

## The Forecast: Clear Skies and 100% Chance of Savings

## The Weather Company, A Case Study in Cloud Optimization



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# The Weather Company, Optimizing the Cloud

The Weather Company, now a subsidiary of the Watson & Cloud Platform business unit of IBM, was one of the largest users/subscribers to Amazon Web Services (AWS). Utilizing an off the shelf Cloud Cost Management system, The Weather Company was able to assess where their Cloud Spend was occurring through different views and dashboards; but when it came to actually solving the problem of why they were spending as much as they were, it wasn't able to provide a true analysis of why services were deployed or how they were actively being used. Additionally, most Cost Management systems are designed to show problem areas, but rarely provide guidance on how best to resolve them. The Weather Company was missing the ability to analyze their applications and services and understand how their interactions and utilization impacts Cloud Spend. The information they were able to glean at the time primarily focused on direct monitored information and inferences of their infrastructure.

David Gorin, a former AWS architect at The Weather Company, and now Cloud Solutions Architect for TekStream Solutions, was instrumental at investigating how AWS services were being utilized and helping to establish policies and procedures that made a dramatic impact to The Weather Company's AWS Cloud Spend. It was only when an effort to look directly into how services were being utilized within The Weather Company's groups, did they find gaps in their tooling and practices which were driving excessive AWS spend. David related in an interview, "I found out that they really were using a lot of techniques that were better suited for traditional datacenters, where it takes weeks or months to expand infrastructure, and they tried to apply that to Cloud (where you can change infrastructure in minutes)." Many



organizations begin their journey to the Cloud with the datacenter mind-set. David also relayed that because of that datacenter mind-set, they were over provisioned in many areas within The Weather Company.

Through this guidance and oversight, The Weather Company was able to reduce their AWS spending by 50% in less than a year by just focusing on 5 of The Weather Company groups with the highest spend and utilizing techniques which now make up TekStream's AWS Cloud Optimization solution.

Many companies base their Cloud provisioning grounded on traditional practices that can lead to over provisioning the Cloud infrastructure by as much as a factor of 700%. Many first time AWS Cloud users, and often those that have been using it for a while, don't realize that AWS supports and encourages tuning applications in real-time. What used to take weeks and months to order, configure, install and test hardware and applications in traditional datacenters can be performed in minutes or hours on AWS.

In the case of The Weather Company, their Weather.com side of the business needed to size an application and were not sure how it was going to behave. Already having sufficient test data to conduct performance testing, they were able to initiate 400 instances of the application in AWS and run them in one hour sprints. During the exercise, they would reduce or increase the number of instances of the application to pinpoint the desired performance characteristics, then deleted it all when finished. What would have taken them weeks, or even months in a datacenter was completed in days spending a minimal amount versus the cost of performing such tests on physical systems. That is an unbeatable advantage in the Cloud.



## **Applying Best Practices**

#### **Best Practice Review**

While there are many more facets of The Weather Company's best practices, the ones outlined here are significant to their ability to reduce AWS Cloud spending by 50% within a year's time.

Following their example, companies can dramatically improve their own associated costs with operating in the Cloud focusing on these key areas:

- 1. Reproducible, Disposable, and Scalable
- 2. Standardize and Use Tagging
- 3. Control Snapshots
- 4. Minimize Orphaned Resources and Unused Instances
- 5. Upgrade Legacy Instance Types

#### Reproducible, Disposable, and Scalable

The best practices required at The Weather Company are no different than what can and should be applied to any organization leveraging the Cloud and haven't changed much over the years as the Cloud and AWS' capabilities and offerings have increased. Applications, services, and containers should be treated as reproducible, disposable, and scalable. In other words, designing for the Cloud means that assets should be built on and utilize services that support orchestration (the ability to automatically deliver a defined service). This allows development teams and development operation (DevOps) teams to "spin up" new instances of an application both manually and through automation as desired. By separating data from the actual application, core applications can be initialized and guickly attached to existing data sources. Being Disposable means that elements can be "spun down" as needed and removed to help reduce overhead and the cost typically associated with maintaining "extra-versions". Disposability can often be achieved by ensuring that data is separated from services. A Scalable environment or service is focused on using elements within the Cloud such as auto-scaling groups and Elastic Beanstalk to create and destroy resources depending on need and in near real-time.

#### **Standardize and Use Tagging**

AWS provides standardized recommendations for tagging services. By applying these, organizations like The Weather Company are able to attribute resources to a cost center and track service utilization in order to tie it back to a group or department in the event of anomalies that need to be investigated.

The Weather Company sells API calls to their services, such as Hourly Forecast, Location Services, and Historical data to other corporations and service providers. For The Weather Company, knowing how much each API call costs is mission critical and can have a direct impact to their bottom line. With over 175 available APIs, tagging and being able to report directly on utilization enables The Weather Company to determine which ones are more profitable than others, which ones are losing money, and which ones may be good candidates to offer to clients in a discounted model to increase sales. By tagging their API micro services, segments and containers, they are able to cross-reference their AWS billing to revenue.

Tagging for tracking allows a system administrator, a cloud administrator, or anyone who sees a product displaying issues or over utilizing resources can easily determine which group or department to contact to begin correcting the uncovered issues. This provides accountability across the organization and helps drive better controls for your Cloud environments.

Finally, tagging is critical to minimizing your Cloud infrastructure costs. By introducing custom tags into your methodology, you can allow developers and DevOps teams to provide "instructions" that can be automated for spinning down or deleting services when they are no longer needed or have reached their end-of-life.



#### **Example Tags**

- Department
- Team
- Auto-Destroy

Compliance

Environment

**Optional Tags** 

- Scan-Policy
- Component

Application

Cost-Center • Cost-Containment

In many cases, organizations do not manage their snapshots which can quickly drive up their Cloud spend. By taking advantage of tagging, administrators can better track and manage their snapshots and, in many cases, devise automated approaches to removing outdated snapshots. Additionally, establishing a well-defined retention model to apply to backups and snapshots will drive greater efficiencies while reducing the overall costs of the Cloud environments.

#### **Control Snapshots**

AWS, and many other Cloud services, allow you to create backups and snapshots of your services, data, and containers. In many cases, organizations do not manage their snapshots which can quickly drive up their Cloud spend. By taking advantage of tagging, administrators can better track and manage their snapshots and, in many cases, devise automated approaches to removing outdated snapshots. Additionally, establishing a welldefined retention model to apply to backups and snapshots will drive greater efficiencies while reducing the overall costs of the Cloud environments.

#### **Minimize Orphaned Resources and Unused Instances**

Orphaned resources often occur when a service has been terminated and removed, but supporting elements are left behind. Unused instances are usually the result of unchecked development practices where services were enabled, but left turned on once development has been completed.

Orphaned resources tend to occur on a regular basis, especially when automated services for removing

resources fail to take into account dependencies. In many cases, these orphaned resources are overlooked and often recreated unintentionally when a similar application is spun up. This is another situation where tagging, particularly the "Component" tag, can provide administrators better visibility into associated resources so that all resources in a component can be removed when no longer needed.

Tagging again comes into play for reducing the potential for unused instances. Development best practices should be established to tag instances deemed for temporary deployments so that they can be managed and removed according to a defined and communicated development methodology.

#### **Upgrade Legacy Instance Types**

AWS frequently upgrades their infrastructure and hardware. This continues to drive better performance and new or enhanced service offerings. To help drive customers to more efficient products, not only benefiting the customer with greater feature sets, but also helping to reduce AWS' operational cost through more efficient systems, AWS places a premium up-tick in the pricing of legacy resources. While this is a very small percentage on a service-by-service basis, organizations with larger infrastructures can see a cost savings by moving to the newer versions of the services they have subscribed to.





## **TekStream's AWS Cloud Optimization Solution**

TekStream is proud to introduce a blend of technology and technology experts that will help you gain control of your Cloud spend and help you to ensure all your Cloud activities are optimized for performance and billing. Many organizations are new to the world of Cloud computing. As they are moving their workloads to the Cloud, they are following methods and processes that don't take advantage of all AWS Cloud has to offer.

TekStream's AWS Cloud Optimization solution blends technology with years of experience in managing, streamlining, and optimizing AWS environments. Going beyond many Cloud Cost Management systems, TekStream's AWS Cloud Optimization solution not only shows you problem areas, but helps you determine how best to address them. Think of the tire indicator light in your car. The light goes on indicating your tire is either flat or going flat, but it doesn't tell you if you just need air, get a nail removed, or replace the tire with a new one. TekStream's AWS Cloud Optimization Solution deploys Collector and Reapers which are used to inspect and perform optimization tasks within your AWS environments based on recommendations from AWS experts and their assessment of your systems and activities. Automation driven by both hands on experience and performance algorithms ensures that you not only maximize your AWS performance, but also provide insights to areas which can be enhanced to take full advantage of AWS innovations.

## **Technology backed by Experience**

AWS Cloud Optimization takes advantage of automating optimization controls with recommendations from seasoned AWS experts.

While companies with a yearly AWS spend of \$250,000 or more can find immediate benefits from the Cloud Optimization solution, smaller companies can take advantage of the solution to ensure their growth in the cloud is as efficient as possible.

TekStream will conduct a deep analysis of your AWS environments and provide you with an initial assessment of what is working, areas that may be causing unnecessary spend, and places that you can streamline your operations to provide a more optimized and efficient cloud experience. The evaluation is priced at \$10,000. If the AWS Cloud Optimization program is right for your organization, the evaluation fee will be waived upon completion of the evaluation and commitment for the AWS Cloud Optimization solution for one year.

Our goal is to ensure you save money in your AWS efforts. TekStream's AWS Cloud Optimization is designed to reduce your AWS spend. Pricing for the AWS Cloud Optimization is purely based upon its ability to help your organization save money. Our fees are based upon 25% of the AWS reduction that we will be able to help you achieve. As a general rule, we can help companies reduce their yearly AWS spend by 30%. Here's how it works:

Customer Yearly Savings %	Gross Yearly Savings	Actualized Savings minus TS Fees
20%	\$50,000	\$37,500
30%	\$75,000	\$56,250
40%	\$100,000	\$75,000

#### Yearly AWS Spend: \$250,000 | Number of Instances: 50

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## About TekStream

TekStream blends business consulting, implementation, managed services and recruiting expertise to help companies manage the massive volumes of applications, content, Internet-based services and machine data that have been created over the past decade as well as take advantage of next generation cloud-based solutions.

More importantly, we help companies find new ways to leverage those assets to fuel innovation, improve new customer relationships and reduce costs as they look at the next 5-10 years of growth.

Our core offerings:

- Business Strategy and Implementation Services
- Business Analytics and Operational Intelligence
  Solutions
- Cloud-first Implementation and Business Solutions
- Collaboration, Content, Integration, and Portal Solutions
- Information Technology and Technical Recruiting
- Contract and Permanent Placement
- RPO (Recruitment Process Outsourcing)
- FinTech Recruiting
- Infrastructure as a Service and Platform Migration Services
- Licensing Consulting Services

## **Contact Us**

For more information, visit www.tekstream.com

#### Email: info@tekstream.com



#### WHY TEKSTREAM

**Consulting Solutions** 

- Guaranteed On-time and On-budget when following our Proven Process (as shown below)
- 97% of our Customers have executed repeat business with TekStream
- Software, Services, Support, and Sourcing Solutions provide you a 360 approach to ensure your success

#### **Recruiting Solutions**

Our Proven TekStream Recruiting Process (shown below) to understand your needs, collaborate with your team and deliver successful talent to your team has provided these results and affords the following guarantees to your success:

- 95% of our customers have done more than 1 placement with TekStream
- 90% of our customers have done more than 1 year of business with TekStream
- Contract Placement Guarantee 2 week evaluation period or free of charge
- Permanent Placement Guarantee– 90 days or we will replace the resource or refund your money
- Recruitment Process Outsourcing (RPO)
  Guarantee Service Level Agreements (SLAs) on the number of candidates presented