

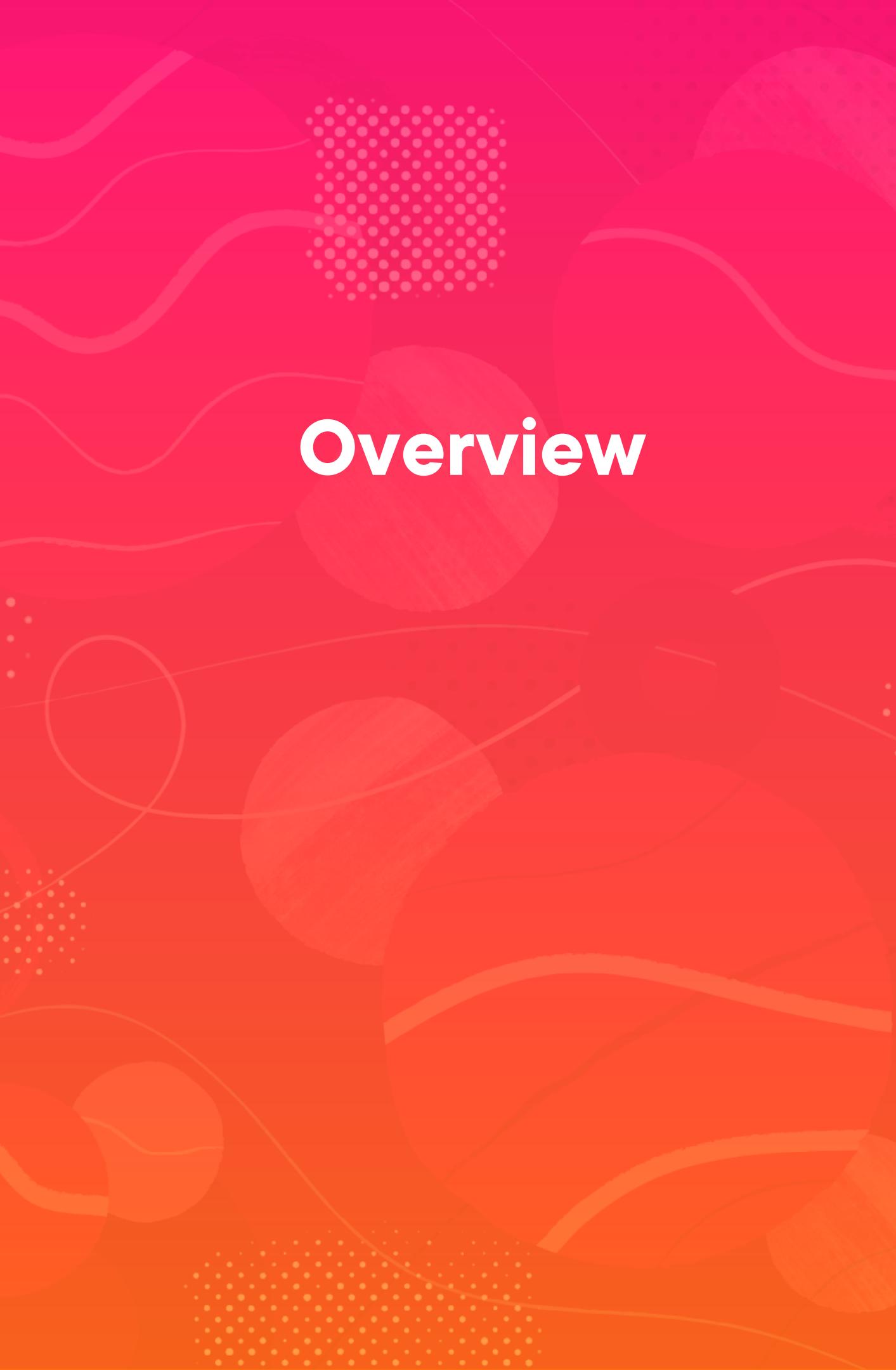
# Understanding Cloud Economics



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## Overview

**Understanding funding between traditional data centers and the cloud**

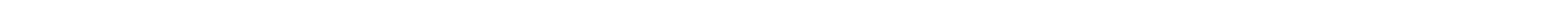
**Utilizing AWS tools for cost organization**

**Utilizing AWS tools to make a case for moving to the cloud**

**Exploring AWS costs using the AWS provided tools**

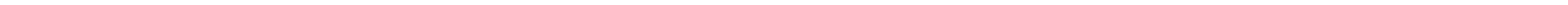
# **Capitalized Expenditure (CapEx)**

**When building a data center, an organization invests in upfront costs for the building, servers, and supporting equipment. This type of expense to attain a fixed asset is referred to as a Capitalized Expenditure or CapEx.**

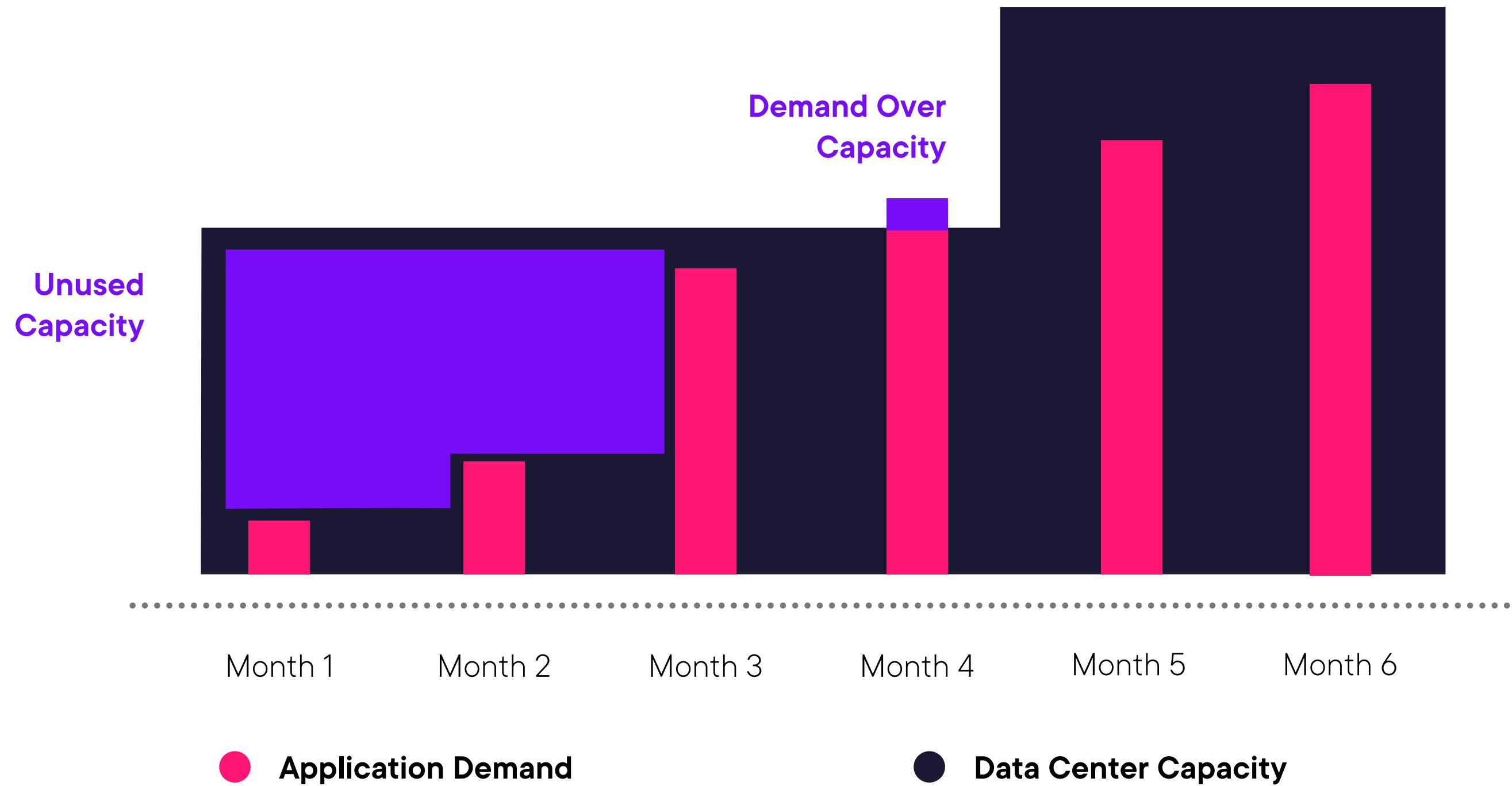


# **Operating Expenditure (OpEx)**

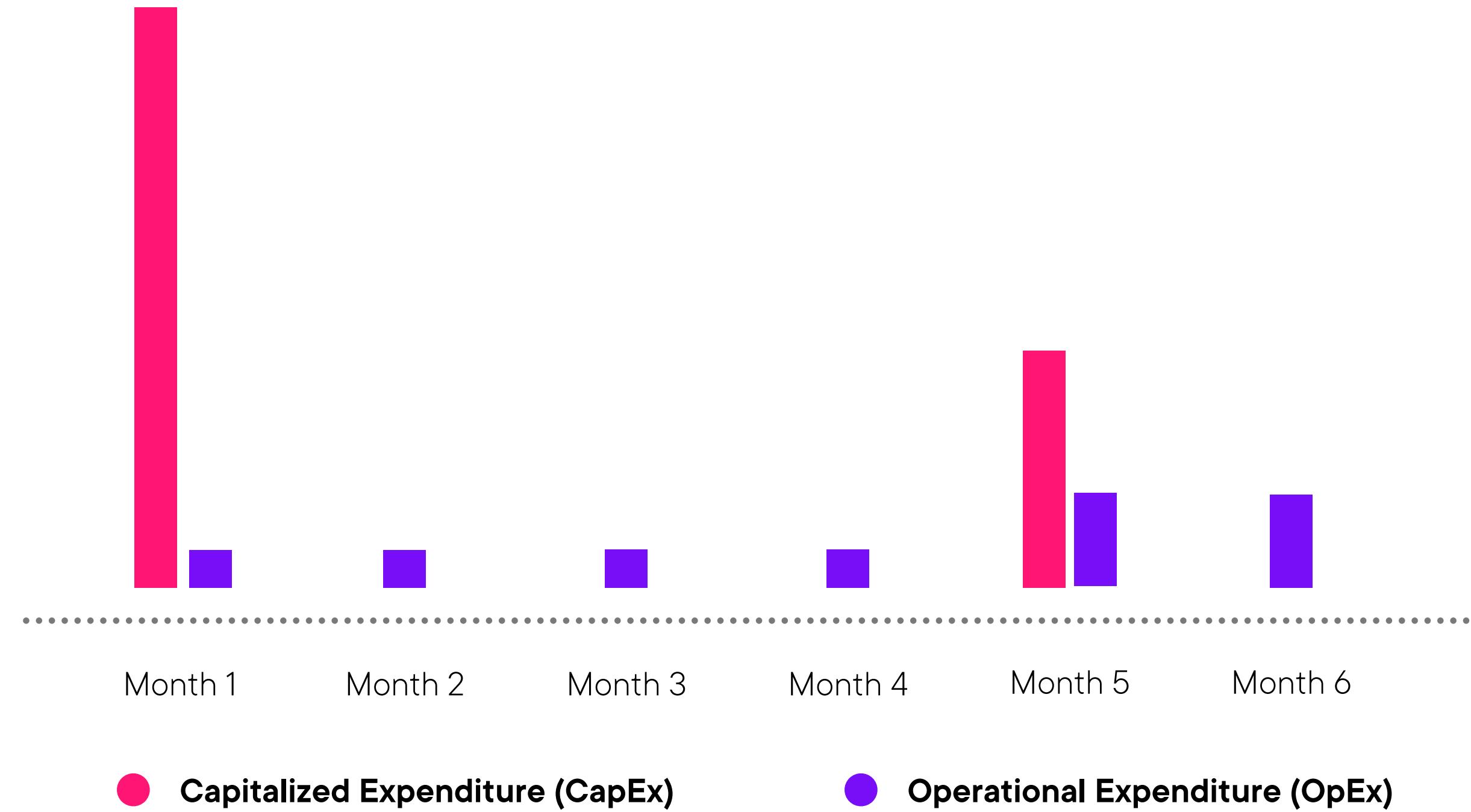
The regular day to day expenses of a business are considered Operating Expenditures or OpEx. After the initial build of a data center, ongoing connectivity, utility, and maintenance costs would be considered OpEx.



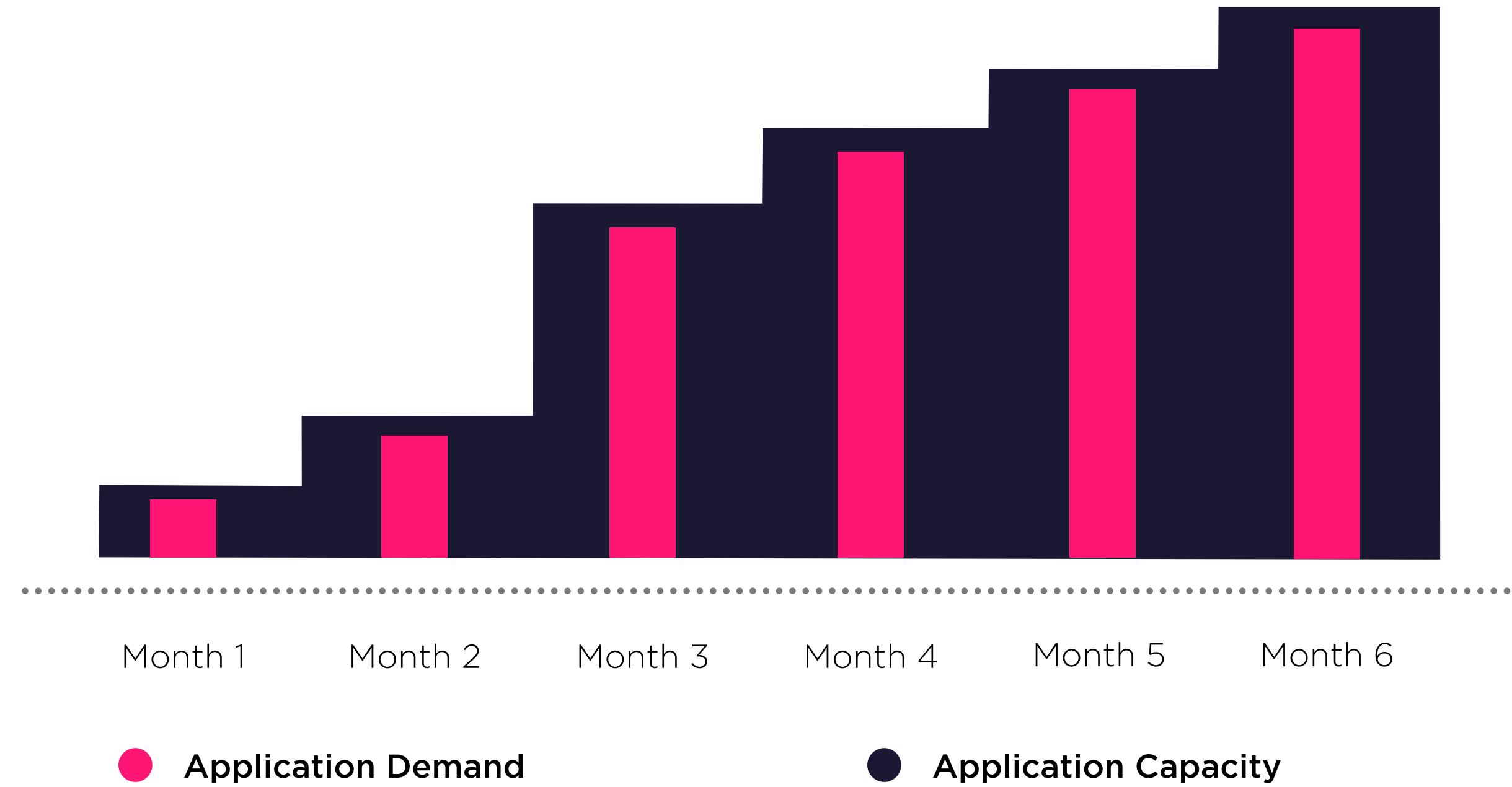
# Handling Demand in Your Data Center



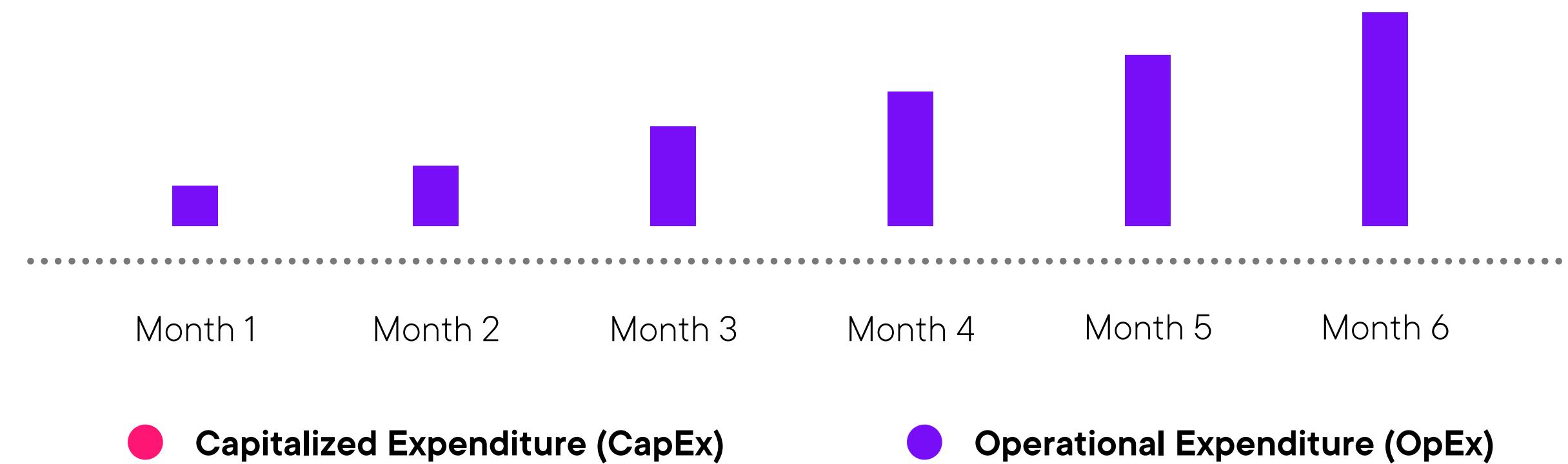
# Building a Data Center



# Handling Demand in the Cloud



# Costs in the Cloud



# Financial Implications

## Your Own Data Centers

VS

## Cloud Infrastructure

**Large up-front costs (CapEx)**

**Potential for either under-used capacity or unmet demand**

**Increasing capacity takes time and additional investment (CapEx)**

**Monthly costs will map to predicted infrastructure needs**

**No up-front investment**

**You pay as you go for infrastructure (OpEx)**

**Capacity scales to meet user demand and can be provisioned immediately**

**Monthly costs will map to user demand**



# Organizing and Optimizing AWS Costs

# AWS Cost Explorer

**User Interface for exploring  
your AWS costs**

**Provides breakdowns including:**

- By service
- By cost tag

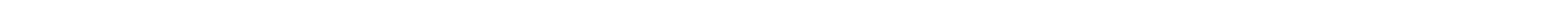
**Provides predictions for the next three  
months of costs**

**Gives recommendations for cost  
optimization**

**Can be accessed via API**

# AWS Budgets

**Utilizes data from AWS Cost Explorer to plan and track your usage across AWS services. It can track cost per service, service usage, reserved instance utilization and coverage, and Savings Plans utilization and coverage.**



# AWS Cost Planning Tools

## AWS Pricing Calculator

Enables in-depth analysis of the cost of utilizing multiple AWS services for cloud-based workloads

## AWS Migration Hub

Provides recommendations and a business case for transitioning workloads to the cloud

# Deprecated Tools

## AWS TCO Calculator

Enables an organization to determine what could be saved by leveraging cloud infrastructure

## AWS Simple Monthly Calculator

Enables an organization to calculate the cost of running specific AWS infrastructure

# AWS Resource Tags

**Metadata assigned to a specific AWS resource**

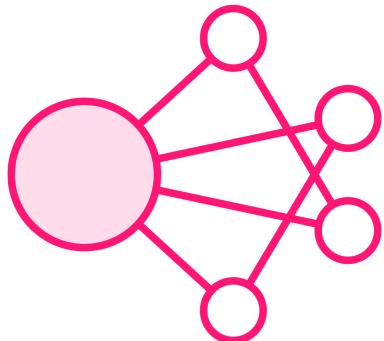
**Includes a name and an optional value**

**Common use cases include department, environment, or project**

**Cost allocation report includes costs grouped by active tags**

**Tags can be leveraged within the AWS Costs Explorer**

# AWS Organizations



**Allows organizations to manage multiple accounts under a single master account**



**Provides organizations with the ability to leverage Consolidated Billing for all accounts**



**Enables organizations to centralize logging and security standards across accounts**



# **Building a Business Case for the Cloud**

# Building a Business Case

Analyze the current workloads

Forecast infrastructure needs

Create a TCO analysis of both options

# Building the Business Case

## AWS Migration Hub

Central location to gather information from multiple AWS tools to forecast needed infrastructure

## Migration Evaluator

In-depth service to calculate infrastructure needs and build a business case for the cloud



# Using the AWS Pricing Calculator

# Estimating Future Workloads

**AWS Simple Monthly Calculator**  
(deprecated)

**AWS Pricing Calculator**

# Demo

**Accessing the AWS Pricing Calculator**

**Estimating costs for a workload on the cloud using the calculator**

**Saving and sharing the results with other individuals**



# **Reviewing Costs with the Cost Explorer**

# Demo

**Accessing the AWS Cost Explorer within an AWS Account**

**Reviewing charges by service for an AWS Account**

**Utilizing pre-defined reports included with the Cost Explorer**

**Downloading data from the AWS Cost Explorer**



# Applying Cloud Economics

# Scenario 1



**Oscar's company has multiple departments that work within AWS**

**Finance is asking for a clean separation of AWS costs between departments**

**Currently all resources are included within a single AWS account**

**What approach would meet this need for future costs with minimal effort?**

## Scenario 2



**Cindy's company is considering a transition to the cloud**

**They currently have two physical data centers that they own and maintain**

**Stakeholders are questioning whether this approach will save money**

**Which approach should Cindy take to make a case for the cloud?**

## Scenario 3

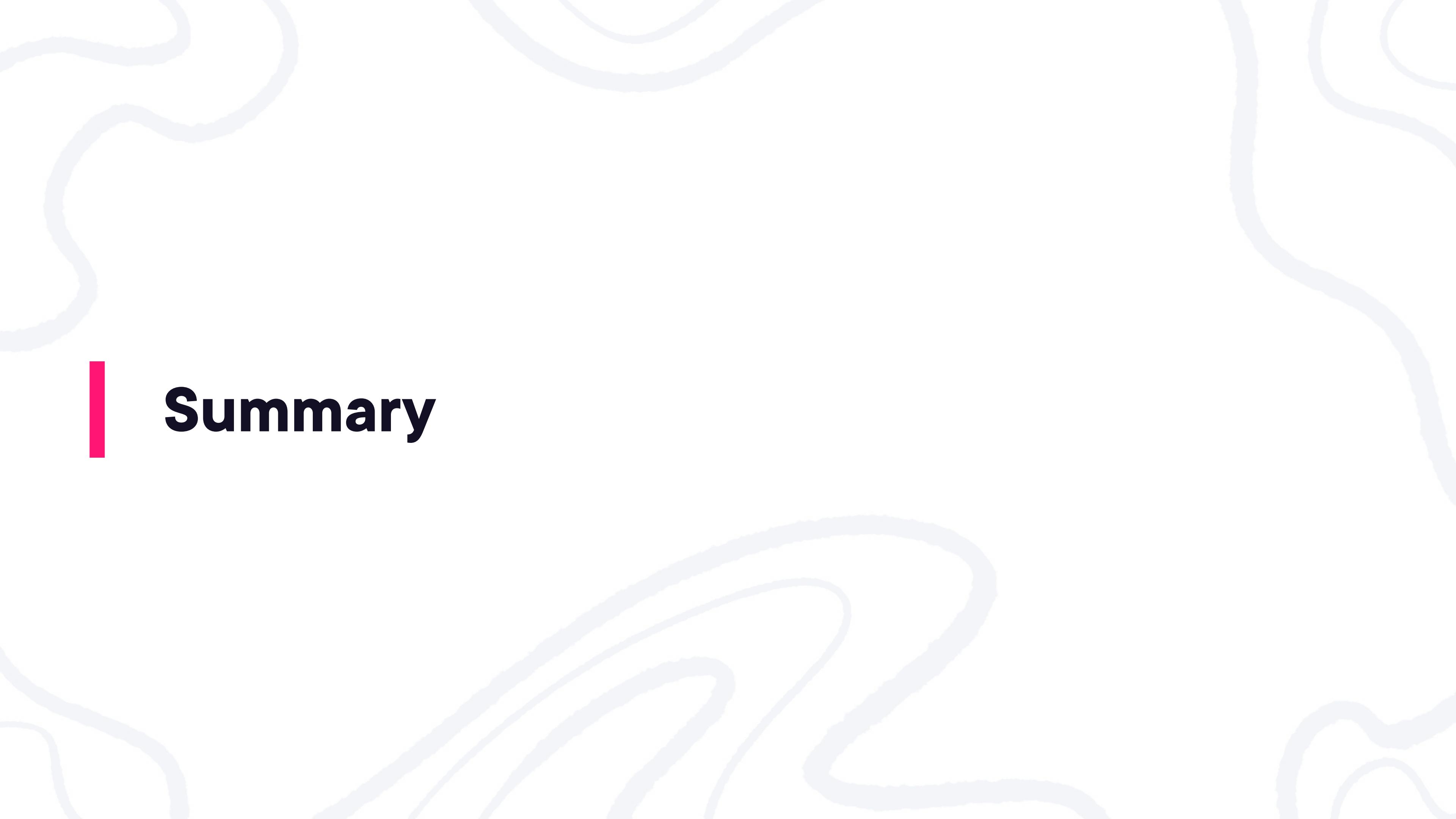


**William is a web developer at his company**

**Given some recent downtime he is looking at moving their site to the cloud**

**Finance is asking for an estimate of costs for this transition to AWS**

**What approach should William take to get this data to his finance team?**



# Summary

# Summary

- Understood funding between traditional data centers and the cloud**
- Utilized AWS tools for cost organization**
- Examined the AWS tools used in making a case for moving to the cloud**
- Explored AWS costs using the AWS provided tools**

# Scenario 1



Oscar's company has multiple departments that work within AWS

Finance is asking for a clean separation of AWS costs between departments

Currently all resources are included within a single AWS account

What approach would meet this need for future costs with minimal effort?

**Solution:** Create and leverage a Resource Tag for each Department

## Scenario 2



**Cindy's company is considering a transition to the cloud**

**They currently have two physical data centers that they own and maintain**

**Stakeholders are questioning whether this approach will save money**

**Which approach should Cindy take to make a case for the cloud?**

**Solution:** Utilize AWS Migration Hub or Migration Evaluator to build a business case

## Scenario 3



**William is a web developer at his company**

**Given some recent downtime he is looking at moving their site to the cloud**

**Finance is asking for an estimate of costs for this transition to AWS**

**What approach should William take to get this data to his finance team?**

**Solution:** Utilize the AWS Pricing Calculator and share results