CirrusHQ

Cloud Governance: Driving Success and Security in the Cloud

EBOOK

aws partner network

Table of contents

Safeguarding your business means governing your cloud 3

Visibility: You can't govern what you can't see 4

Configuration: Setting the stage for success 5

Operations: Managing the processes that manage your cloud 6

Risk: Where governance meets the bottom line 7

Better together: Cloud governance takes all of us 8

Enabling a robust cloud governance strategy with CirrusHQ 9

Benefits of the AWS and CirrusHQ cloud governance approach 10

Case study: The Chartered Institute of Public Finance and Accountancy (CIPFA) 11

Cloud success and security start now 12

Safeguarding your business means governing your cloud

What do all these real-life situations have in common?

- A company discovered that customers' credit card data was posted in an unprotected notes field on a custom cloud-based application, violating PCI.
- A business learned that some of its valuable IP was visible on publicly accessible infrastructure.
- A company realized that it failed to protect a server with a password, leaving a database of customer information unprotected.
- An organization discovered a misconfiguration that left it open to data breach.

All of these organizations—and dozens more like them in a variety of industries, including highly regulated ones like finance and healthcare—had a cloud computing strategy that took advantage of cloud benefits, but left out a critical component: cloud governance.

In practical terms, a robust cloud governance strategy helps you run your business well and keep it safe, offering a level of protection against a number of avoidable risks: data breaches, intellectual property theft, damage to brand and reputation, and financial loss, as well as the risk of being out of compliance with mandates like PCI and HIPAA. In fact, Gartner, the leading IT research and advisory firm, predicts that "through 2025, 99% of cloud security failures will be the customer's fault."[1]

Creating effective cloud governance is a two-step process:

1. Understanding the four pillars of cloud governance: **visibility, configuration, operations, and risk.**
2. Developing best practices for **continuously monitoring, assessing, and optimizing** each of these.

Read on to learn how Amazon Web Services (AWS) and AWS Partners can help you create the cloud governance strategy you need to safeguard your business and drive your success.

[1] Gartner. "Is the Cloud Secure?" October 10, 2019.

What is cloud governance?

Cloud governance enables customers to define requirements for security, cost, and ongoing oversight of their cloud journey and ensure processes are optimized and consistently followed.

A robust cloud governance strategy helps you run your business well and keep it safe.

Visibility: You can't govern what you can't see

In terms of cloud governance, **visibility** means having an accurate, detailed, and up-to-date view of all the activity an organization has in the cloud. Practically speaking, that includes:

- Cloud assets such as applications, platforms, infrastructure, VPC, and buckets.
- AWS accounts
- Data stored in the AWS Cloud
- Roles and/or users and specific data they can access

Although this sounds straightforward, it's actually quite challenging, particularly in a hybrid or multi-cloud environment or in a distributed global organization with multiple users, departments, and groups. In these environments, it's especially easy for unmanaged IT to proliferate—which includes the use of IT-related hardware, software, and services by a department or individual without the knowledge of the organization's IT department or security group. By definition, unmanaged IT is invisible, and therefore ungovernable.

AWS services designed to support visibility across cloud environments can help.

Amazon GuardDuty is a threat detection service that continuously monitors for malicious activity and unauthorized behavior to protect AWS accounts, workloads, and data stored in Amazon S3.

Amazon Macie is a fully managed data security and data privacy service that uses machine learning and pattern matching to discover and protect sensitive data in AWS, something that becomes increasingly challenging as data volumes grow.

AWS Security Hub provides a comprehensive view of an organization's security alerts and security posture across AWS accounts by aggregating, organizing, and prioritizing security alerts or findings from multiple AWS services (including Amazon Macie) in a single place.

AWS CloudTrail allows users to log, continuously monitor, and retain account activity related to actions across the AWS infrastructure, providing a comprehensive event history that simplifies security analysis, resource change tracking, and troubleshooting.

More AWS visibility solutions:

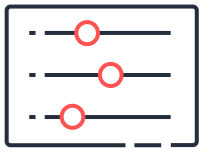
AWS Config

Amazon CloudWatch

Amazon API Gateway

AWS Partners also offer validated solutions that help organizations improve their cloud visibility, as well as manage configuration, operations, and risk. AWS Partners leverage and integrate with AWS services to build unique solutions that enable businesses to take full advantage of all AWS has to offer at every stage of their cloud journey.

Configuration: Setting the stage for success



What is a misconfiguration?

A misconfiguration is an incorrect or suboptimal configuration of an information system or system component that may lead to vulnerabilities.

When talking about cloud governance, **configuration** is most often thought of in terms of misconfiguration—errors or oversights in configuration that violate an organization's configuration policy or allow unintended behaviors that impact system security. A typical example involves user permissions and controls, where an unauthorized individual is inadvertently given access to sensitive data or the ability to make system changes beyond the scope of his or her responsibilities.

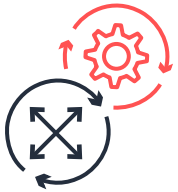
Misconfigurations also pose a major risk when it comes to meeting compliance mandates in regulated industries like healthcare and finance (for example, HIPAA and PCI) or complying with regulations like General Data Protection Regulation (GDPR).

A robust cloud governance strategy requires a process for finding, addressing, and tracking misconfigurations on a continuous basis to ensure compliance at scale. AWS services can help.

- The AWS Foundational Security Best Practices standard is a set of controls that detects when deployed accounts and resources deviate from security best practices. The standard provides actionable and prescriptive guidance on how to maintain and improve organizational security posture.
- AWS Config Conformance Packs provide a collection of AWS Config rules and remediation actions that can be easily deployed as a template to evaluate an organization's AWS environment.
- AWS IAM Access Analyzer helps organizations identify the resources or accounts, such as Amazon Simple Storage Service (Amazon S3) buckets or identity and access management (IAM) roles, that are shared with an external entity, uncovering instances of unintended access to resources and data.

Misconfigurations pose a major risk when it comes to meeting compliance mandates.

Operations: Managing the processes that manage your cloud



As companies scale up their investment in cloud computing, adding people, processes, and technology to the mix, it's not uncommon to find that the operations designed to manage those activities haven't kept up. Manual processes and homegrown solutions that once worked well become nearly impossible to manage and maintain at scale, opening the door to non-compliance and other risks.

A robust cloud governance strategy requires the development of automated processes that detect, report, and remediate operational issues. However, while these processes should be automated, remediation efforts should not. Instead, policies and prescriptive guidance should be developed that proactively prevent violations whenever possible. An effective approach integrates operational change management processes into DevOps workflows. This includes automated governance controls to ensure consistent compliance, as well as preventative guardrails in the deployment pipeline to limit non-compliant actions.

As you deploy policies and procedures to more effectively and securely manage your operations in the cloud, AWS can help.

AWS Systems Manager provides a unified user interface that allows organizations to view operational data from multiple AWS services and automate operational tasks across AWS resources. Systems Manager simplifies resources and application management, shortens the time to detect and resolve operational problems, and makes it easy to operate and manage infrastructure at scale.

AWS Control Tower provides the easiest way to set up and govern a secure, multi-account AWS environment, ensuring that all accounts conform to company-wide policies through built-in best practices.

AWS Organizations helps users centrally manage and govern their environment as they grow and scale AWS resources.

More AWS operations solutions:

- Amazon GuardDuty
- Amazon EventBridge
- AWS Security Hub
- Amazon API Gateway
- AWS CloudFormation

Manual processes and homegrown solutions become nearly impossible to manage at scale, opening the door to non-compliance and other risks.

Risk: Where governance meets the bottom line

When organizations think about cloud governance, the assessment, management, and mitigation of **risk** is often the first thing that comes to mind. But there are many different kinds of risks, ranging from data security, regulatory risk, financial risk, and shadow IT. What all these risks have in common is their potential to significantly damage your organization's financial position, compliance posture, customer confidence, and brand or reputation.

Processes are needed to find, address, and reduce security risks at scale. This includes optimizing cloud resources to reduce the likelihood of data breaches, system vulnerabilities, and errors in identity authentication and access management. In addition, artificial intelligence can increase visibility into critical events and provide real-time information to help manage risk.

AWS services can help assess, manage, and mitigate risk throughout the cloud.

AWS Audit Manager continuously audits AWS usage to simplify how organizations assess risk and compliance with regulatory standards. AWS Audit Manager automates evidence collection and enables audit capability in the cloud to scale as needed. AWS Audit Manager makes it easy for companies to assess whether their policies, procedures, and activities are operating efficiently.

AWS Config provides the means to assess, audit, and evaluate AWS resource configurations. AWS Config continuously monitors and records those configurations, automating the evaluation of recorded configurations against desired configurations. With AWS Config, organizations can review changes in configurations and relationships between AWS resources, dive into detailed resource configuration histories, and determine overall compliance against internal guidelines, simplifying compliance auditing, security analysis, change management, and operational troubleshooting.

Risks can be prevented and efficiently managed by employing a robust cloud governance strategy.

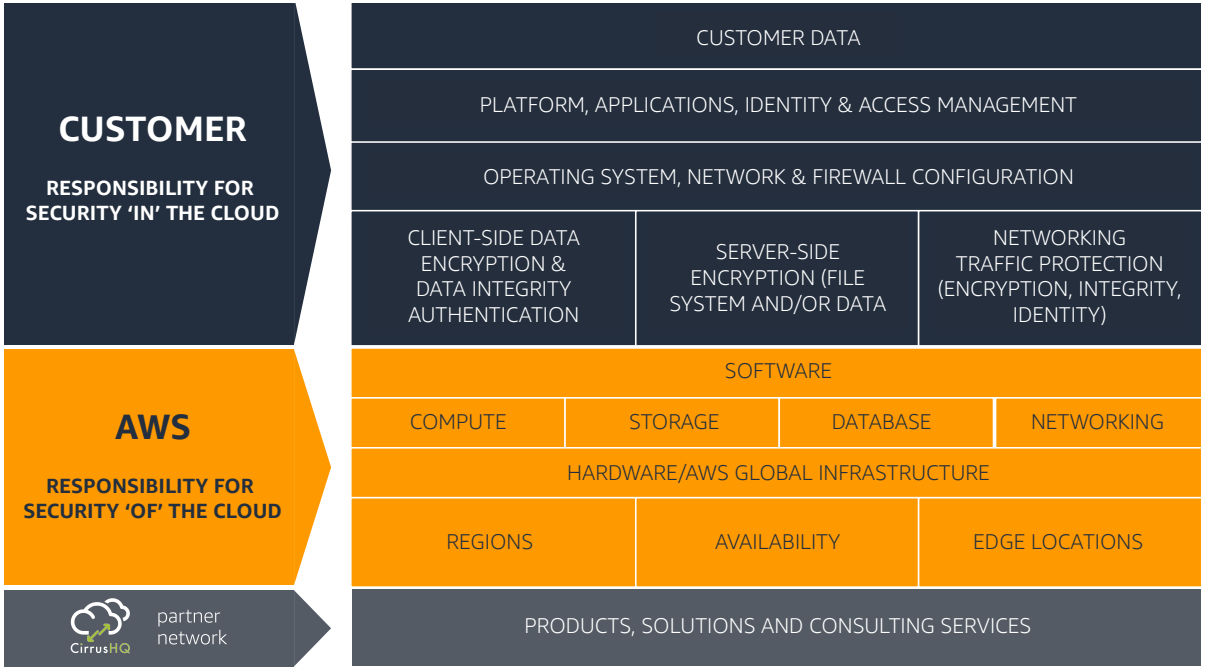
Better Together: Cloud governance takes all of us

Cloud governance is based on a shared responsibility model, in which both AWS and your organization share the responsibility for data security and compliance.

AWS is responsible for the security of the cloud. That means AWS is responsible for protecting the infrastructure that runs all of the services offered in the AWS Cloud, which includes the hardware, software, networking, and facilities that run AWS cloud services.

Your organization is responsible for security in the cloud. Your responsibility is determined by the AWS cloud services you select, which then determines the amount of configuration work you must perform as part of your security responsibilities. Your organization is responsible for:

- the security of your data
- platform, applications, identity, and access management
- operating system, network, and firewall configuration
- client-side, server-side, and networking traffic encryption and protection



When it comes to managing your portion of the AWS Shared Responsibility Model, you don't have to go it alone: AWS Partners provide complementary capabilities that help organizations meet their security and compliance responsibilities. Partners offer integration and support services that help throughout the migration process.

Enabling a robust cloud governance strategy with CirrusHQ Managed Services

We will help you create a robust cloud governance posture that helps you run your business well and keep it safe with our Managed Services.

Our Managed Services aim to reduce the expense, time and training of your own in-house support team with access to our widely skilled and certified expert engineers.

Our objective is to become your business partner to supplement your in-house expertise, and fully manage your AWS infrastructure, services and platforms, or work in partnership with, or augment, your existing IT teams.

But we know first-hand the huge potential that AWS Cloud deployments offer and it is our job to help you achieve the affordable, optimised AWS Cloud services. With robust Governance support as an integral part of our Managed Services we help ensure your organisation can effectively adopt a more agile operational model so you can react to an ever-changing economic environment.

Our mission is to enable organisations to innovate and grow in the AWS Cloud with our unique level of expertise, specialist accreditations, and leading customer care.

You're in good hands

1000's
Service 1000's of customer requests a month

+78
Outstanding Customer Satisfaction Levels: +78 NPS score (highly rated)

13 of 25
Operate in 13 of 25 AWS regions, supporting worldwide customers

10
10 AWS Partner Certifications

100%
AWS experts - exclusively AWS

50+
50+ staff Certifications

Benefits of a CirrusHQ & AWS cloud governance approach

We remove the complexity of managing your AWS Cloud Infrastructure so you can focus on what really matters; driving your organisation's objectives and strategic initiatives.

Organisations have relied on our Managed Services experience, expertise, and culture for over 14 years to help them grow in public, private and hybrid cloud.

Flexible services for scalable growth

Experience in small to highly scaled environments means our Managed Services can grow with you. We can help scale services cost-effectively adding or removing resources when required to support your growing organisation.

Do more with less

A flexible pricing model means our Managed Services can best fit your organisation's needs and budget so organisations of all sizes can aim for constant, seamless availability, reliable data protection and cybersecurity to ensure their organisation thrives – without unexpected IT strategy gaps or excessive, expensive service capabilities you won't use.

Accelerate your Cloud journey with funding support

We have access to internal AWS funding programs that can help or cover the cost of using new AWS services, deploying new projects or migration of a legacy platform.

Cloud Governance support

Create a robust cloud governance posture that helps you run your business well and keep it safe with our Managed Services.

Challenges we help address

- **Wasted spend**
- **Compliance with best practice**
- **Immediate response to service issues**
- **Working with 3rd Party partners**
- **Maintaining in-house expertise**
- **Managing multiple AWS accounts**
- **Ensuring 24/7 operations and out of hours response**
- **Ensuring appropriate Security for Cloud platforms**

Case study: The Chartered Institute of Public Finance and Accountancy (CIPFA)

The Chartered Institute of Public Finance and Accountancy (CIPFA) is a UK-based international accountancy membership and the only standard-setting body dedicated to public financial management.

Challenge

CIPFA provides its members and clients with many services including a suite of online training and qualifications services. CIPFA had a complex legacy IT estate, with their applications running on physical infrastructure hosted inside an MPLS network that impeded collaboration with third parties. The historical and continued growth of the legacy infrastructure had impacts on developing modern, flexible applications.

Solution

CirrusHQ migrated all legacy systems, following the four pillars of cloud governance, including re-factoring them for AWS, as well as ensuring that the base infrastructure landscape was in-line with current AWS best practice. CirrusHQ delivered CIPFA a single location for all the workloads in each phase and an AWS best-practice blueprint to rapidly move forward to maximise the benefits of AWS Cloud. CirrusHQ also ensured CIPFA has robust, secure building blocks needed to protect and build out the CIPFA brand and workloads upon.

Outcomes

CIPFA now has a robust, resilient environment that allows them to adopt modern practices and support their ambitious road-map for future Digital Transformation. The successful end result has met CIPFA's strategic future IT vision, to save time from managing physical hardware and gain more operational efficiency.

> We now have a robust, resilient environment that is decoupled from our corporate network infrastructure, that allows us to adopt modern practices, that eliminates single points of failure, and that will really support our roadmap for Digital Transformation going forwards.

Enterprise Architect
The Chartered Institute of Public Finance and Accountancy

Cloud success and security start now

Is your organization ready to take the next step on its cloud governance journey? Ask yourself:

- Do we have full visibility into our cloud infrastructure?
- Can we easily and effectively find and remediate misconfigurations?
- Do we have automated processes for managing cloud operations?
- Can we find, address, and reduce risks at scale?

Contact us to learn how we can help you manage your cloud governance strategy you need to safeguard your business .

cirrushq.com

CirrusHQ

aws

Advanced Consulting Partner

- AWS Well-Architected Framework
- AWS Public Sector Partner
- AWS Public Sector Solution Provider
- AWS Education Competency Partner
- Immersion Day Partner
- AWS Lambda Delivery
- DevOps Competancy Partner
- Amazon API Gateway Delivery
- Amazon Cloudfront Delivery

This message is produced and distributed by
CirrusHQ | CirrusHQ Ltd, 1 Eliburn Office Park, Livingston, West Lothian, EH54 6GR
https://www.cirrushq.com/privacy/