

Choosing an AWS cost management strategy



Choosing an AWS cost management strategy: AWS Decision Guide

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Choosing an AWS cost management strategy

Taking the first step

Purpose	Help determine which cost management services and tools are the best fit for your needs.
Last updated	June 18, 2024
Covered services	<ul style="list-style-type: none">• AWS Application Cost Profiler• AWS Billing Conductor• AWS Billing Console• AWS Budgets• AWS Budget Actions• AWS Compute Optimizer• AWS Consolidated Billing• AWS Cost Anomaly Detection• AWS Cost Categories• AWS Cost Explorer• AWS Cost and Usage Report• AWS Cost Optimization Hub• AWS Organizations• AWS Pricing Calculator• AWS Purchase Order Management• Amazon EC2 Reserved Instances• AWS Savings Plans• Amazon EC2 Spot Instances• Amazon S3 Intelligent Tiering• Migration Evaluator

Introduction

Cost management and optimization in the cloud are important for businesses of all sizes. An effective cost management strategy ensures that you only pay for what you need and that you maximize the return on your cloud investment.

With cloud services, costs are dynamic and can escalate if not monitored closely. Financial planning, coupled with a clear understanding of the cost models for each service that you use, lets you allocate resources strategically, aligning spending with your business goals. This includes choosing the right pricing models, such as pay-as-you-go or reserved instances, and using auto-scaling to match resource provisioning with actual demand.

We offer services and tools to help you with cost management and optimization, including resources to organize and track your cost and usage data, improve control (through consolidated billing and access permission), enable better planning (through budgeting and forecasts), and further lower your costs by making use of the right resources and pricing optimizations.

This decision guide will help you ask the right questions, evaluate your criteria, and determine which cost management services and tools are the best fit for your needs.

[Seven-minute clip from re:Invent 2023 explaining how to improve AWS cost reporting.](#)

Understand

AWS cost management strategy can be broken down to several key areas:

Plan and evaluate: When planning for future cloud spend, start by defining your key performance indicators (KPIs), such as the monthly cost of a specific project. Make sure that cloud resources related to a project are properly tagged with cost allocation tags, cost categories, or both. Then, calculate and track the monthly cost of the project with the cost and usage data available in your AWS Cost Explorer and AWS Cost and Usage Report.

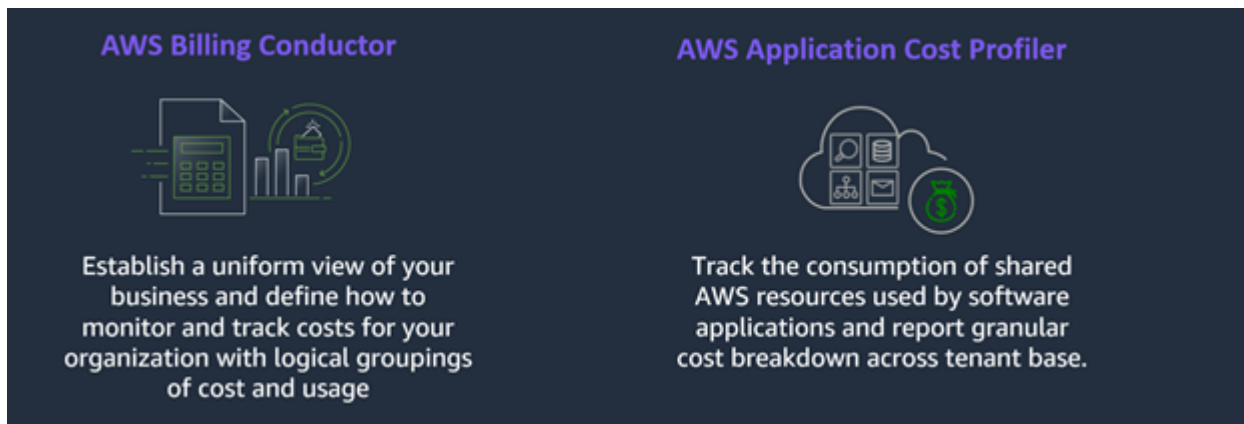


Decide the project budget based on the trend shown by your KPIs, as well as the available funds set aside for the project, and set the budget thresholds using AWS Budgets for cost or resource usage.

Manage and control: As your organization evolves, you need the freedom to experiment and innovate in the cloud, while maintaining control over cost, governance, and security. One way to do that is to establish centralized ownership through a center of excellence or cloud business team. While elements of cost management are shared responsibilities across the entire organization, a centralized team can design policies and governance mechanisms, implement and monitor the effort, and help drive best practices.

This team can be supported by services such as [AWS Identity and Access Management \(IAM\)](#) and [AWS Organizations](#).

Use the [AWS Billing Console](#) to track your overall spend, and to view your cost breakdown by service and by account on your billing dashboard.



Track and allocate: Tracking spending and allocating that spending to the right team can be vital to effective cost optimization. It's useful to know when you're spending more than you planned, but even more useful when you can clearly identify where that spending is happening. We offer several tools to help you get started.

AWS Cost Explorer (when paired with Cost Allocation Tags) lets you categorize your resources and spending to fit your organization's needs, while AWS Billing Conductor lets you customize your pricing and billing report to aligns with your business logic. AWS Application Cost Profiler lets you collect and correlate your tenant usage data with your AWS billing information and generate a tenant-specific report with hourly granularity on a daily or monthly basis, or both.

Optimize and save: Cost optimization is about making sure that you pay only for what you need. Two of the more useful strategies for optimizing spending are:

- **Using the right pricing models.**
- **Identifying and eliminating any idle or over-provisioned resources.** Use [AWS Cost Explorer](#) resource recommendations to see top-level KPIs for rightsizing and instance selection recommendations.

Focus on these four areas to manage your AWS costs more effectively, maintain financial control, and optimize your cloud operations for maximum efficiency and value.

Consider

The following section outlines some of the key criteria to consider when choosing a cost management strategy, as well as supporting tools and services.

Business goals and priorities

How you manage the costs of your cloud investment depends on what you're trying to do, as well as how you're tracking performance. If your organization is in a growth phase, then your KPIs may be all about market share and customer growth, and how you get the best return on investment. If your focus is on reducing operating costs, then you will concentrate more on achieving the right balance between spending and delivering for your customers.

Set your budget based on the trend shown by your KPIs, as well as your available funds. Then, set the budget thresholds using [AWS Budgets](#) for cost or resource usage and to set utilization or coverage targets for your [Reserved Instances](#) (RIs) and [Savings Plans](#).

Monitor how the budget portfolio is progressing in your AWS Budgets Reports dashboard, and create notification alerts, which will be sent whenever cost and usage either reach your forecasts or exceed your threshold limits.

Budget policy and control

One key strategy for controlling cost is to have control over which services can be used by which members of your organization. If you need this kind of access control, use [IAM](#) to securely control individual and group access to your resources. This involves being able to create, manage, and grant permissions to IAM users to let them access the appropriate resources for their role and location. Use [AWS Organizations](#) to enable more automatic policy-based account creation, management, and billing at scale.

Budget target tracking

It's useful to get alerts that let you know if you've exceeded your budget, but it's even more useful to be able to determine what is causing your bill to exceed your budget. We provide an out-of-the-box solution, [AWS Cost Explorer](#), to help show which AWS services are increasing spend.

You will also want to know which parts of your organization, teams, or divisions drove increased spend and usage. AWS Cost Explorer can be combined with Cost Allocation Tags to let you categorize your resources and spending.

Detailed reporting

When you have multiple users working with multiple AWS services, it is important to get detailed reporting if you want your cost management strategy to scale with your usage. Use the billing dashboard on the [AWS Billing Console](#) to track your overall spend, and view your

cost breakdown by service and account, get a unified view of spend in a single bill, and establish rules for how to organize costs, as well as share discount benefits associated with RIs and Savings Plans.

Business logic alignment

It's not just about the numbers. Your cost optimization strategy also needs to align with the logic of your business. [AWS Billing Conductor](#) lets you customize your AWS pricing and billing report to provide that alignment with your business logic. To help address your cost allocation needs, group accounts according to their financial relationships, adjust ratings, share credits and savings, or add overhead costs.

AWS Billing Conductor also allows you to customize a second, alternative version of your monthly billing data. This alternative version models the billing relationship between you and your customers or business units, but doesn't change the way that you're billed by AWS. Using the alternative version provides you with a mechanism to configure, generate, and display rates to certain customers over a given billing period. Analyze the difference between the rates that you apply to your groupings, relative to the actual rates for those same accounts from AWS.

Pricing model

Customers with predictable, steady workloads on Amazon EC2, Amazon SageMaker, and Amazon RDS should consider [RIs](#) to save up to 75% over equivalent on-demand capacity. RIs are available in three options. To maximize your savings, when you buy RIs, the larger the up-front payment, the greater the discount. Partial up-front RIs offer lower discounts, but give you the option to spend less up front. Lastly, you can choose to spend nothing up front and receive a smaller discount, this lets you free up capital to spend in other projects.

We offer Reserved Instance and Savings Plan purchase recommendations through [AWS Cost Explorer](#), based on your past usage. AWS Cost Explorer identifies and recommends the commitment value that it estimates will result in the largest savings.

Rightsizing services

Another key element of cost management is identifying and eliminating any idle or over-provisioned resources. [AWS Cost Explorer](#) resource recommendations let you view top-level key KPIs for rightsizing and instance selection recommendations.

These recommendations identify idle and underutilized instances, and search for smaller instance sizes in the same instance family.

Choose

Now that you know the criteria by which you will be evaluating your cost management options, you are ready to choose which AWS cost management service may be a good fit for your organizational requirements.

The following table highlights which services are optimized for which circumstances. Use the table to help determine the service that is the best fit for your organization and use case.

Service category	What is it optimized for?	Cost management services
Plan and evaluate	Services optimized for improving planning, to create accurate forecasting of variable usage.	
	Helps you create a directional business case for AWS Cloud planning and migration.	<u>Migration Evaluator</u>
	Provides a free web-based planning tool for creating cost estimates for using AWS services.	<u>AWS Pricing Calculator</u>
	Provides improved planning and cost control with flexible budgeting and forecasting.	<u>AWS Budgets</u>
	Helps you centrally govern your AWS environment as you grow and scale on AWS.	<u>AWS Organizations</u>
Manage and control	Services optimized to provide centralized billing, automatic cost governance, and a streamlined procure-to-purchase process.	

Service category	What is it optimized for?	Cost management services
	Provides a dashboard to track overall spend, and view cost breakdown by service and account.	AWS Billing Console
	Helps you to configure multiple purchase orders (POs), define how POs are mapped to their invoices, and access invoices generated against those POs.	AWS Purchase Order Management
	Provides functionality to run an action when a budget exceeds a certain cost or usage threshold, either automatically or after manual approval.	AWS Budget Actions
	Helps you use machine learning models to detect and alert on anomalous spend patterns in your deployed AWS services.	AWS Cost Anomaly Detection
	Consolidates billing and payment for multiple AWS accounts, allowing shared volume discounts across all accounts.	AWS Consolidated Billing
Track and allocate	Services optimized to track and analyze cost trends and drivers in aggregate.	

Service category	What is it optimized for?	Cost management services
	Provides visualization of cost and utilization with default reports, and creates specific views with filters and grouping.	AWS Cost Explorer
	Delivers cost and usage data to an S3 bucket where it can be integrated into other AWS tools or ERP for further analysis.	AWS Cost and Usage Report
	Group accounts, tags, services, and charge types into meaningful categories with custom rules.	AWS Cost Categories
	Supports the showback and chargeback workflows of AWS Solution Providers and Enterprise customers.	AWS Billing Conductor
	Track the consumption of shared AWS resources used by software applications, and to report granular cost breakdown across your tenant base.	AWS Application Cost Profiler
Optimize and save	Services optimized for resource right-sizing, reserve capacity planning, and data transfer and storage optimization.	

Service category	What is it optimized for?	Cost management services
	Provides a flexible pricing model that can help reduce your bill by up to 72% over on-demand prices.	Savings Plans
	Offers a billing discount that provides savings on EC2 costs compared to on-demand instance pricing.	Amazon EC2 Reserved Instances
	Recommends optimal AWS compute resources for your workloads, helping you reduce costs and improve performance.	AWS Compute Optimizer
	Provides EC2 instances that use spare EC2 capacity that is available for less than the on-demand price.	Amazon EC2 Spot Instances
	Optimizes storage costs by automatically moving data to the most cost-effective access tier when access patterns change.	Amazon S3 Intelligent-Tiering
	Provides you with a comprehensive view of your cost optimization recommendations across your AWS Regions and AWS accounts within your organization.	AWS Cost Optimization Hub

Use

You should now have a clear understanding of what each AWS cost management service (and the supporting AWS tools and services) does—and which might be right for you.

To explore how to use and learn more about each of the available AWS cost management services, we have provided a pathway to explore how each of the services work. The following section provides links to in-depth documentation, hands-on tutorials, and resources to get you started.

AWS Billing Conductor



Getting started with AWS Billing Conductor

Learn how to create billing groups, pricing configurations, and custom line items in AWS Billing Conductor.

[Explore the guide](#)



Getting Started with AWS Billing Conductor

Learn how to customize billing data and reporting in a way that aligns with your unique business logic.

[Read the blog](#)



Best practices for AWS Billing Conductor

Explore best practices when working with AWS Billing Conductor.

[Explore the guide](#)

AWS Budgets



Best practices for AWS Budgets

Explore best practices to use when working with AWS Budgets.

[Explore the guide](#)



Getting Started with AWS Budgets

Learn how to use AWS Budgets to set a custom cost budget that tracks your costs at a monthly level, and to configure alerts that will notify you when your user-defined spend thresholds are reached.

[Explore the blog](#)



Control your AWS costs

Learn how to control your costs while exploring AWS service offerings using the AWS Free Tier, and how to use AWS Budgets to set up a cost budget to monitor usage.

[Get started with the tutorial](#)

Compute Optimizer



Getting started with AWS Compute Optimizer



Rightsizing recommendation preferences

Learn how the rightsizing recommendation feature allows you to customize the settings

Learn how to access the AWS Compute Optimizer for the first time, covering how to opt in your accounts.

[Explore the guide](#)



AWS Graviton-based instance recommendations

Learn how to view the price and performance impact of running your workload on AWS Graviton-based instances.

[Explore the guide](#)

you want Compute Optimizer to consider when generating Amazon EC2 and Auto Scaling group instance recommendations.

[Explore the guide](#)

Cost Explorer



Getting started with Cost Explorer

Explore how to get started with Cost Explorer from the AWS Cost Management Console.

[Explore the guide](#)



Exploring your data using Cost Explorer

Discover how to see your estimated costs for the month to date, your forecasted costs for the month, a graph of your daily costs, your five top cost trends, and a list of reports that you recently viewed.

[Explore the guide](#)



Exploring more data for advanced cost analysis

Learn how to enable multi-year data (at monthly granularity) and more granular data (at hourly and daily granularity) for the previous 14 days.

[Explore the guide](#)

Forecasting with Cost Explorer

Learn how to create a forecast, a prediction of how much you will use AWS services over the forecast time period that you selected.

[Explore the guide](#)

RI Reporting



Getting started with Amazon EC2 Reserved Instances

Dive deeper into the details of how RIs work.

[Explore the guide](#)



Reserved Instance (RI) Reporting FAQs

Get answers to frequently asked questions about reserved instance reporting and recommends best practices.

[Explore the FAQs](#)



Accessing Reserved Instance Recommendations

If you enable Cost Explorer, you automatically get Amazon EC2, Amazon RDS, ElastiCache, OpenSearch Service, Amazon Redshift, and Amazon MemoryDB Reserved Instance (RI) purchase recommendations that could help you reduce your costs. Learn how to use those recommendations.

[Explore the guide](#)

Savings Plans



Getting started with Savings Plans

Learn how to get started with optimizing your AWS costs with Savings Plans.

[Explore the guide](#)

Developing a compute Savings Plan

Explore the overview of Savings Plan for Amazon EC2, AWS Fargate, and AWS Lambda.

[Explore the guide](#)

Savings Plans FAQs

Get answers to frequently asked questions about Savings Plans.

[Explore the FAQs](#)

Amazon EC2 Spot Instances



Getting started with EC2 Spot Instances

Learn how to get started with optimizing your AWS costs with EC2 Spot Instances.



Best practices for EC2 Spot Instances

Learn the best practices for utilizing EC2 Spot Instances to save up to 90% over on-demand instances.

[Explore the guide](#)

[Explore the guide](#)



Spot Instance pricing history

Learn how pricing history works—and provides links to the latest pricing options.

[Explore the guide](#)

S3 Intelligent Tiering



How S3 Intelligent-Tiering works

Dive deeper into how S3 Intelligent-Tiering works.

[Explore the guide](#)



Using S3 Intelligent-Tiering

Learn how to move data to S3 Intelligent-Tiering.

[Explore the guide](#)

Explore

Patterns

Explore patterns to help you develop your AWS cost management strategy.

[Explore patterns](#)

Whitepapers

Explore whitepapers to help you get started in developing your cost management strategy.

[Explore whitepapers](#)

Solutions and guidance

Explore additional architectural guidance for cost management.

[Explore guidance](#)

Document history

The following table describes the important changes to this decision guide. For notifications about updates to this guide, you can subscribe to an RSS feed.

Change	Description	Date
Guide updated	Numerous editorial changes throughout.	June 18, 2024
Initial publication	Guide first published.	December 18, 2023