Optimize Cloud Spend with Commitment-Based Discounts

Why use VMware Tanzu CloudHealth?

- Determine what commitments to make
- Analyze discount usage and coverage over time
- Exchange and optimize purchases
- Plan for future commitments

The challenge

Leading cloud providers offer flexible pricing and discount structures that help organizations optimize rates while using their services. Purchasing commitment-based discounts is one of the most effective ways to optimize your cloud spend. But many organizations get caught up in the complexity of managing commitment-based discounts due to the number of options available and the limited resources at their disposal for optimization. This challenge is compounded by the fact that each cloud provider has different offerings with their own terms.

What are commitment-based discounts?

In the simplest of terms, if you commit to using a certain amount of a cloud provider's services or to spending a certain amount of money on services, the cloud provider will give you a discounted rate on those services. These billing discounts apply automatically to eligible resources and services, effectively reducing the rate you pay for them.

AWS Reserved Instances

Amazon Web Services (AWS) was first to offer commitment-based discounts, announcing Amazon Elastic Compute Cloud (EC2) Reserved Instances (RIs) back in 2009. Standard RIs offer up to 72 percent off on-demand prices but only apply to EC2 instances for a specified family, OS and tenancy. In 2016, Amazon introduced Convertible EC2 RIs, which are more flexible than the Standard version. Convertible EC2 RIs can be exchanged for a different family, OS or tenancy, and still offer up to 66 percent off on-demand prices.

AWS customers can now purchase reservations for a variety of services, including Amazon Relational Database Service (RDS), Amazon ElastiCache, Amazon OpenSearch Service, Amazon Redshift, and Amazon DynamoDB. Flexible payment terms are also available, with greater discounts on three-year commitments (compared to one-year commitments) and when more money is paid upfront. AWS offers all upfront, partial upfront, and no upfront payment options.

For an in-depth look at AWS commitment-based discounts, read our white paper: The Ultimate Guide to AWS Reserved Instances and Savings Plans.

AWS Savings Plans

AWS introduced Savings Plans at the end of 2019, bringing a simpler cost savings offer into the mix. Though both RIs and Savings Plans offer a discount in exchange for a commitment, the difference between RIs and Savings Plans is what you commit to. When you buy a Reserved Instance, you commit to a certain amount of usage of a specific resource. But when you buy a Savings Plan, you commit to spending a certain amount of money per hour on a specified resource.

Savings Plans provide more flexibility than Reserved Instances while offering similar cost savings (up to 72 percent). Because of this, some speculated that RIs would phase out and be replaced by Savings Plans. However, AWS Savings Plans are currently only available for compute services, they can't be sold on a marketplace if unused, and they provide no capacity guarantees. So, while Savings Plans have become extremely popular, RIs aren't going away any time soon.

Table 1: AWS reservable services

Reserved Instances[1]	Savings Plans[2]
• Amazon EC2 • Amazon RDS • Amazon ElastiCache • Amazon OpenSearch Service • Amazon Redshift • Amazon DynamoDB	• Amazon EC2 • AWS Lambda • AWS Fargate, including Amazon Elastic • Container Service (ECS) and Amazon Elastic • Kubernetes Service (EKS) • AWS SageMaker

Azure Reservations

Microsoft Azure also offers commitment-based discounts called Azure Reservations. Like AWS RIs, Azure Reservations can be purchased for one- or three-year terms. Azure Reserved Virtual Machine (VM) Instances have an estimated cost savings of up to 72 percent (80 percent when combined with the Azure Hybrid Benefit). Azure Reservations can be paid for in full upfront or in monthly installments. Unlike AWS, there is no difference in savings if you pay upfront or pay as you go. Azure Reservations can be scoped to cover a single resource group, a single subscription, or shared across subscriptions in a management group or billing context. Azure Reservations can be exchanged, and Microsoft allows you to return reservations at any time during the term for an adjusted refund.

1. Amazon Web Services. "Amazon EC2 Reserved Instances and Other AWS Reservation Models." March 2021.
2. Amazon Web Services. "Savings Plans User Guide." Version 1.0. August 2020.

Azure Savings Plans

In October 2022, Microsoft introduced Azure savings plans. Like AWS Savings Plans, Azure savings plans require a commitment to a certain amount of spend per hour and can be purchased for one- or three-year terms. Azure savings plans are available for select compute services and offer up to 65 percent off pay-as-you-go prices. Like Azure Reservations, Azure savings plans can be paid for all upfront or in monthly installments, and the savings are the same no matter which way you pay.

Table 2: Azure reservable services

Azure Reservations	Azure savings plans
• Azure App Service • Azure App Service – JBoss EAP Integrated Support • Azure Backup • Azure Cache for Redis • Azure Data Factory • Azure Database for MariaDB • Azure Database for MySQL • Azure Database for PostgreSQL • Azure Blob Storage • Azure Files • Azure VMware Solution • Azure Cosmos DB • Azure SQL Edge • Azure Databricks • Azure Data Explorer • Azure Dedicated Host • Azure Disk Storage • SAP HANA Large Instances • Software plans • Azure SQL Database • Azure Synapse Analytics – data warehouse • Azure Synapse Analytics – pre-purchase • Azure Virtual Machines • Virtual machine software	• Azure Virtual Machines • Azure App Service • Azure Functions premium plan • Azure Container Instances • Azure Dedicated Host

Google Cloud Platform committed use discounts

Google Cloud Platform (GCP) offers discounts in exchange for a commitment. These committed use discounts (CUDs) are only available for Google Compute Engine (GCE). Like the AWS and Azure offers, GCP CUDs are available for one- or three-year terms, with a greater discount for three-year commitments. Unlike the AWS and Azure offers, GCP CUDs are applied to your overall bill at the end of the month, not to a particular compute instance. CUDs are limited to a specific region and a specific project. There is no option to pay upfront for CUDs.

Resource-based CUDs

GCP Resource-based CUDs are similar to AWS Reserved Instances and Azure Reservations in that they require a commitment to a certain amount of usage in exchange for a reduced price. GCP resource-based CUDs can be purchased for hardware or software. Hardware commitments offer up to 70 percent off memory-optimized machines and up to 57 percent off all other machine types. Software commitments offer up to 79 percent for SUSE Linux Enterprise Server (SLES) images and up to 63 percent off SLES for SAP images.

Spend-based (flexible) CUDs

GCP flexible CUDs are similar to AWS and Azure savings plans in that they require a commitment to a certain amount of hourly spend in exchange for a reduced price. GCP flexible CUDs offer up to 46 percent off for a three-year commitment and up to 28 percent off for a one-year commitment.

Table 3: Google Cloud Platform reservable services

Resource-based CUDs	Spend-based (flexible) CUDs
• Google Compute Engine	• Google Cloud SQL • Google Cloud VMware Engine • Google Cloud Run • Google Kubernetes Engine

Google Cloud Platform sustained use discounts

GCP sustained use discounts (SUDs) take a different approach to commitment-based discounts. AWS RIs, Azure Reservations, AWS Savings Plans, Azure savings plans, and GCP CUDs are all discounts applied after a certain amount of usage. But GCP SUDs are discounts that kick in after the resource has been running for a certain amount of time. As your engine runs throughout the month, the rate you're charged decreases. For example, if you use a VM for 50 percent of the month, you get an effective discount of 10 percent. If you use it for 75 percent of the month, you get an effective discount of 20 percent. If you use it for 100 percent of the month, you get an effective discount of 30 percent. These discounts are automatic; you do not need to make any commitment ahead of time for it to apply.

Learn more

Ready to get started with optimizing cloud spend? Visit tanzu.vmware.com/cloudhealth.

How we can help

VMware Tanzu CloudHealth® takes the complexity out of commitment-based discount management by providing the purchase modeling, optimization and amortization capabilities you need to confidently make beneficial commitments. The platform gives you complete visibility into discount usage and cost, recommendations for making optimal purchases and exchanges, and automation to govern the environment as it grows.

Visibility

- Break down your purchases into smaller groups, such as account/subscription, region, or instance family/machine series, so you can understand how the savings impact your lines of business.
- Perform chargeback or showback with discounts allocated to the correct groups, looking at either the account/group that made the purchase or the one that received the actual discount benefit.
- Leverage amortization reports to see how the one-time upfront cost is distributed over the life of the RI.

Optimization

- Save time modeling purchases with the RI Optimizer and Compute Savings Plan Recommendation from Tanzu CloudHealth, which outline your potential savings and, more importantly, the payback period.
- Analyze utilization to ensure you save as much as you can by covering all your consistent usage with discounts, or to ensure you aren't overcommitting.
- Maximize your ROI by exchanging Amazon EC2 Convertible RIs for instances that better meet your needs.
- Compare the impact of different payment terms and durations on your savings, coverage and critical business key performance indicators (KPIs).
- Determine the right mix of reservations and savings plans for your organization.

Governance and automation

- Receive alerts when commitment discounts are nearing expiration so you can analyze new purchases.
- Create automated policies for modifying and purchasing commitment-based discounts directly from the platform.
- Leverage Savings Automator to automatically modify/exchange Amazon EC2 Convertible RIs, ensuring continuous RI coverage.

Purchasing commitment-based discounts makes sense for organizations with consistent cloud resource usage. Understanding how much to commit and what mix of commitment-based discounts is best for your organization can be challenging. Tanzu CloudHealth has numerous tools to help you confidently choose and manage these savings opportunities.