. CloudHealth solutions and services help organizations drive efficiency through a cohesive cloud strategy based on integrated reporting, active policy management and strategic recommendations. The platform's insightful analytics empower operational and technical teams to have more meaningful cloud conversations that simplify the way business gets done. CloudHealth helps customers such as Amtrak, Cox Automotive, News Corp, Zendesk, Suncorp and Sumo Logic harness the full power of their cloud environments. With offices around the globe, the company is backed by Kleiner Perkins, Meritech, Sapphire Ventures, Scale Venture Partners, .406 Ventures and Sigma Prime Ventures.

ABOUT PARKMYCLOUD

ParkMyCloud is a SaaS platform that automatically identifies and eliminates public cloud resource waste, reducing spending by 65% or more — think "Nest for the cloud." AWS, Azure, and Google users such as McDonald's, Sysco Foods, Unilever, Avid, and Sage Software have used ParkMyCloud to cut their cloud spending by millions of dollars. ParkMyCloud helps companies like these optimize and govern cloud usage by integrating cost control into their DevOps processes. For more information, visit www.parkmycloud.com.