CORESTACK®

# Cloud Service Governance

## CoreStack Framework in Action

### Delivering Continuous Compliance, Risk Mitigation, and Cloud Agility

*By Perumal Balakrishnan, Senior VP – CoreStack*

# Executive Summary

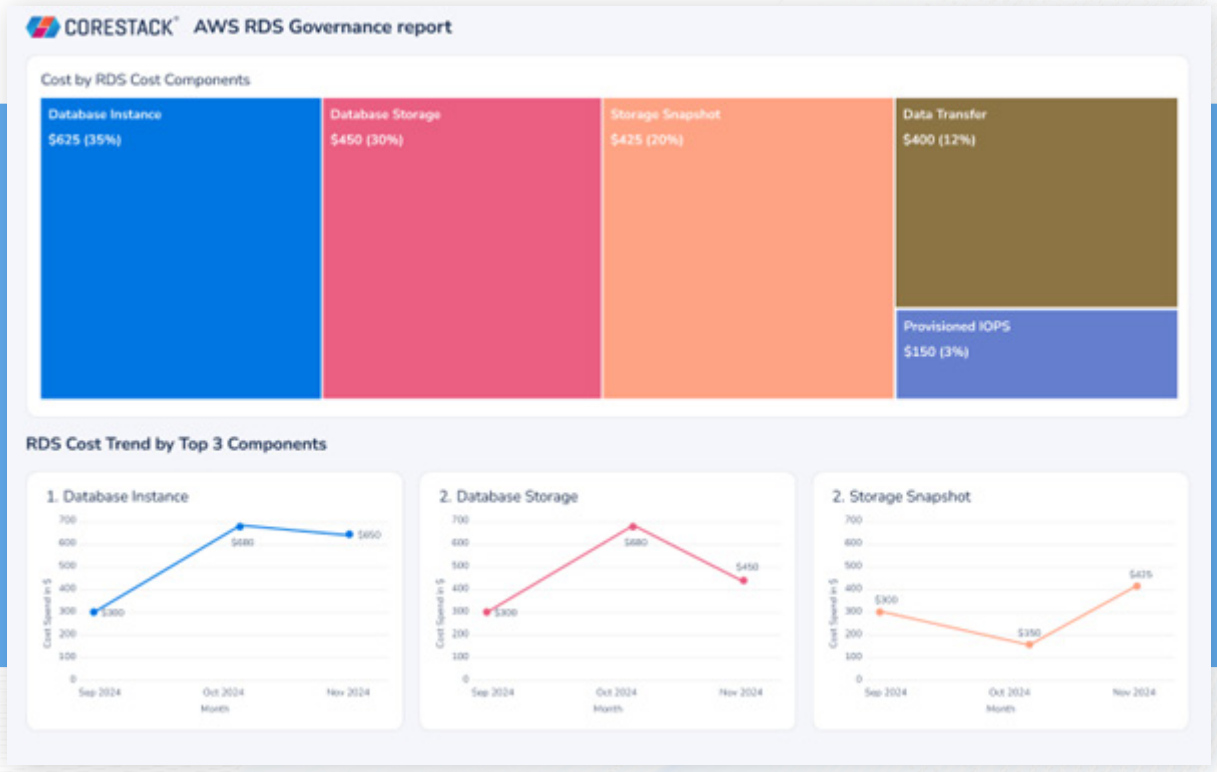
A well-defined governance strategy for Cloud Services is essential for transparency and accountability among stakeholders. It should deliver comprehensive Visibility into critical performance metrics. The plan must include a robust assessment framework that systematically evaluates compliance and effectiveness. Additionally, automating workflows is crucial to streamline operations and align with industry best practices, enhancing efficiency. To promote proactive governance, it is essential to establish guardrails for cloud service provisioning and lifecycle management, including automated provisioning of resources governed by an organization-specific rules scanner and notifications that alert stakeholders to deviations or potential risks. CoreStack Cloud Services Governance framework enables in-depth Visibility, organization-specific Assessment scenarios, and proactive Guardrails:

# Visibility

CoreStack empowers organizations with a robust visibility framework to monitor and allocate cloud service costs and usage across business units, applications, and users. This includes detailed dashboards and granular metrics that support data-driven decision-making and proactive cost control. Some examples of visibility scenarios include:

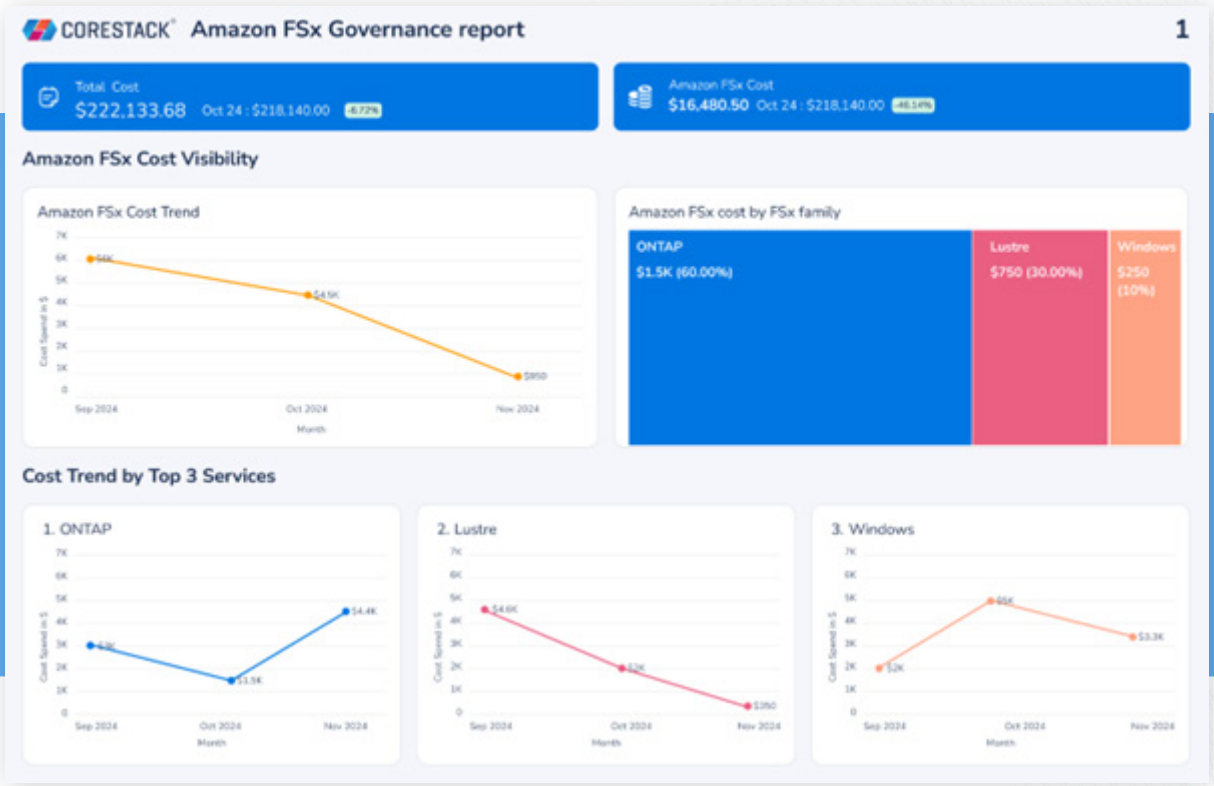
## AWS RDS

RDS cost visibility provides a clear view of expenses based on different database engine types, such as PostgreSQL and MySQL. Analyzing costs by engine type makes it easier to identify specific cost drivers. Costs are also categorized by storage type and amount, highlighting how different configurations affect overall RDS costs and present opportunities for optimization.



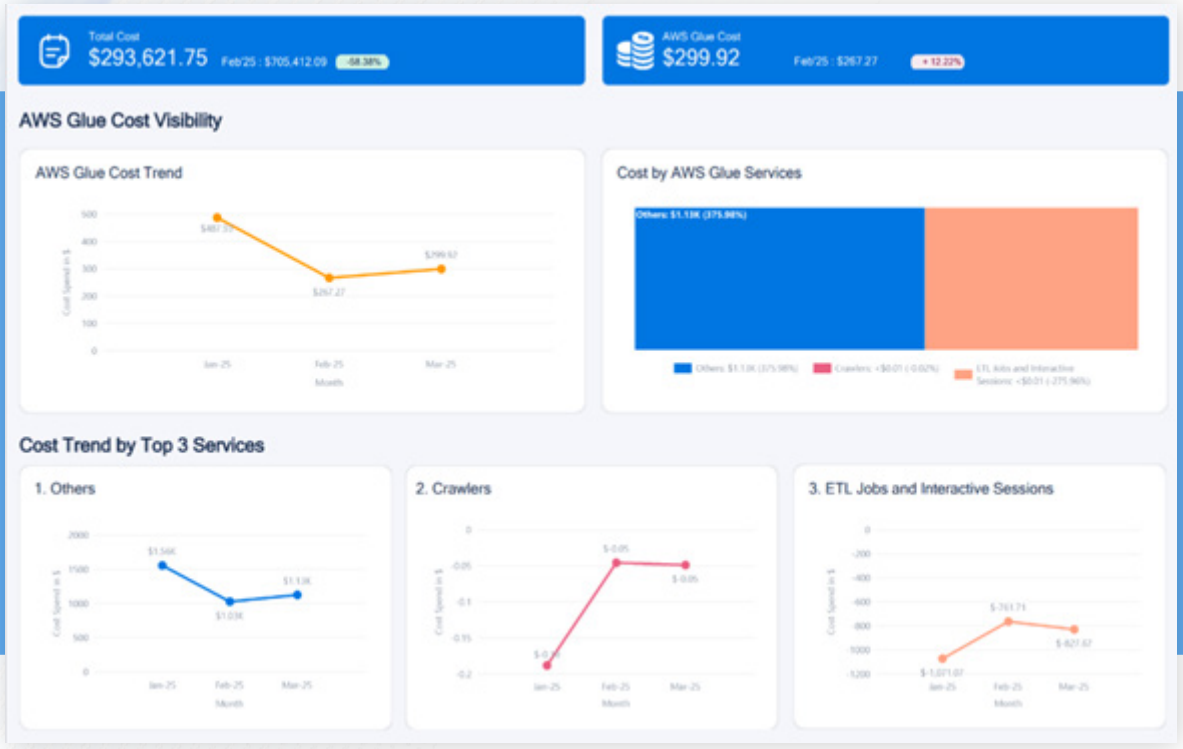
## AWS FSx

Cost visibility is organized by FSx family types (e.g., ONTAP or Lustre), offering insights into cost distribution for better resource allocation. For ONTAP, costs are detailed by Availability Zone, aiding customers in understanding deployment costs across zones and optimizing resource distribution.




## AWS Glue

Cost visibility by Glue operation types — Interactive Sessions, Job Runs, and Crawler Runs — highlights operations contributing most significantly to overall expenses. A detailed breakdown of operations such as catalog requests, catalog storage, and job runs offers insights into specific cost drivers to aid optimization.

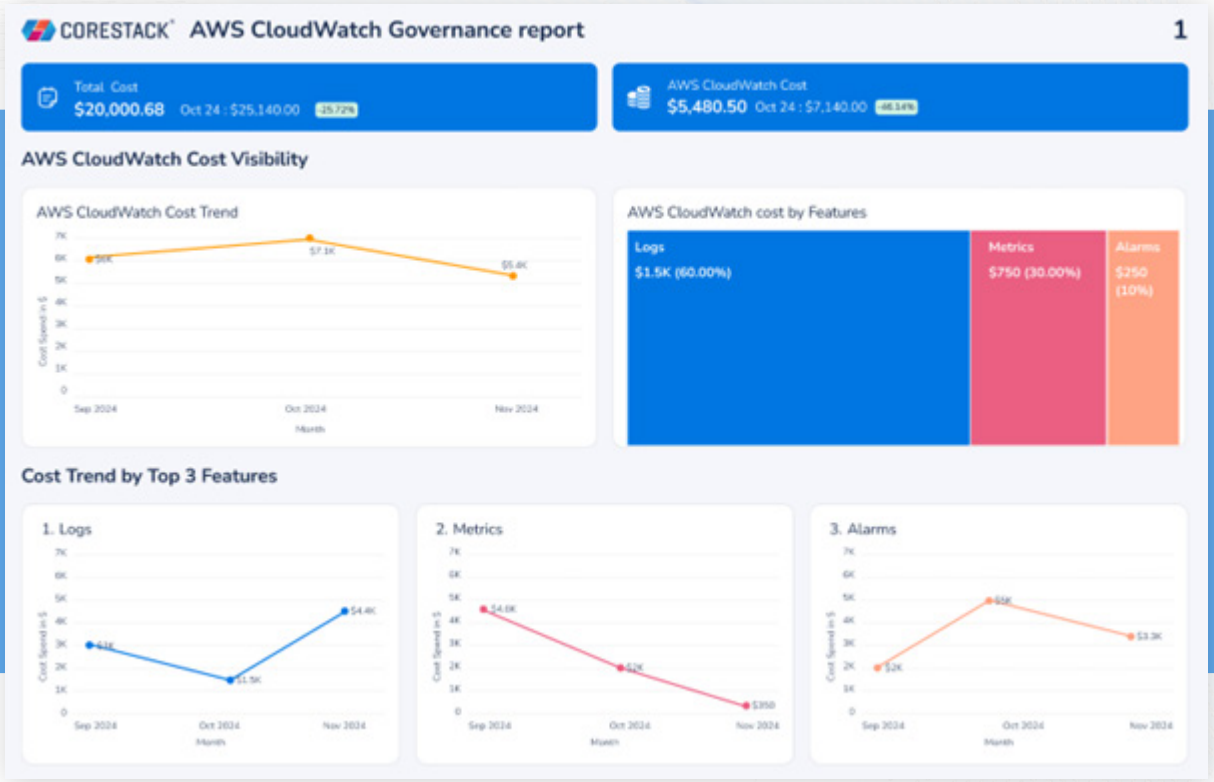



## AWS CloudWatch

CloudWatch cost visibility enables optimization across several areas:

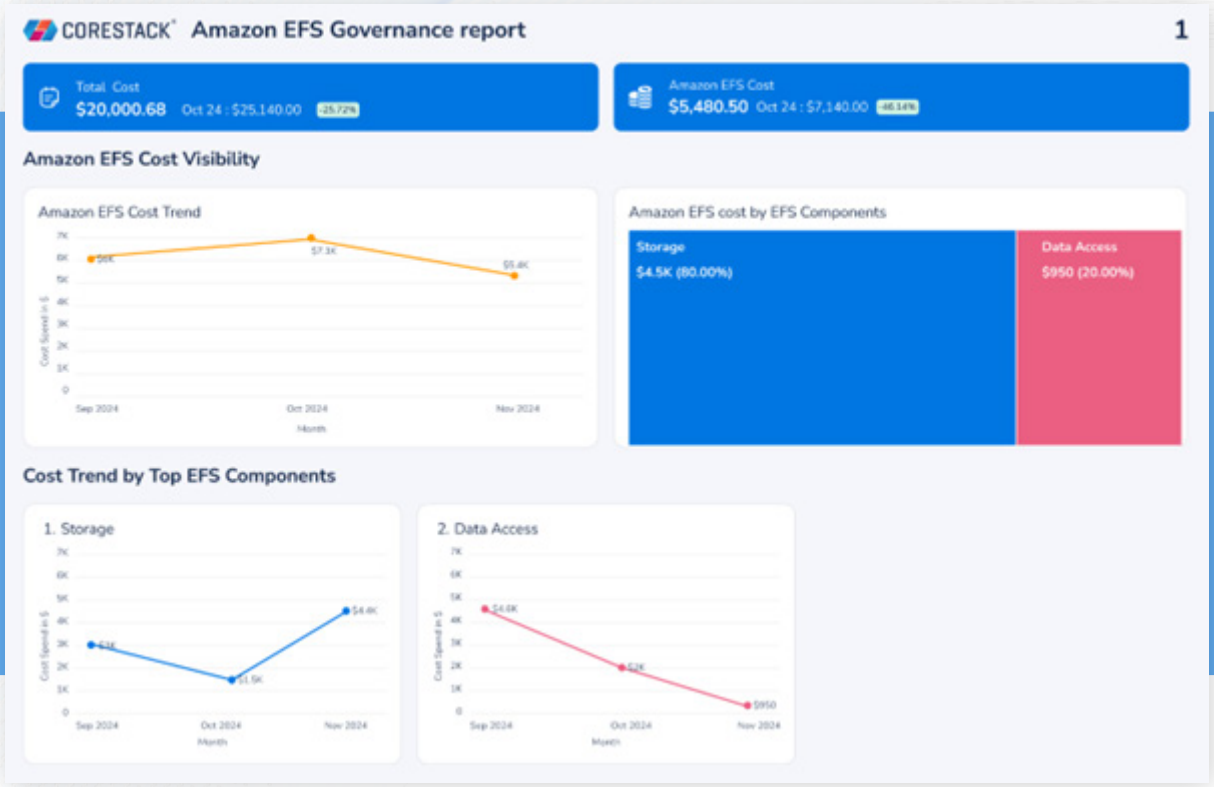
- **Data ingestion**
  Standard and Vended logs, storage methods (Archive and Query)
- **Dashboard complexity**
  Costs vary based on the number of metrics (e.g., fewer than 50 vs. more)
- **Service-wise spend**
  EC2, CloudFront, Kafka, and across regions
- **API usage**
  Differentiates between Bulk and General API requests

These insights support targeted improvements in log storage and ingestion strategies, dashboard configurations, and API usage to enhance cost efficiency.



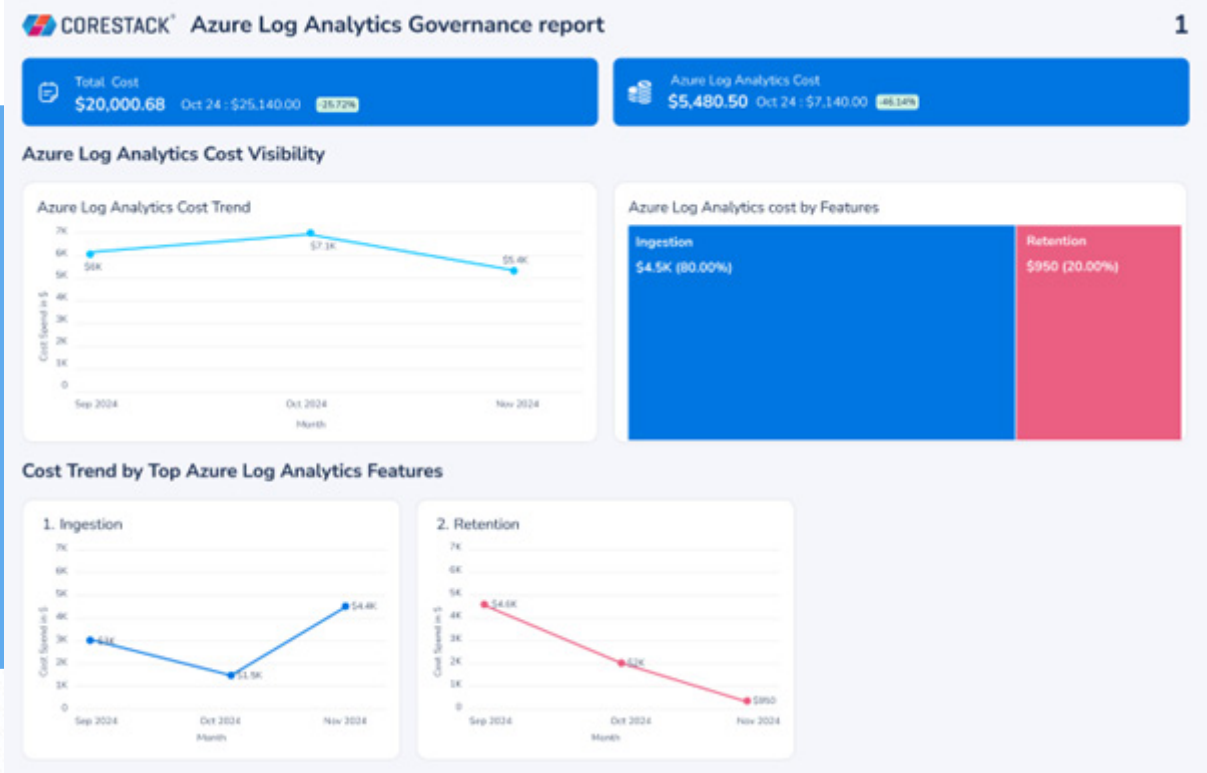

## Amazon EFS

Cost breakdown by storage class (Standard, Infrequent Access, Archive) highlights optimization opportunities based on usage patterns. Throughput type (bursting and elastic) and data access patterns (frequent vs. infrequent) also impact expenses and guide configuration adjustments.




## Azure Log Analytics

Insights into ingestion costs by plan and commitment tiers show how pricing models affect expenses. Costs are segmented by individual workspaces and aggregated by parent clusters to reveal high-expense sources, enabling optimization and consolidation. Workspace configurations such as retention periods, data export counts, and daily limits offer transparency for fine-tuning cost control.

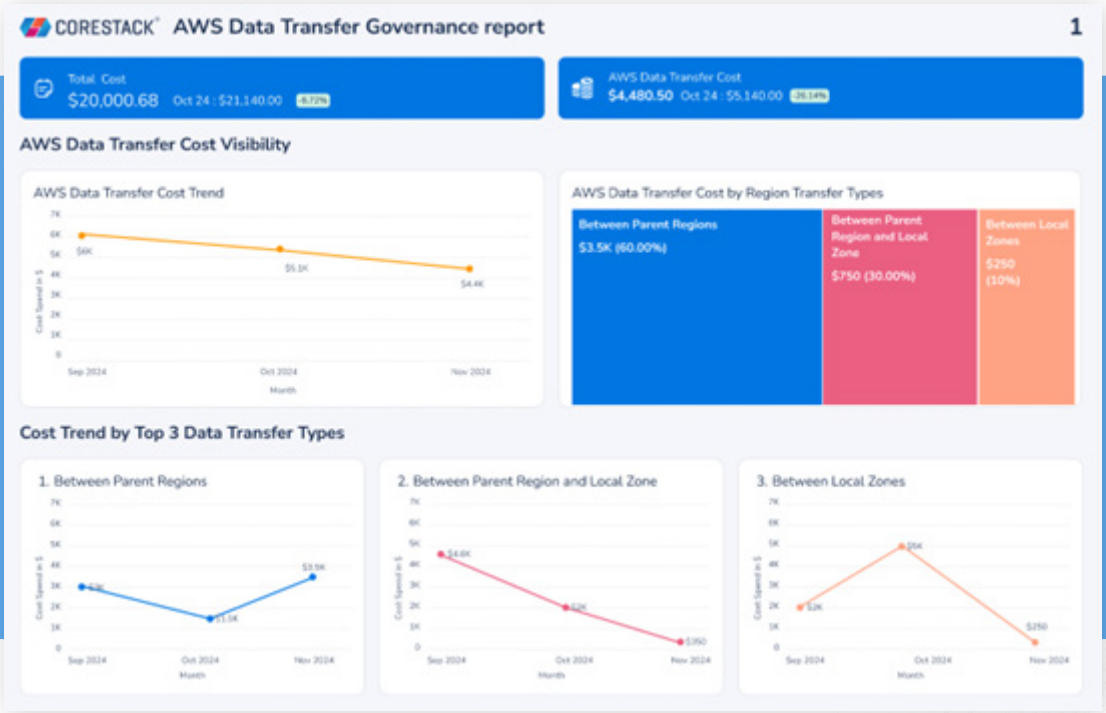



## AWS Data Transfer

In-depth visibility into:

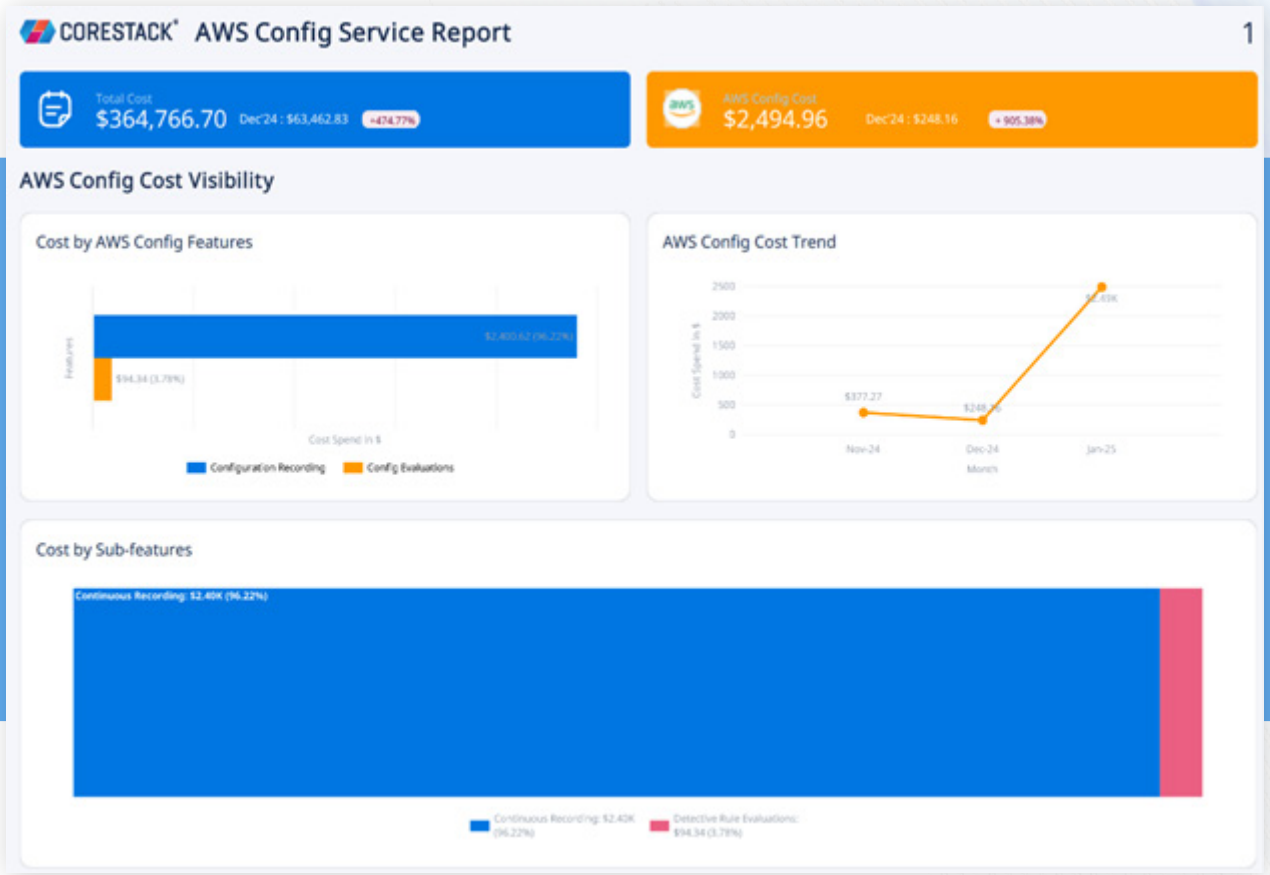
- **Transfer types**
  Between regions, to the internet, and to local zones
- **Network types**
  Internet, Network Data Processing, Regional
- **Expensive routes**
  such as Asia Pacific to North America
- **Top cost-driving services**

This enables targeted optimizations for high-cost transfer pathways and bandwidth consumption.



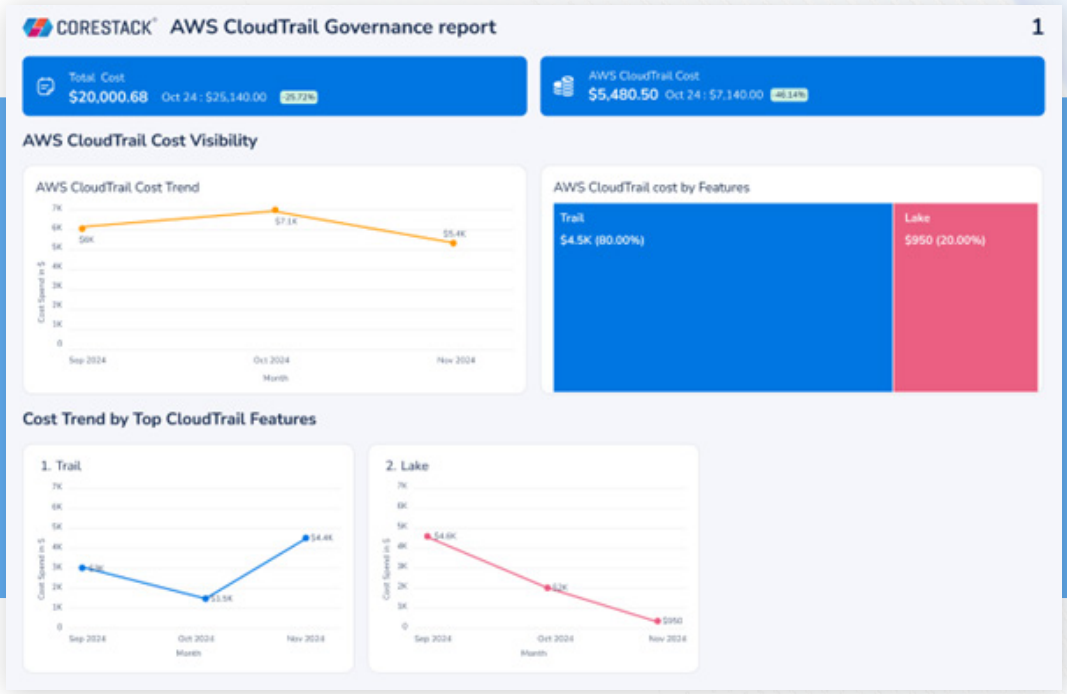

## AWS Config

AWS Config cost visibility covers the distribution of various AWS Config expenses, such as Continuous Recording, Detective Rule Evaluations, and Proactive Rule Evaluations. Insights into the number of recorded configuration items and the frequency of rule evaluations reveal whether monitoring and compliance efforts align with requirements, suggesting potential adjustments to enhance performance and reduce costs. Additionally, identifying frequently non-compliant resources across different configuration rules aids in prioritizing remediation efforts and improving governance to mitigate risk and ensure compliance. Finally, assessing configuration recording strategies and delivery channels — including S3 and frequency settings — helps optimize the configuration process.




## AWS CloudTrail

Cost visibility across various event types — such as Paid Events, Insight Events, and Network Events — reveals opportunities to optimize event recording strategies by identifying high-cost events. Insights into Trail configuration options — including Custom Encryption, Log File Validation, and Insight Selectors — highlight the most cost-intensive settings, allowing fine-tuning to meet compliance and budgetary requirements. Additionally, examining Custom Event Selectors and Insight Selectors shows how these settings influence costs, supporting configuration optimization based on specific security and operational needs.

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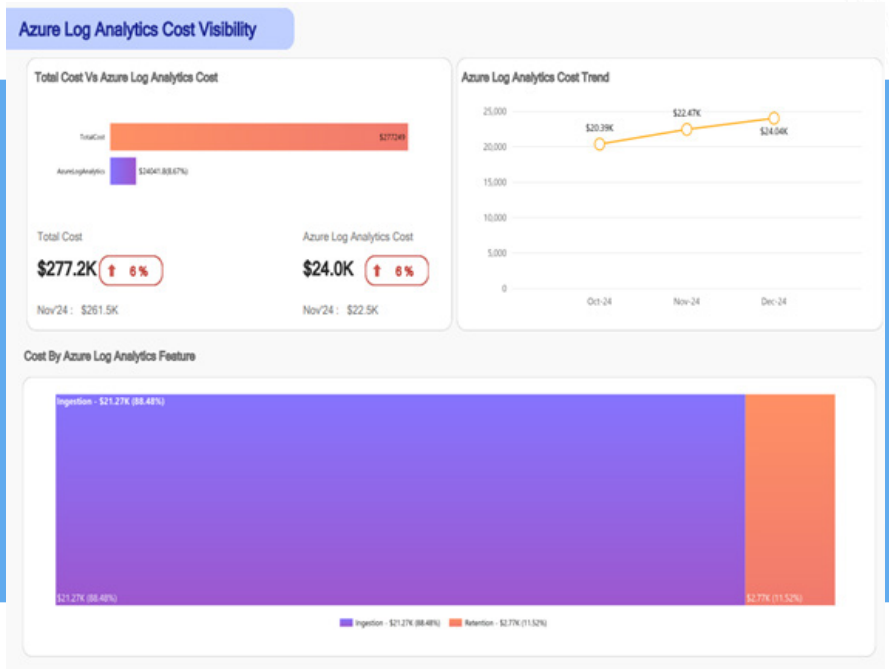
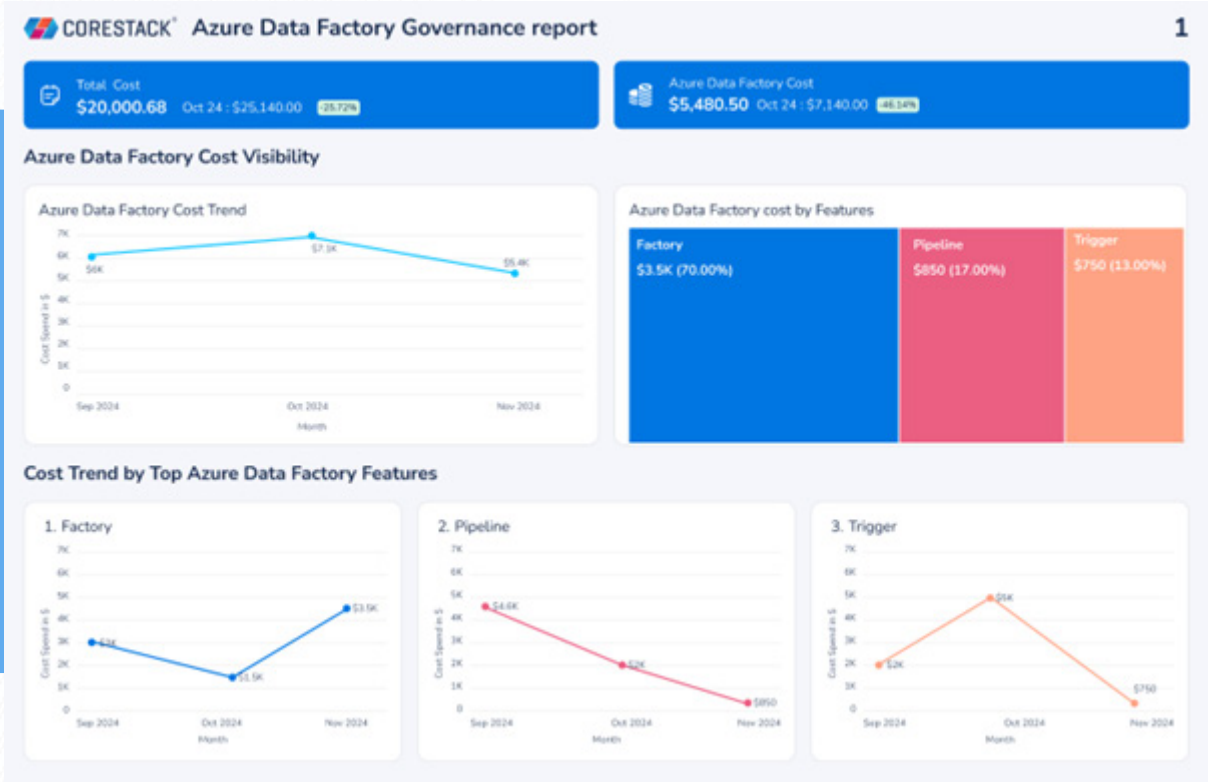


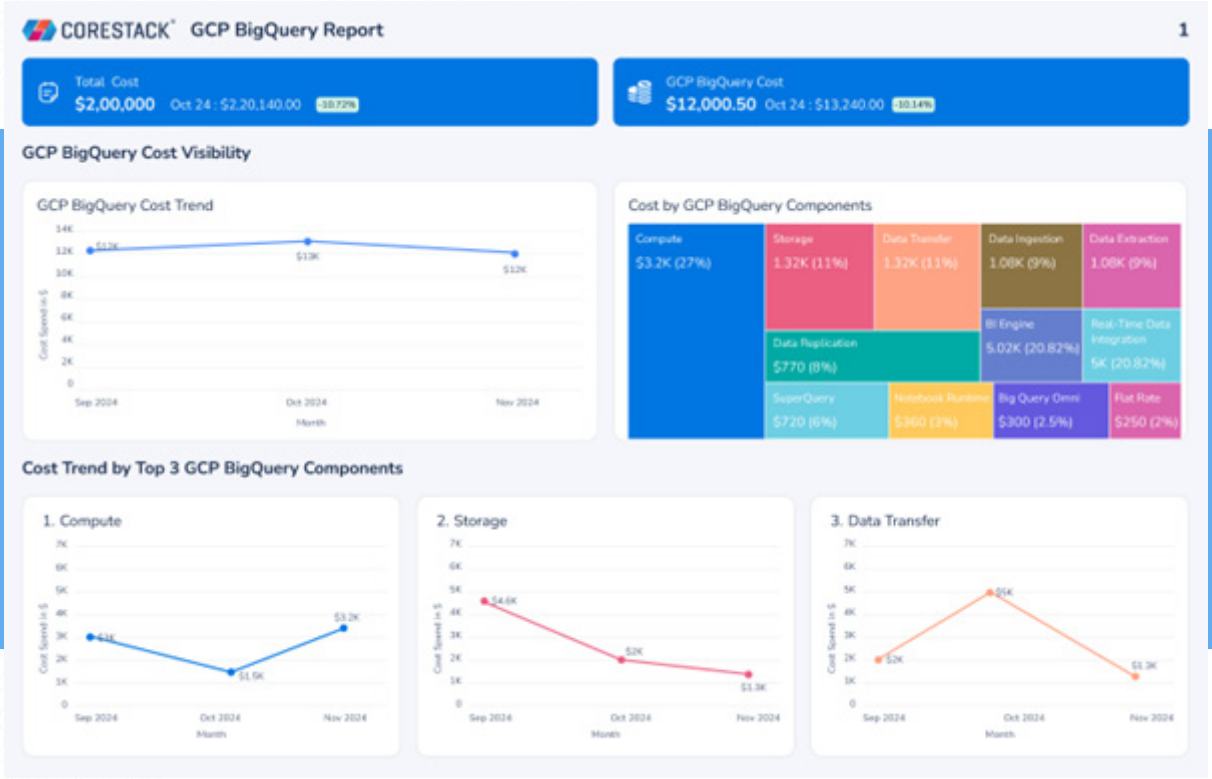
## Azure Data Factory

Cost insights for ADF provide Visibility into orchestration activity costs, cost trends by pipeline, and cost categories such as Orchestration Activity Run, Data Movement, and Pipeline Activity. Understanding costs by pipeline, including ownership, creates opportunities for actionable cost recommendations.




## GCP BigQuery

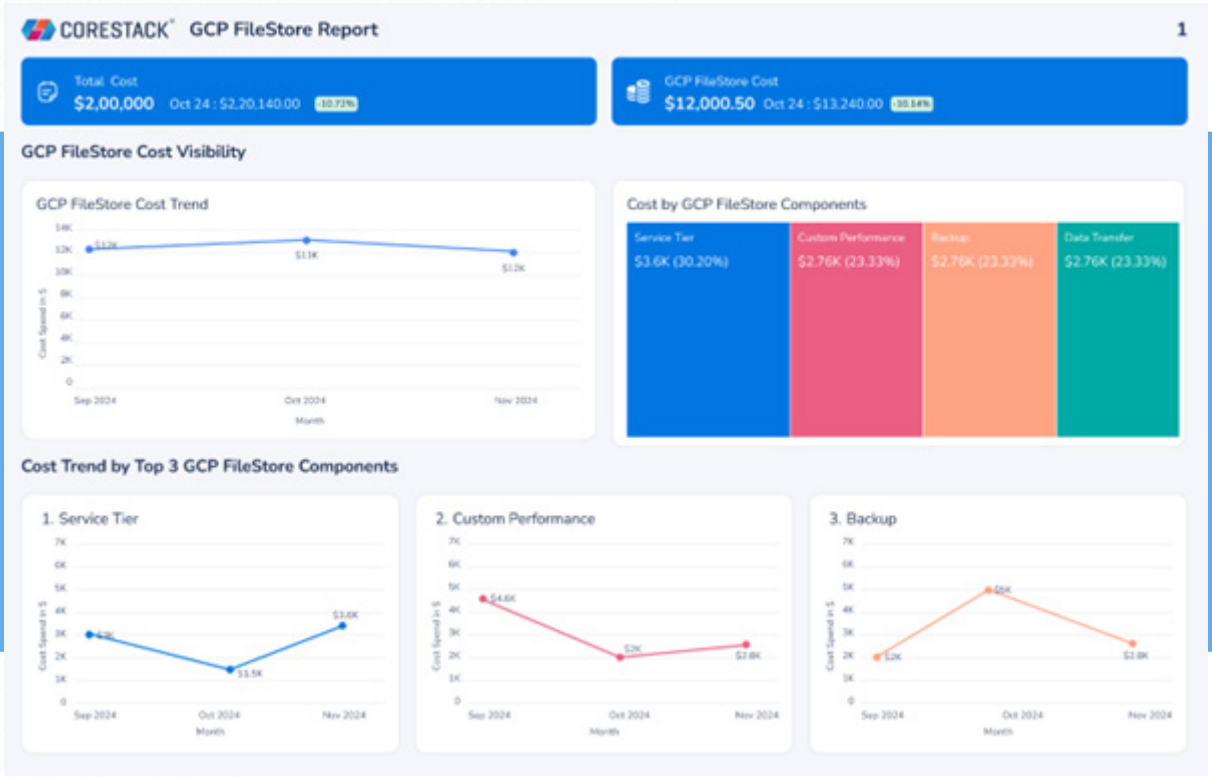
Insights for BigQuery provide Visibility into query execution costs, storage consumption, and cost trends by project, dataset, and user. It breaks down expenses into key areas such as Query Processing, Active Storage, and Long-term Storage. By understanding costs associated with each project, dataset, and workload, users can identify actionable opportunities for cost optimization, including query tuning, partitioning, and storage rightsizing.




## GCP FileStore

Insights for GCP Filestore offer Visibility into the costs and usage trends of network-attached storage by instance, as well as performance tier consumption. The analysis breaks down expenses into key categories, including Basic, High Scale, and Zonal/Regional Tiers, while also detailing the associated read/write throughput and provisioned capacity.

By understanding costs at the project, instance, and storage class levels, you can identify opportunities for optimization through strategies such as right-sizing, selecting appropriate tiers, and cleaning up unused or underutilized volumes.



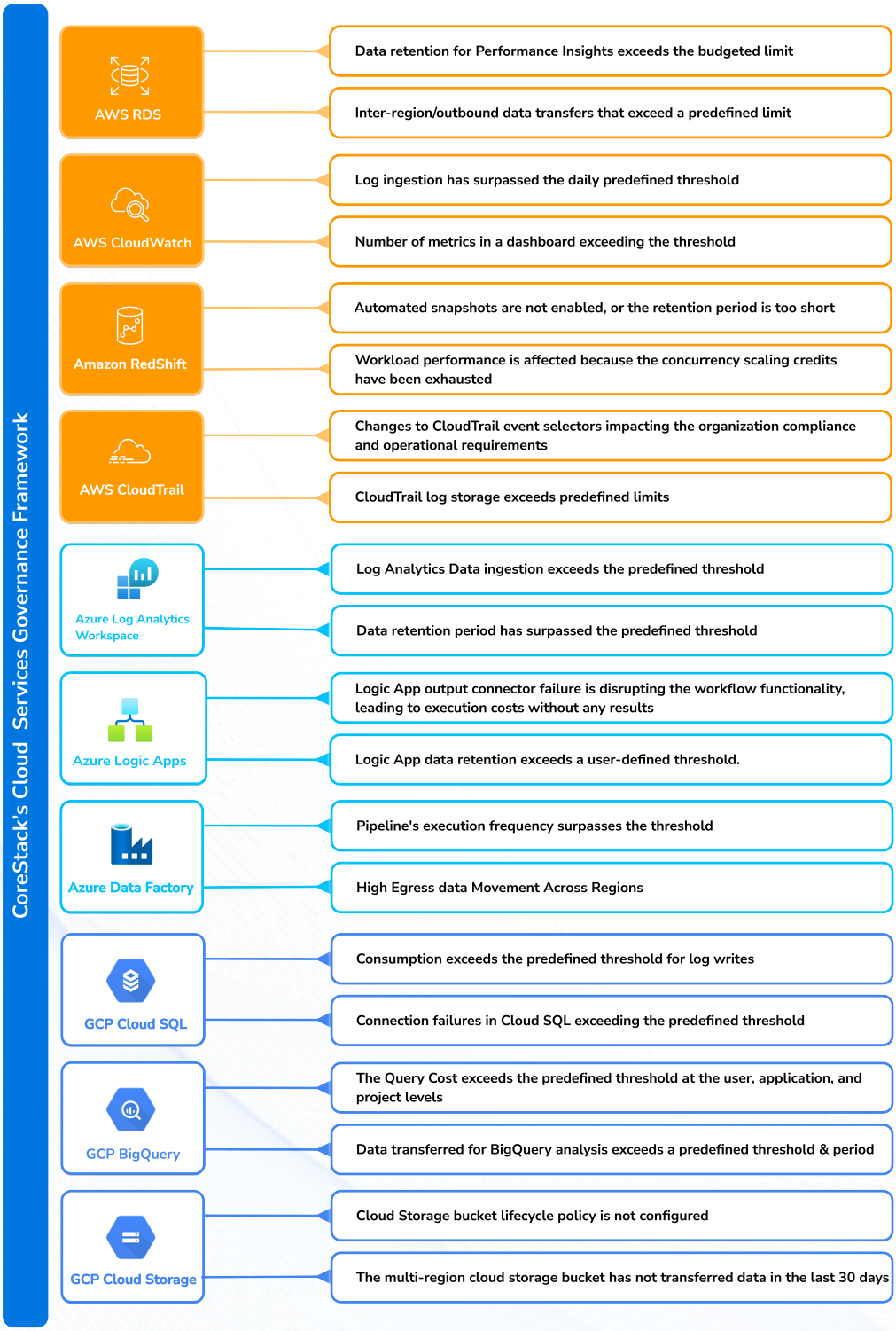

# Assessment

Implement an assessment framework and automated workflows to ensure adherence to best practices in security, cost management, and operational efficiency. Some examples of Cloud Services assessment scenarios include:

| | |
|---|---|
|  AWS Config | Narrow the scope of monitored resources to minimize unnecessary tracking and reduce costs by recording only essential resources for compliance. |
| | Adjust AWS Config rule evaluations to once every 24 hours to balance compliance with cost-efficiency and reduce operational overhead |
| | Modify the delivery frequency of AWS Config data to once every 24 hours to align with organizational needs, reduce data transfer and storage costs, and ensure timely updates. |
|  AWS Data Transfer | Assess data transfer paths, source-destination pairs, and cloud services bandwidth consumption to identify and optimize high-cost routes. Eliminating unnecessary inter-region and cross-AZ transfers helps reduce overall network expenses |
|  AWS CloudWatch | Conduct a comprehensive evaluation of CloudWatch alarms in alignment with architectural requirements for both development and production workloads. Remove redundant alarms associated with spot instances and refine alarm metrics to match each workload's specific needs and objectives. This improves monitoring efficiency and optimizes costs |
|  AWS NAT Gateway | Ensure each NAT Gateway is used only by resources within the same Availability Zone (AZ) to avoid unnecessary cross-AZ transfer costs. |
| | Route traffic to AWS services (like S3 and DynamoDB) through dedicated VPC Endpoints instead of NAT Gateways to reduce data processing charges. |
|  AWS CloudTrail | Narrow the range of logged data and use selective Read/Write types to reduce ingestion volume and associated costs |
| | Transition older logs to lower-cost storage classes (e.g., S3 Intelligent-Tiering or Glacier) and establish expiration rules to reduce storage costs while maintaining compliance |
|  AWS Glue | Identify AWS Glue jobs using G.2X workers that exhibit low memory and CPU usage. Downgrade these to G.1X workers to reduce costs without compromising performance. |
|  Azure Log Analytics | Set caps to prevent uncontrolled usage spikes and reduce the risk of unexpected costs. |
| | Limit retention to 90 days or less to reduce storage costs and retain only relevant data. |
| | Evaluate usage against the current tier and downgrade to a more cost-effective option or adopt a pay-as-you-go model if appropriate. |
|  Azure Data Factory | Adjust execution based on real-time data needs. For non-real-time data, reduce execution from every 5 minutes to hourly or daily. Use event-based triggers and delta loads for added efficiency. |
| | Minimize cross-region transfers by keeping data within the same region. Use efficient data formats like Parquet or ORC, and stage data in Azure Blob Storage to lower transfer costs and improve performance. |
|  Azure Event Hubs | Evaluate Dedicated, Premium, and Standard capacities, and optimize the tier based on actual usage and security requirements |
|  Azure Application Gateway | Consolidate backend targets across regions into a single Azure Application Gateway where possible. Remove unnecessary gateways to reduce operational costs and simplify infrastructure |
|  GCP CloudSQL | Consolidate Cloud SQL instances across regions where possible by identifying opportunities to merge workloads into fewer regional deployments. Remove unnecessary instances and cross-region replicas that do not serve active traffic or failover purposes to reduce operational costs and simplify database infrastructure. |
|  GCP FileStore | Identify underutilized or over-provisioned Filestore instances and recommend right-sizing or downgrading to a more appropriate storage class such as Basic HDD, Basic SSD, Enterprise, or High Scale to optimize costs and better align with workload requirements. |

# Guardrails

Implement proactive notifications to maintain control and address issues pre-emptively. Guardrails notifications should align with organizational governance policies and define thresholds for abnormal cost increases by business units, applications, and users. Some examples of guardrails scenarios include:



# AI-Powered NextGen Cloud Governance and Security

Our NextGen Cloud Governance portfolio transforms organizations from a reactive posture to a proactive one, enabling predictable increases in top-line revenues and bottom-line efficiencies. To get started or to learn more, visit **www.corestack.io** or reach out to us at **sales@corestack.io.**

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IDC

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Frost Radar: Leader, Global Hybrid Cloud Management

Deloitte. Technology Fast500

Deloitte Technology Fast 500 Winner

GeekWire

GeekWire 200 Winner

Inc. 5000

Inc. 5000 Winner

Inc. Best Workplaces

Inc. Best Workplaces Winner

CORESTACK®

CoreStack is an AI-powered NextGen Cloud Governance platform that enables enterprises to embrace cloud with confidence, rapidly achieving continuous and autonomous cloud governance at scale. CoreStack helps 750+ global enterprises govern more than $2B in annual cloud consumption. The company is a Microsoft Azure (Legacy), Gold Partner, Amazon AWS Technology Partner with Cloud Operations Competency, Oracle Cloud Build Partner, and Google Cloud Build Partner.