

AWS Compute Optimizer

AWS Compute Optimizer is a service that analyzes the configuration and utilization metrics of your AWS resources. It reports whether your resources are optimal, and generates optimization recommendations to reduce the cost and improve the performance of your workloads.

Compute Optimizer also provides graphs showing recent utilization metric history data, as well as projected utilization for recommendations, which you can use to evaluate which recommendation provides the best price-performance trade-off.

You can also view findings and recommendations across multiple accounts, if you opt in the management account of an organization. The findings from the service are also reported in the consoles of the supported services, such as the Amazon EC2 console.

Compute Optimizer generates recommendations for the following resources:

- Amazon Elastic Compute Cloud (Amazon EC2) instances
- Amazon EC2 Auto Scaling groups
- Amazon Elastic Block Store (Amazon EBS) volumes
- AWS Lambda functions
- Amazon Elastic Container Service (Amazon ECS) services on AWS Fargate

Metrics Analyzed by AWS Compute Optimizer:

The AWS Compute Optimizer analyzes CloudWatch metrics of EC2 instances and monitors the following metrics for free:

- **CPU utilization:** This metric determines the percentage of allocated EC2 compute units.
- **Memory utilization:** This metric determines the amount of memory that has been used over a period of time.
- **Network in:** This metric identifies the number of bytes that have been received on all network interfaces.
- **Network out:** This metric identifies the number of bytes that have been sent out on all network interfaces.
- **Local disk I/O:** This metric represents the number of I/O operations for the local disk.

Compute Optimizer Rightsizing Insights

Initially, Compute optimizer supported only recommendations for EC2 and ASG, but recently AWS has started supporting EBS volumes and Lambda function configurations.

The rightsizing recommendations come in two forms of recommendations:

- **Downsizing-** These recommendations are given for over-provisioned instances and are intended to reduce the cost of underutilized instances.
- **Upsizing-** These recommendations are given for under-provisioned instances and are intended to improve performance.

Compute optimizer provides the price difference for each recommendation, up to three different options for each rightsizing recommendation, and the performance risk score associated with each suggested infrastructure change.

- **Elastic Compute Cloud (EC2) recommendations-** Compute optimizer provides recommendations for changing EC2 instance types from 140+ EC2 instance types.
- **Auto Scaling Groups (ASG) Recommendations-** Similarly to individual instances, the service provides recommendations for changing the ASG instance type.
- **EBS volumes-** EBS recommendations consist of two components, a recommended volume type (SSD/ HDD) and a recommended storage size.
- **Lambda function configuration-** Compute optimizer provides recommendations for reconfiguring the configured memory for each Lambda function.