



AWS FOR MIGRATION

AWS Cloud Operations

A foundation for management, governance,
and innovation



INTRODUCTION

Enabling business agility and control with AWS Cloud Operations

Today, organizations are transforming to cloud technologies faster than ever. The public cloud market continues to grow exponentially year over year, along with IT budgets. Decision-makers who were initially hesitant to transform are now under pressure to accelerate their migration to the cloud. And for good reason: Cloud solutions eliminate the trade-off between speed of innovation and firm control over security, cost, and compliance. Now, organizations can have both.

A simple, secure path to cloud migration—without trade-offs

Many organizations assume a trade-off between cloud security and speed of innovation. But it's a misconception that you need to choose between governance and compliance on the one hand and agility and innovation on the other. Amazon Web Services (AWS) enables both, primarily because our management and governance tools—the foundation of AWS Cloud Operations—are built at cloud scale from the beginning, not adapted from manual on-premises legacy tools.

Understandably, organizations, especially enterprises, that are skeptical about cloud migration lack the assurance that having migrated, they will know how to operate in the cloud with security, visibility, control, and safety. AWS Cloud Operations enables enterprises to migrate and operate with confidence. No matter what stage you are at in your cloud journey, you can trust AWS to provide a secure and efficient foundation for cloud operations for your applications, workloads, and data centers.

With the growing amount and complexity of workloads, limited IT budgets, and an “on demand” marketplace, organizations are embracing cloud migration as inevitable and no longer if but when—the concern being how quickly and securely they can move. In short, AWS gives you the model and tools for cloud success. With AWS Cloud Operations, you can transform your organization to support advanced IT processes, modernize and migrate applications, and run your business effectively in the cloud, on premises, and at the edge.



The business value of cloud migration with AWS

Based on independent research of more than 1,000 AWS enterprise customers, migrating to the AWS Cloud delivered the following quantifiable benefits:

- **Cost savings**
51 percent lower cost of operations over five years
- **Staff productivity**
62 percent more efficient IT infrastructure staff
- **Operational resilience**
57 percent decrease in unplanned downtime
- **Business agility**
37 percent decrease in time to market
- **Sustainability**
88 percent reduction in IT carbon footprint

AWS makes it easy to set up a foundation for cloud operations: first, by creating a baseline with governance. Second, by deciding how much of your existing infrastructure and applications you want to keep and how much to migrate to the cloud. And third, by enabling you to manage your operations from a central hub that natively and seamlessly integrates your applications and resources for observability, compliance, and security.

PART 1: ENABLE

Simplifying the path to cloud migration

IT operations are at the heart of every organization. When it comes to cloud operations, organizations first need to define their desired business outcomes and then optimize IT for the cloud to achieve those outcomes. Setup and governance can be complex and time-consuming. Organizations need a fast route to cloud operations along with the assurance of security, control, and safety.

AWS Cloud Operations provides the solution by bringing together the people, process, and technology to enable efficient, cost-effective enterprise governance without impacting your speed of innovation. With AWS, setting up a foundation for cloud operations and creating a baseline with governance is simple and fast and requires no upfront infrastructure investments.

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Within five minutes, AWS Control Tower had begun creating a best-practice accounts structure, enabling security guardrails, and establishing governance controls for us. What previously took us weeks of effort was completed in about an hour.”

Ryan Matteson, Director of Systemwide Cloud Acceleration, California State University

Companies of every size have realized the benefits of building their cloud operations on AWS:

- Secure multi-account cloud setup in minutes
- Guardrails to provide ongoing governance for your AWS environment
- Continuous observability into your infrastructure and applications
- Best practices for operational efficiency
- Simplified, automated processes to help with compliance regulations
- Automated integrations with popular partner software

AWS will help you build a foundation for cloud operations that will position your team to successfully manage, monitor, and optimize your new cloud resources.

AWS Cloud Operations use cases

- Enterprise governance and control
- Configuration, compliance, and auditing
- Provisioning and orchestration
- Monitoring and observability
- Centralized operations management
- Cloud financial management



Package and deploy with speed and safety

Whatever strategy your cloud migration involves—lift and shift, building net new, or both—AWS provides a consistent set of tools and processes built to give customers the fastest, most secure route for their cloud adoption journey:

Assess

Determine cloud readiness for on-premises or hosted infrastructure and build a high-level business case for the migration.

Mobilize

Analyze the data provided during the assessment phase to identify dependencies and risks.

Migrate and modernize

After assessment and mobilization, implement the plan. Working with thousands of customers to migrate and modernize has helped us identify an approach to workload renovation and an integrated and automated development path depending on customers' desired outcomes.

Development

Whenever we talk to people about how we transformed our development practices, they want to know how they can do it themselves. And the good news is, they can, using the same tools that we built from experience.

Acting on data with real-time observability

More than ever, business decisions are driven by data. Real-time data that can drive real-time decisions is critical to being a resilient organization—one that can respond quickly to an ever-shifting marketplace. Downtime in applications and services can mean big costs and impact reputation. Organizations must have the ability to resolve issues quickly and maintain critical SLAs, such as availability, reliability, and latency.

As cloud adoption becomes more the rule than the exception, monolithic on-premises workloads are shifting to modern architectures. These are built on dynamically changing infrastructures such as Amazon Elastic Compute Cloud (Amazon EC2) Auto Scaling, container environments (Amazon Elastic Kubernetes Service (Amazon EKS), Amazon Elastic Container Service (Amazon ECS), and AWS Lambda, and IoT devices. As traffic scales up, compute power scales up along with it, resulting in massive amounts of data generated. Making sense of it all requires the ability to organize and explore tens of millions of different metrics—traditionally a difficult, time-consuming, and cost-intensive proposition.

AWS Cloud Operations provides a holistic, real-time view of your workloads, enabling you to monitor the health, performance, and availability of your applications in one location. With actionable insights across systems, customers can deliver better end-user experiences and optimize business outcomes.

In addition, observability can accelerate your migration by giving you visibility early in the process and confidence at every stage of your cloud journey. It can help you establish an on-premises baseline for performance improvements and cost savings, prioritize workloads for migration, and mitigate migration risks.

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You can look at Amazon CloudWatch to see traffic hitting and observe the environment spinning up, which provides more observability of the infrastructure.”

Sebastian Bonholt, Product Owner,
CHIP Digital GmbH, BurdaForward



If you use AWS Config rules, you can visualize which resources are compliant or noncompliant with your rules and share this data in compliance reviews...

Henrik André Olsen, Solutions Architect,
Topdanmark



AWS differentiates itself as a forward-thinking cloud vendor that understands enterprise concerns and works with regulators and customers to launch new features.

Tom Blomfield, CEO, Monzo

SECURITY, COMPLIANCE, AND AUDITING

Simplifying the complex business of security and compliance

The compliance landscape is complex, dynamic, and evolving rapidly. Organizations of all sizes must deal with internal regulations as well as external industry, national, and international regulations such as HIPAA, SOC, and PCI DSS. As such, they must always maintain robust security and compliance posture.

AWS Cloud Operations empowers organizations to improve their ability to meet core security and compliance requirements such as data locality, protection, and confidentiality. Processes are automated and centrally managed, making compliance implementation easier and faster. For example, audit reports can be generated with the click of a button, saving time so teams can shift their focus to business architecture and innovation.

Audit and remediate your resource configurations

AWS automates the setup of our core compliance services that help record and evaluate configurations of AWS resources. You can also track user activity and API usage for operational, security, and auditing purposes. AWS Cloud Operations gives you integrated, centralized risk and compliance management, enabling you to continuously log, monitor, and retain API activity in your AWS infrastructure and have a complete and accurate historical record of resource activity.

AWS keeps up to date with dynamic compliance changes around the world and creates thoughtful solutions that automate compliance and security processes for easier management. Our cloud operations model lets you leverage our best practices and ready-to-use templates, such as our conformance packs, to set up your compliance controls. Once you have your guardrails in place, you can detect and flag any suspicious app or API activity and take quick action.

In addition, AWS Cloud Operations enables you to share compliance and security status across your organization anytime from anywhere, fostering better collaboration between teams, increased developer productivity, and ultimately, better customer experiences.

With automated and centralized risk and compliance controls, you can save time and money, maintain and prove your compliance posture, and quickly resolve security incidents.

View, manage, and optimize everything from a central hub

AWS Cloud Operations provides comprehensive, real-time visibility of your cloud ops from a central hub, allowing you to monitor the health, performance, and availability of your applications in one place. Operating from one centralized, secure hub lets you activate capabilities that are natively and seamlessly integrated for observability, compliance, and security. Specifically, a central hub to manage your AWS resources enables you to:

- Quickly detect, investigate, and remediate problems and maintain application availability
- View and manage operational data, as well as automate tasks across resources
- Operate with best practices in observability, DevOps, compliance and security, fault tolerance, cost optimization, and performance
- View a resource group's recent API activity, configuration changes, related notifications, operational alerts, software inventory, and patch compliance status
- Leverage insights from AWS machine learning (ML) and AI tools to make critical decisions that can improve productivity, application performance, and resilience



Our use of AWS Systems Manager has saved hundreds of engineer hours per year by fully automating patch management and automatically fixing broken hosts."

Brian Scanlan, Principal Systems Engineer,
Intercom



By leveraging the security best practices of AWS, we've been able to eliminate a lot of compliance tasks that in the past took up valuable time and money."

Brian Mercer, Vice President, Cybersecurity,
Delaware North

Predict, manage, and optimize your IT costs

Cloud technology has changed and expanded the financial management needs of organizations. Given the variable nature of the cloud, enterprises can no longer rely on traditional IT financial management processes and monolithic applications. They must adapt modern tools that can scale on an as-needed basis and help them:

Plan

Set expectations around cloud costs for projects and applications

Run

Make it easier for all roles in the organization to manage and control costs

See

Deliver more actionable cost insights and optimization opportunities

Save

Continuously optimize spend based on actual and planned usage

Supporting customers operating at scale with AWS:

4Q

4 quadrillion metric observations per month

5B

5 billion configuration checks per month

10M

10 million instances managed per week

500B

500 billion API events audited per day

AWS Cloud Operations helps companies optimize their financial management by adapting traditional processes to a cloud-ready environment:

Planning and evaluating

Improve planning to create accurate forecasting of variable usage.



For us, the ability to forecast our expenditure without worrying about unexpected bills is a huge relief. The AWS Cost Explorer tells us exactly where our money is going and what we can do to reduce costs further.”

Dean Jezard, CTO and Co-Founder, Tigerspike

Managing and controlling

Centralize billing, automate cost governance, and streamline procure-to-pay process.



Securing executive sponsorship and establishing a three-way partnership between Finance, Technology Groups, and IT was critical to our cost management efforts.”

Sveta Shandilya, Head of IT Planning, Rubrik

Organizing and reporting

Understand and track cost and usage in a way that makes sense for the business.



Using the AWS Cost & Usage Report and our own analytics, we provided more transparency around cloud spend. Our notifications definitely helped create more cost-aware consumption.”

Clayton Myers, VP of Technology, MicroStrategy

Optimizing and saving

Continuously optimize spend with tailored savings recommendations.



After going live, we started monitoring the utilization of our resources and fine-tuned the infrastructure sizing. This resulted in an additional 20 percent reduction in our initially provisioned infrastructure versus what we forecasted. This was simply not possible in our on-premise environment.”

Ankur Jalpota, Global Head, Wipro

CONCLUSION

Final notes

AWS: Supporting your cloud migration at any level

AWS Cloud Operations offers a clear and easy path to the business outcomes you want to achieve—from financial management guardrails to risk management to continuous governance improvement and beyond. Wherever you are in your migration, AWS solutions can help you remove barriers and be cloud-ready quickly. By adopting AWS Cloud Operations, you can speed up innovation while balancing governance, compliance, and financial management. For customers who do not want to manage operations, AWS Managed Services can manage them for you, giving you more time to advance innovation and business growth.

In addition, our more than 100,000 AWS Partners worldwide, AWS Training and Certification team, AWS Professional Services, AWS Support, and the Amazon Marketplace are all part of the broader AWS community that can support you in modernizing to a cloud environment—one that gives your organization unprecedented control along with innovation-driving agility. Just choose the level of help you need, and our AWS community will get you started.

Learn more about how to improve your operational agility and governance posture with AWS Cloud Operations ›