



THE DEVELOPER'S CONFERENCE

Trilha Cloud

FinOps - Gestão Financeira de TI - Replace or Rebuild?

Viviam Ribeiro

Cloud Services Manager



 *@viviamrib*

Cloud Services Manager
at Santander

Viviam Ribeiro

Sou **apaixonada por gestão de TI**: governança, processos, projetos, equipes e.... resultados consistentes!

I'm **inspired by great and long-term goals and challenges...** it sounds like a match with... a CLOUD JOURNEY 😊

Focada em apoiar as empresas a transformar suas áreas e serviços de TI através de:

- Definição de estratégia
- Redesenho de processos e alinhamento governança
- Entrega de projetos
- Engajamento e inspiração de equipes e stakeholders

Durante os mais de 20 anos de experiência entre cargos técnicos e de gestão, além da vivência prática, adquiri conhecimento acadêmico com a graduação em Administração de Empresas, MBA em Gestão Estratégica de TI (FGV), certificações ITIL Expert (V2 / V3), CSM - Certified ScrumMaster, Microsoft Azure Fundamentals.

Agenda

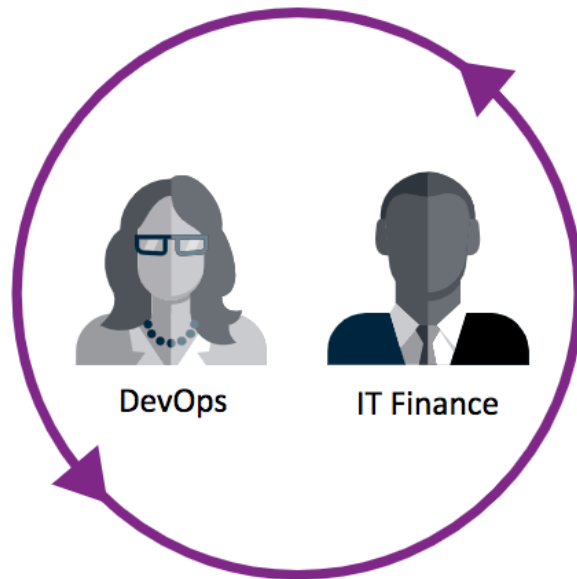
FinOps - Gestão Financeira de TI - Replace or Rebuild?

- ✓ Reflexão sobre alguns pilares e requisitos necessários para oportunizar uma gestão efetiva de custos de Cloud.
- ✓ Como direcionar a demanda e consumo de forma eficaz?
- ✓ Quais são os aspectos principais que devemos considerar para estabelecer um chargeback consistente?
- ✓ Quais ferramentas usar?
- ✓ Quais os principais obstáculos que podem impactar os resultados e aumentar os custos?
- ✓ E quando for multicloud, o que muda?

costOptimization
Economics
FinOps
cloud
financialManagement
costManagement

FinOps

Objetivo: garantir que se obtenha o máximo valor de cada dólar gasto na nuvem.



Model

Engineers and Finance acting as one

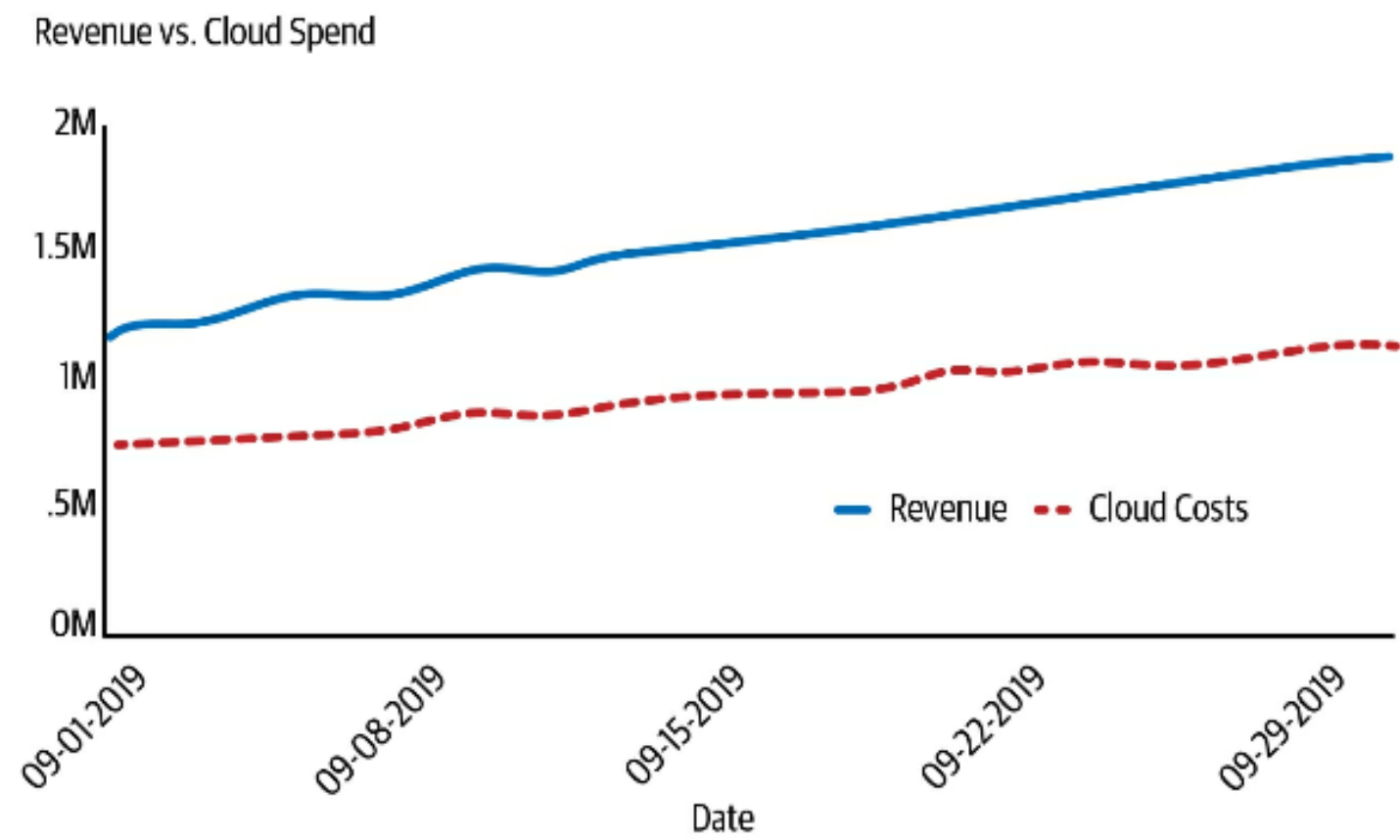
Procurement is instant

Agile experimentation, predictable cost and reasonable budgets

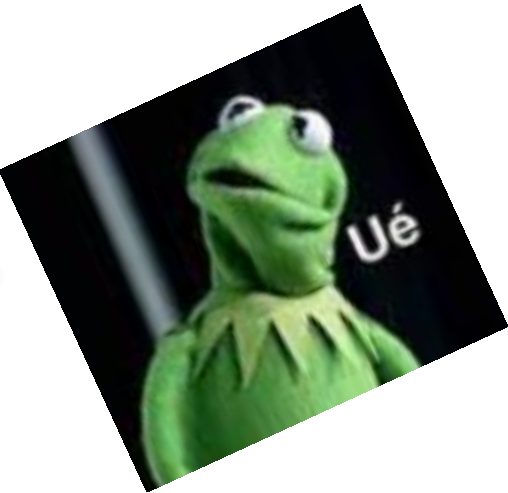
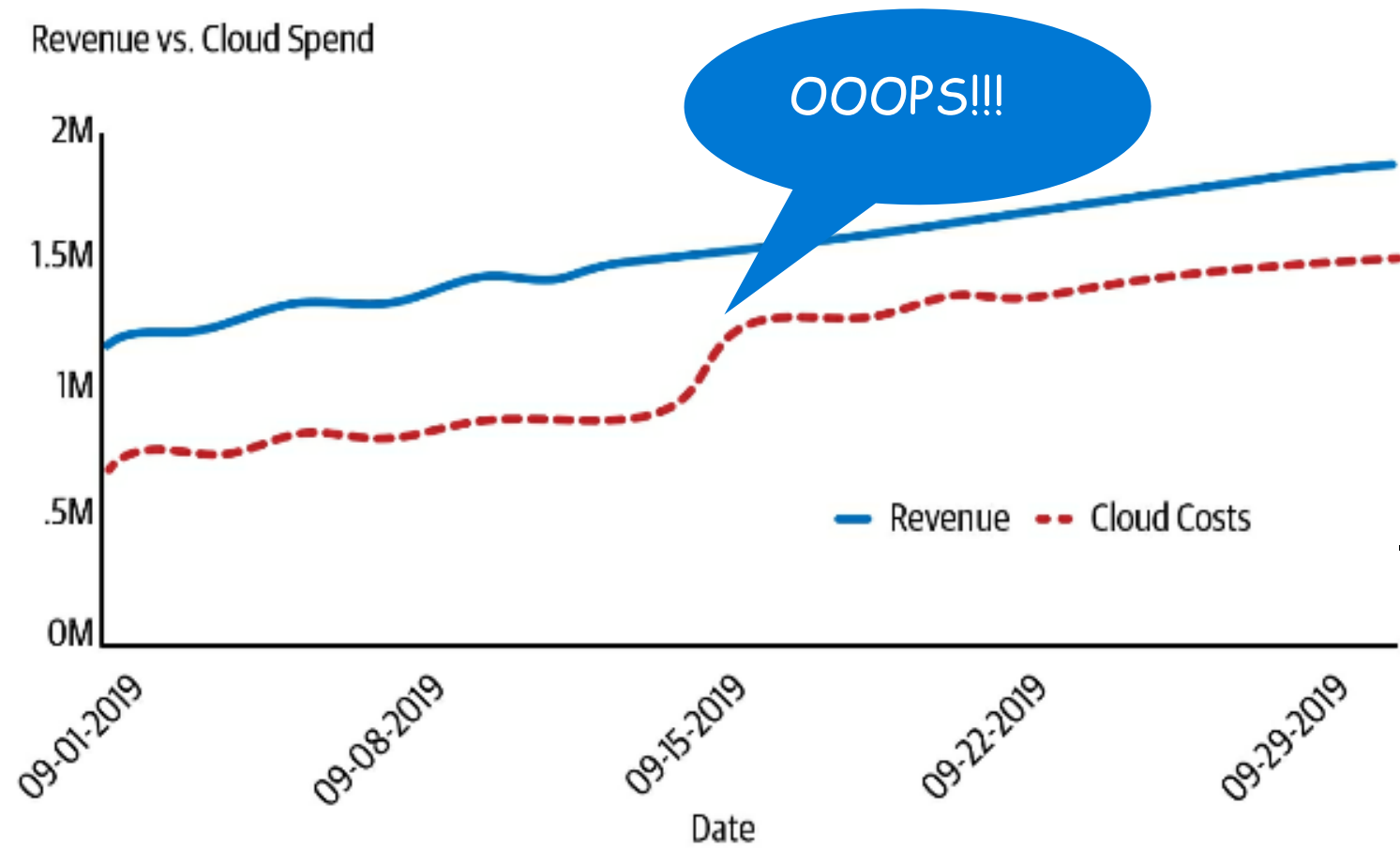
Low cost of failure

Se parece que FinOps é para economizar dinheiro, pense novamente. **FinOps significa ganhar dinheiro.**

Finops Nirvana

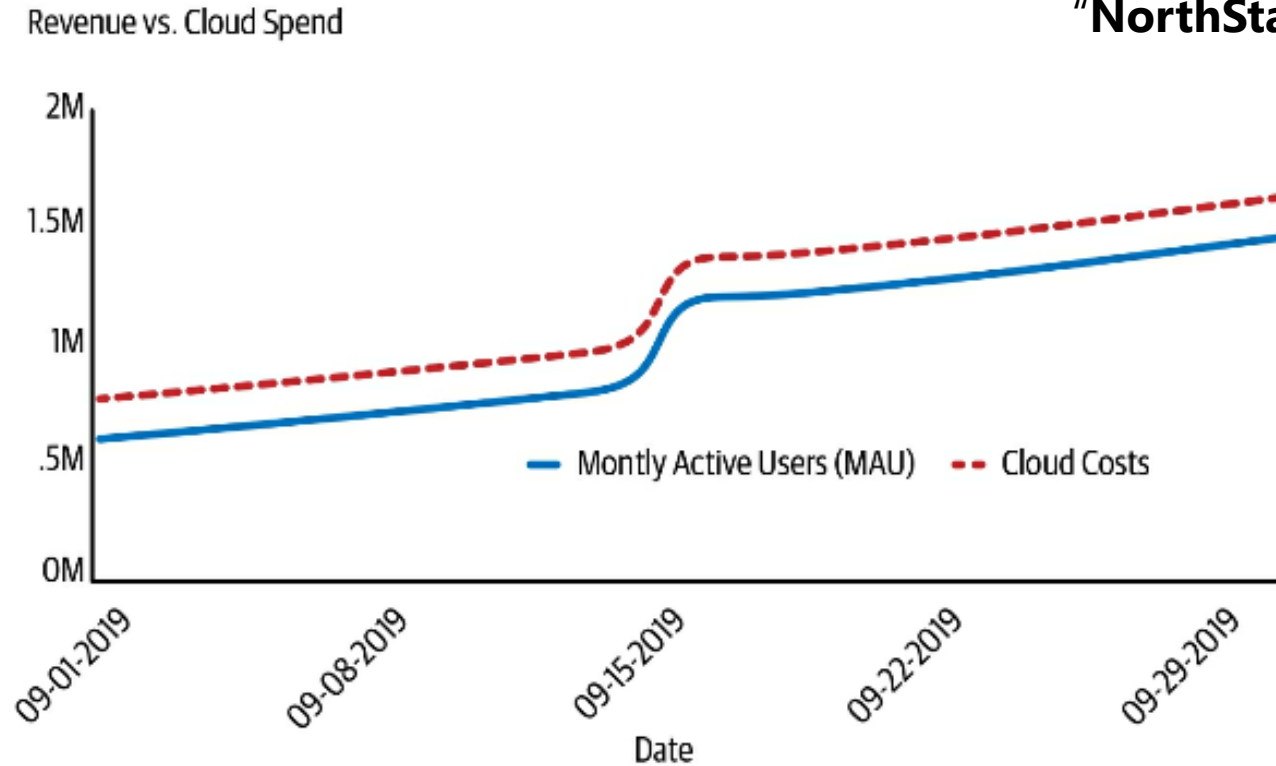


Finops Nirvana



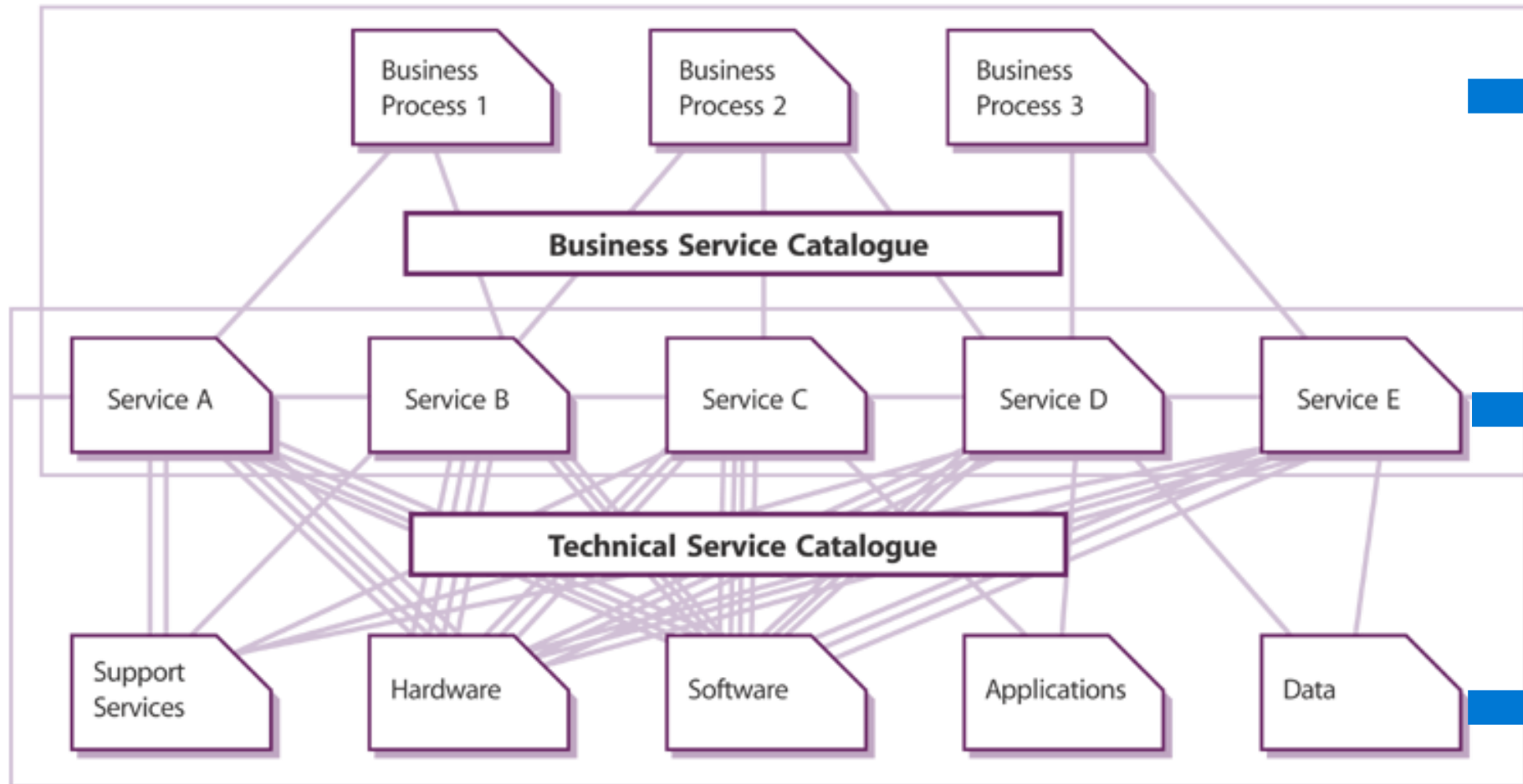
Finops Nirvana

O estágio nirvana do FinOps é chegar ao gerenciamento de gastos econômicos unitários (qual é o nosso custo por X, onde X = métrica "**NorthStar**").



Vida real....

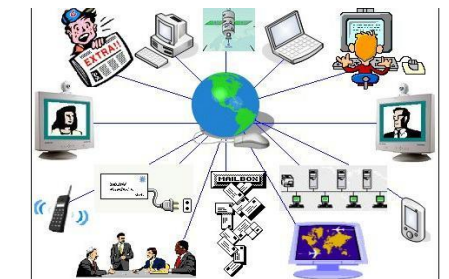
The Service Catalogue



Business View

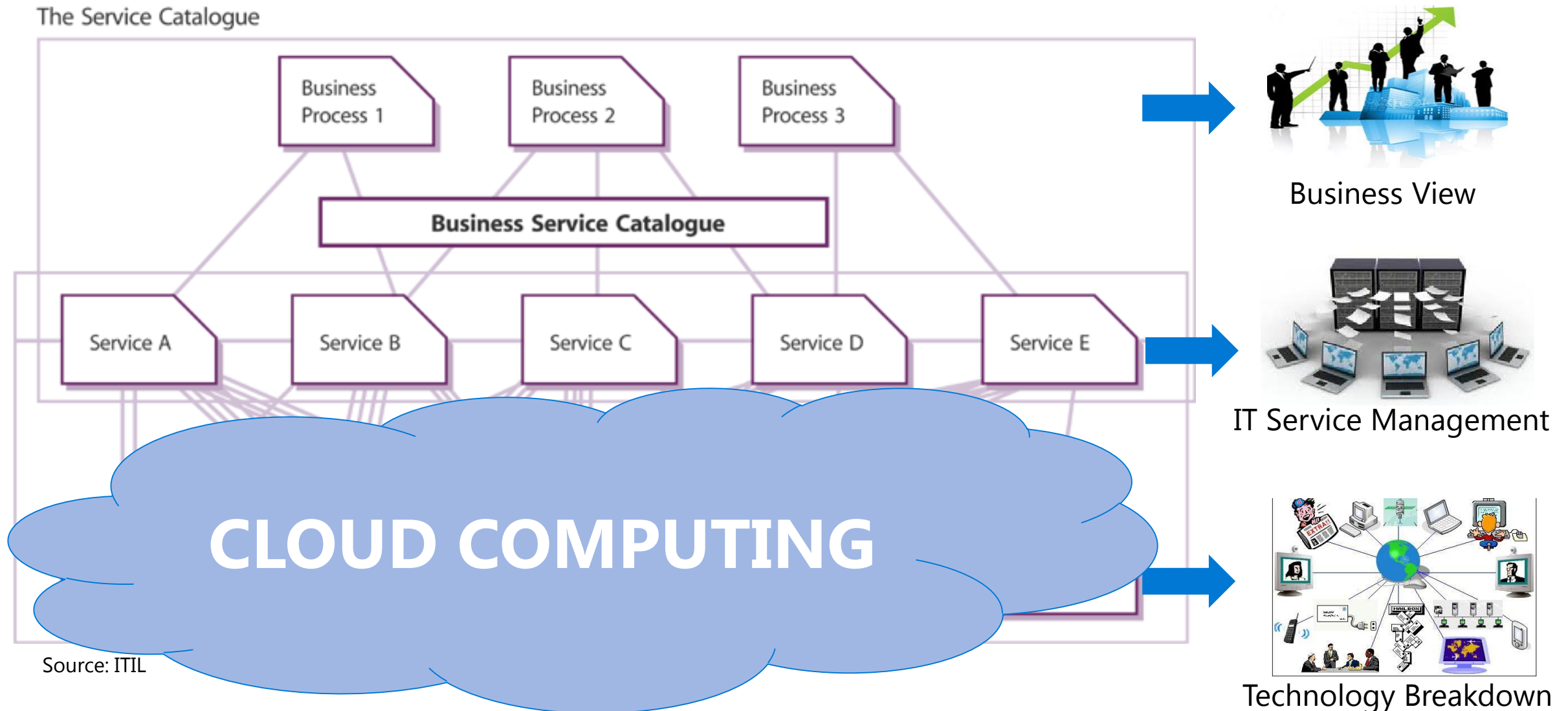


IT Service Management

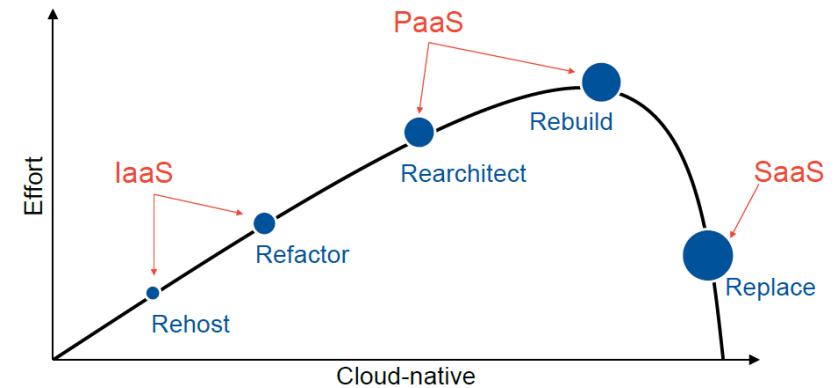
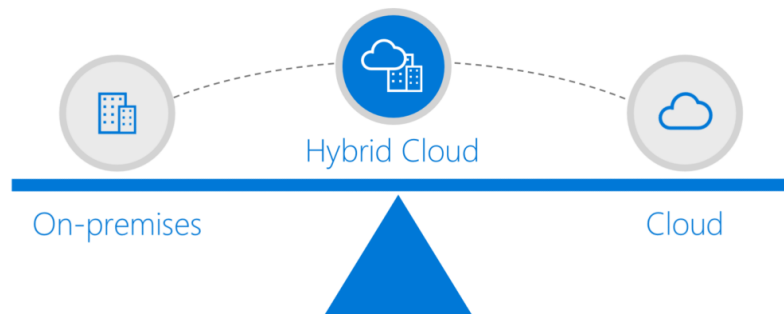
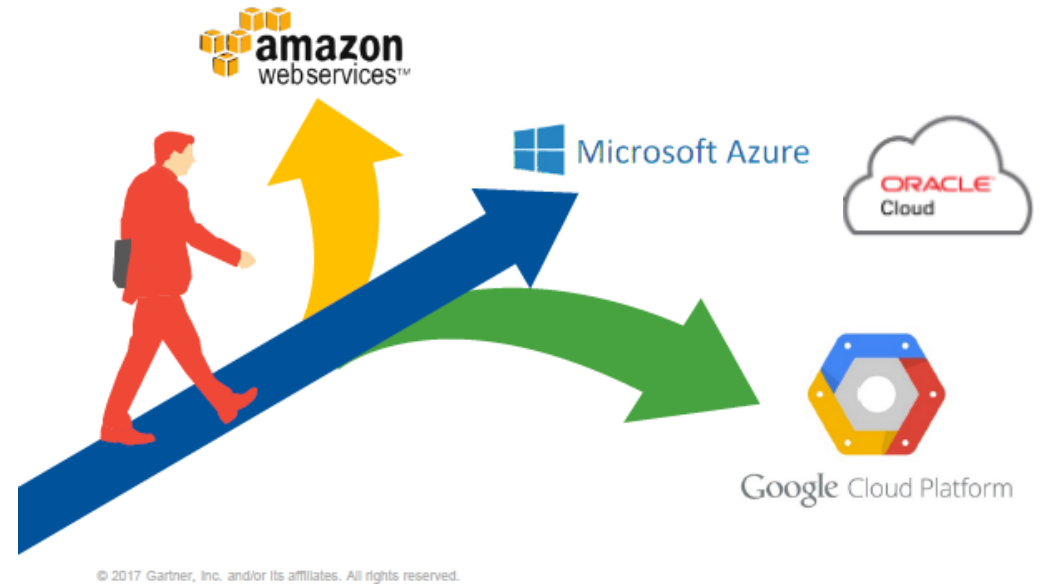


Technology Breakdown

Alinhamento TI x Negócio – “Velho-Novo” desafio



Cloud Journey



Finops Nirvana

- A “**North Star Metric**” mede o valor comercial de seus gastos na nuvem. Usuários ativos mensais (MAU) é um NSM comum, mas varia de empresa para empresa.
- Organizações com **estruturas complexas e múltiplas ofertas** de produtos geralmente terão **múltiplas unidades de métricas**, cada uma relevante para uma linha de produto, aplicativo ou serviço específico.
- As decisões não se concentram mais no custo da nuvem, mas **se baseiam nos benefícios** que os gastos com nuvem geram para a organização.

FinOps – Princípios e Fases

1. As equipes precisam colaborar.
2. As decisões são orientadas pelo valor de negócio da Cloud.
3. Todos assumem a responsabilidade pelo uso da Cloud.
4. Os relatórios do FinOps devem ser acessíveis e oportunos.
5. Uma equipe centralizada conduz o FinOps.
6. Aproveitar o modelo de custo variável da Cloud.



FinOps – Aspectos Importantes para o Chargeback

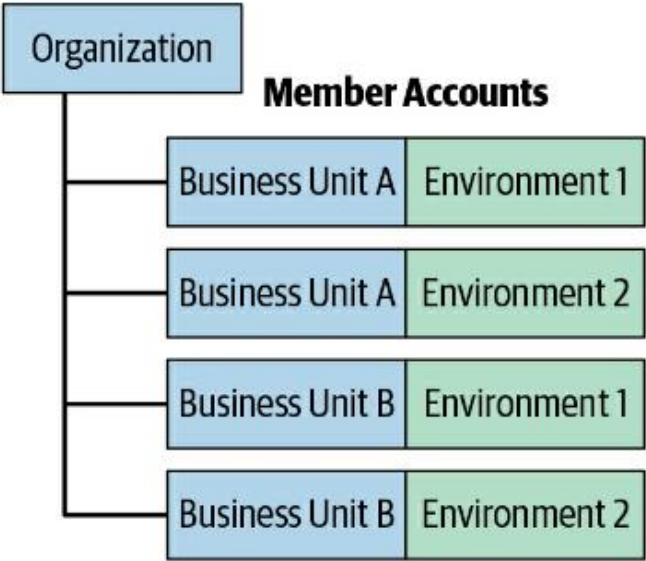
1. Chargeback X Showback
2. Alocação de custos usando abordagens baseadas em tag e hierarquia
3. Começar “tagueamento” o quanto antes
4. Implementar Governança de Tags
5. Automação de ajustes (flavors, auto-scale, etc)
6. Ferramenta agnóstica de CSP em caso de multicloud

FinOps – TAG e Hierarquia: Comparação dos CSP

	AWS	Google Cloud Platform	Microsoft Azure
Hierarchy	Linked accounts	Folders and projects	Subscriptions
Key/value pairs	Tags	Labels	Tags
Number of tags per resource	50 (some services allow only 10)	64	50 (some services allow only 15)
Tags automatically allocated to your detailed billing data	No — manual selection required	Yes — some limits apply	Yes — some limits apply
Tag restrictions	Some services limit supported characters	Lowercase letters, numeric characters, underscores, and dashes	Some characters not supported
Tags can be applied to	Most services' resources (constantly changes; see AWS documentation for all current details), accounts (via AWS Organizations)	Most services' resources and projects	Most services' resources, Azure resource groups

FinOps – Estratégias de Alocação de Custos

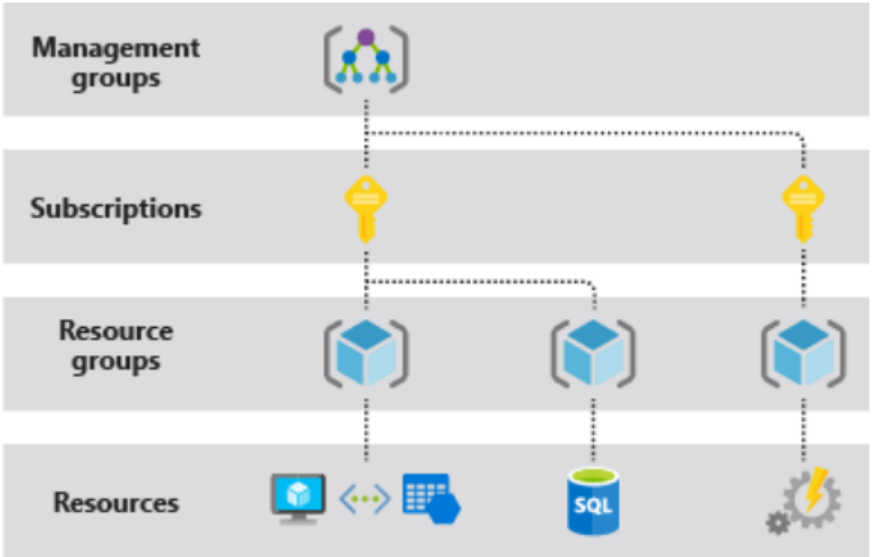
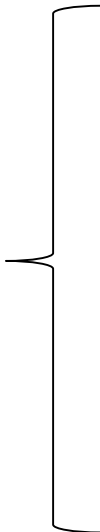
Master Payer Account



Tags

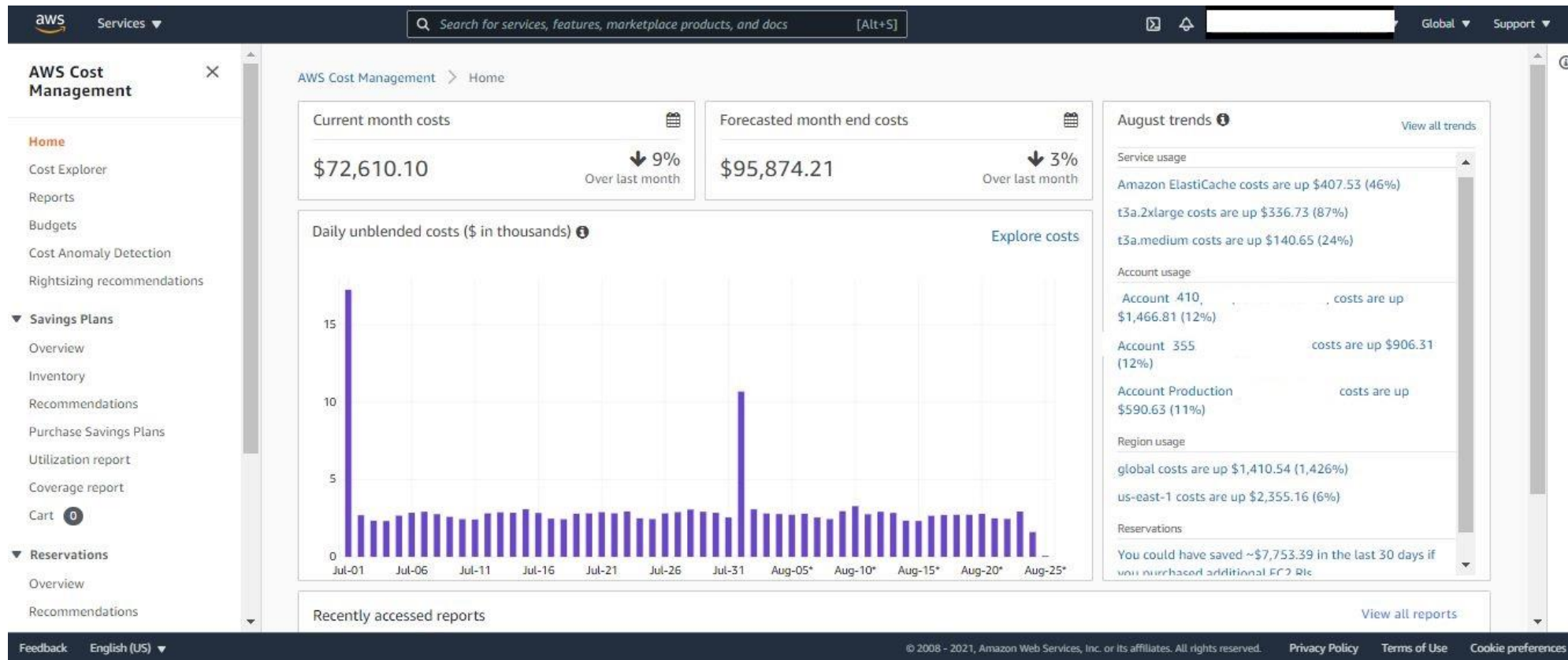
Tags can be applied across all accounts

- Tag 1 - Service
- Tag 2 - Owner
- Tag 3 - Role
- Tag 4 - Node
- Tag 5 - Cluster



AZURE

FinOps – AWS Cost Management



FinOps – AWS Cost Management

Home

Billing

Bills

Payments

Credits

Purchase orders

Cost & Usage Reports

Cost Categories

Cost allocation tags

Cost Management

Cost Explorer

Budgets

Budgets Reports

Savings Plans

Preferences

Billing preferences

Payment methods

Consolidated billing

Tax settings

AWS Cost and Usage Reports

Create report Edit Delete

☐	Report name	S3 bucket	Time granularity	Data last refreshed
☐	_BR		Monthly	08/25/2021, 5:24 AM
☐	AWS-CUDOS		Hourly	08/25/2021, 5:36 AM

Your Cost and Usage Reports may include confidential information that cannot be shared outside your organization without AWS's consent. Please reach out to your account manager if you have any questions.

Other Reports

Analyze your cost and usage using AWS Cost Explorer
AWS Cost Explorer lets you dive deeper into your cost and usage data to identify trends, pinpoint cost drivers, and detect anomalies. [Learn more](#)

Monitor your Reserved Instance (RI) utilization using AWS Cost Explorer
This report allows you to visualize your RI utilization, providing insight into opportunities for increasing your RI usage efficiency. [Learn more](#)

AWS Usage Report
A CSV report that provides usage data for select AWS services.

Feedback English (US)

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Cookie preferences](#)

<https://docs.aws.amazon.com/cur/latest/userguide/cur-create.html>

FinOps – AWS Cost Management

<https://docs.aws.amazon.com/cur/latest/userguide/data-dictionary.html>

aws

Pesquisar neste guia

Portugu

AWS > Documentation > Cost and Usage Report > User Guide

Setting up an Amazon S3 bucket for Cost and Usage Reports

Creating Cost and Usage Reports

Managing reports

Querying reports using Athena

Data dictionary

- Identity details
- Billing details
- Line item details
- Reservation details
- Pricing details
- Product details
- Resource tags details
- Savings Plans details
- Cost Categories details

Use cases

Legacy reports

product/ebsoptimized

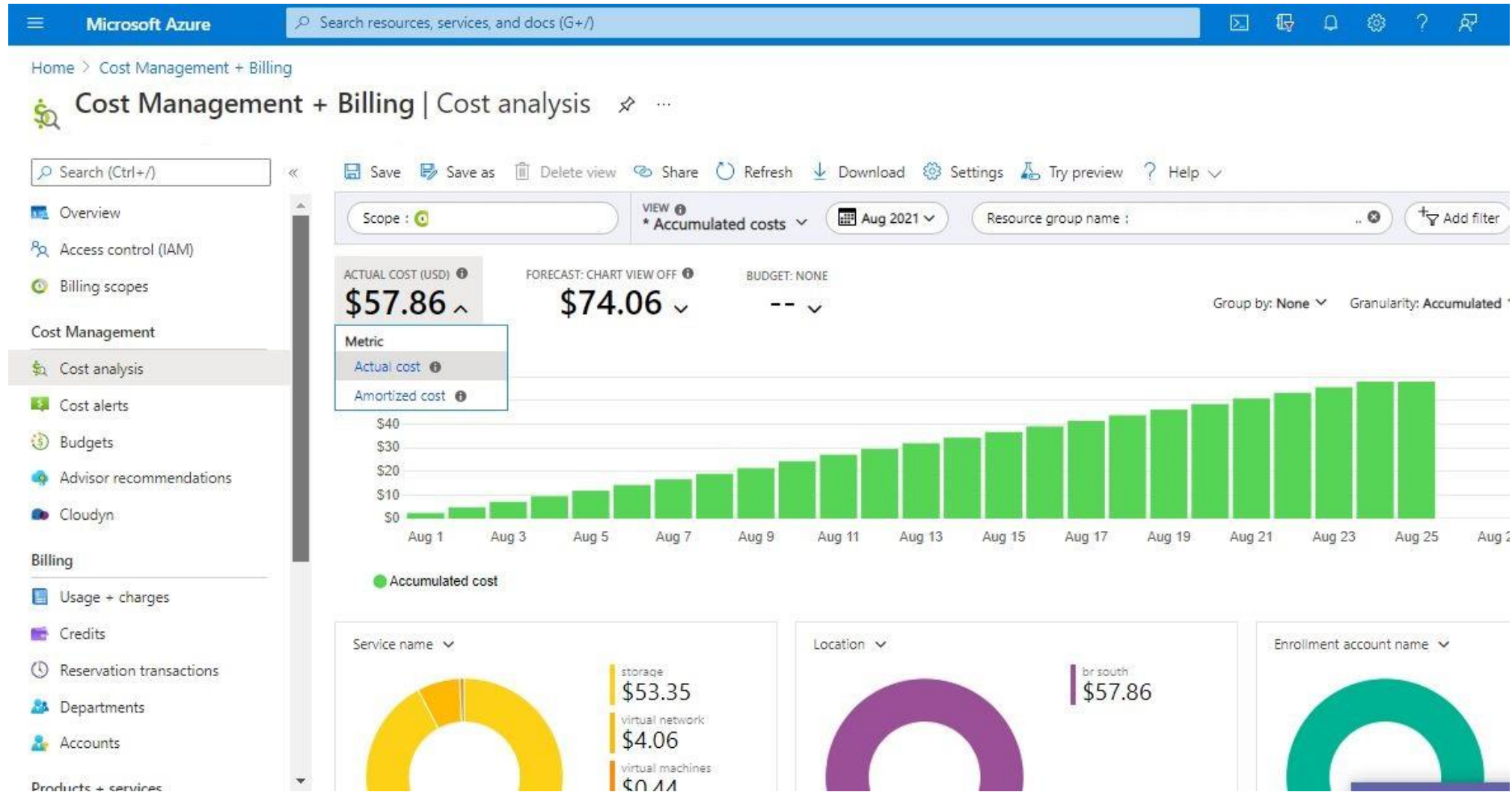
- Description:** Describes whether your Amazon EC2 instances are Amazon EBS-optimized.
- Sample values:** Yes, No
- Services:**
 - Amazon EC2

product/ecu

- Description:** Describes the EC2 Compute Unit (ECU) that provides the relative measure of the integer processing power of an Amazon EC2 instance.
- Sample values:** 9, 100, variable
- Services:**
 - Amazon EC2
 - Amazon ES
 - Amazon GameLift
 - Amazon Redshift

	O	P	Q	I	U	W	Y	Z	AB	AC		
1	lineltem/UsageEndDate	lineltem/ProductCode	lineltem/UsageType	lineltem/Operation	line	lineltem	lineltem	lineltem/U	Cost em R\$	lineltem/	lineltem/LineltemDescription	lineltem
2	2021-01-26T13:51:09Z	AmazonEC2	SAE1-EBS:VolumeUsage.gp2		0	USD	\$	(0,16)	-R\$ 0,87	-0,16	Enterprise Program Discount	
3	2021-01-26T13:51:09Z	AmazonEC2	SAE1-EBS:VolumeUsage.gp2		1	USD	\$	(0,02)	-R\$ 0,11	-0,02	Tax refund line item for refundLii Tax	
4	2021-02-01T00:00:00Z	OCBPremiumSupport	Dollar		0	USD	\$	(670,54)	-R\$ 3.633,23	-670,54	Enterprise Program Discount	
5	2021-02-01T00:00:00Z	OCBPremiumSupport	Dollar		1	USD	\$	(92,75)	-R\$ 502,55	-92,75	Tax refund line item for refundLii Tax	
6	2021-02-01T00:00:00Z	AWSDataTransfer	SAE1-DataTransfer-Out-Bytes		0	USD	\$	(0,04)	-R\$ 0,22	-0,04	Enterprise Program Discount	
7	2021-02-01T00:00:00Z	AmazonS3	SAE1-Requests-Tier1		0	USD	\$	(0,05)	-R\$ 0,27	-0,05	Enterprise Program Discount	
8	2021-02-01T00:00:00Z	AmazonVPC	SAE1-TransitGateway-H TransitGatewayVPC		0	USD	\$	(10,50)	-R\$ 56,89	-10,5	Enterprise Program Discount	
9	2021-02-01T00:00:00Z	AmazonCloudWatch	SAE1-CW:MetricMonitorUsage		0	USD	\$	(0,77)	-R\$ 4,17	-0,77	Enterprise Program Discount	
10	2021-02-01T00:00:00Z	AWSELB	SAE1-LoadBalancerUsag LoadBalancing:Gatewa		0	USD	\$	(5,99)	-R\$ 32,46	-5,99	Enterprise Program Discount	
11	2021-02-01T00:00:00Z	AWSDataTransfer	SAE1-DataTransfer-Out-Bytes		1	USD	\$	(0,01)	-R\$ 0,05	-0,01	Tax refund line item for refundLii Tax	
12	2021-02-01T00:00:00Z	AmazonS3	SAE1-Requests-Tier1		1	USD	\$	-	R\$ -	0	Tax refund line item for refundLii Tax	
13	2021-02-01T00:00:00Z	AmazonVPC	SAE1-TransitGateway-H TransitGatewayVPC		1	USD	\$	(1,46)	-R\$ 7,91	-1,46	Tax refund line item for refundLii Tax	
14	2021-02-01T00:00:00Z	AmazonCloudWatch	SAE1-CW:MetricMonitorUsage		1	USD	\$	(0,10)	-R\$ 0,54	-0,1	Tax refund line item for refundLii Tax	
15	2021-02-01T00:00:00Z	AWSELB	SAE1-LoadBalancerUsag LoadBalancing:Gatewa		1	USD	\$	(0,83)	-R\$ 4,50	-0,83	Tax refund line item for refundLii Tax	
16	2021-02-01T00:00:00Z	AmazonEC2	SAE1-BoxUsage:c5.xlarg RunInstances		0	8 USD	\$	(88,21)	-R\$ 477,95	-88,21	Enterprise Program Discount	
17	2021-02-01T00:00:00Z	AmazonEC2	SAE1-BoxUsage:c5.xlarg RunInstances		1	8 USD	\$	(12,19)	-R\$ 66,05	-12,19	Tax refund line item for refundLii Tax	
18	2021-02-01T00:00:00Z	awskms	us-east-1-KMS-Keys		0	USD	\$	(0,14)	-R\$ 0,76	-0,14	Enterprise Program Discount	
19	2021-02-01T00:00:00Z	AmazonRoute53	HostedZone		0	USD	\$	(0,14)	-R\$ 0,76	-0,14	Enterprise Program Discount	

FinOps – Azure Cost Management



FinOps – Azure Cost Management

<https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-connect-azure-cost-management>

Home > Cost Management + Billing > Test billing acct

Test billing acct | Properties

Billing account

Search (Ctrl+/) << General Agreements

Overview

Access control (IAM) ID ⓘ

Billing scopes Name TestUser
[Update name](#)

Cost management

Cost analysis Type Microsoft Customer Agreement

Cost alerts Sold-to ⓘ

Budgets

Advisor recommendations

Billing

Invoices My role ⓘ

Payment methods

Reservation transactions

Billing profiles

Products + services

Azure subscriptions

Recurring charges

Settings

Properties

Exports

Cost allocation (preview)

Support + troubleshooting

New support request

Get Data

Search

All

File

Database

Power Platform

Azure

Online Services

Other

Azure

- Azure SQL database
- Azure Synapse Analytics (SQL DW)
- Azure Analysis Services database
- Azure Database for PostgreSQL
- Azure Blob Storage
- Azure Table Storage
- Azure Cosmos DB
- Azure Data Explorer (Kusto)
- Azure Data Lake Storage Gen2
- Azure Data Lake Storage Gen1
- Azure HDInsight (HDFS)
- Azure HDInsight Spark
- HDInsight Interactive Query
- Azure Cost Management**
- Azure Databricks
- Azure Time Series Insights (Beta)

Certified Connectors | Template Apps

Connect Cancel

<https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-connect-azure-cost-management>

docs.microsoft.com/en-us/power-bi/power-bi-connect-data/desktop-connect-azure-cost-management

BI Personal Developm... FGV Reading agile Free vector icons -... Cadastre-se Descola | Meus Cur... revisar

Filter by title

- Create visuals with the Azure Cost Management connector
- Connect to Azure Consumption Insights data
- Connect to SAP HANA databases
- Enable encryption for SAP HANA
- Connect to Analysis Services tabular data
- Connect to data sources with DirectQuery
- Connect to SAP Business Warehouse with DirectQuery
- Connect to SAP HANA data sources with DirectQuery
- Apply the Assume Referential Integrity setting
- Access SAP BW data with the SAP BW Connector
- Use OneDrive for Business links
- Third-party service: Use the Google Analytics connector
- Connect to Project Online data through Power BI Desktop
- Get data from files
- Get data from shared datasets

Ri usage details

Consumption details for your existing Reserved Instances over the last month.

Ri usage summary

Daily Azure reservation usage percentage.

Usage details

A breakdown of consumed quantities and estimated charges for the given billing profile on EA enrollment.

Usage details amortized

A breakdown of consumed quantities and estimated amortized charges for the given billing profile on EA enrollment.

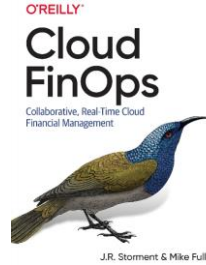
You can select a table to see a preview dialog. You can select one or more tables by selecting the boxes beside their name and then select Load.

InvoiceId	BillingPeriodStartDate	EffectivePrice	Frequency	IsAzureCreditEligible	MeterCategory	MeterId	MeterName	MeterRegion	MeterSubCategory	OfferId	Price
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	fc0c6fb-6fdb-445b-806b-4efe2da26ad0	D4 v3/D4s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96-9141-4e25-88f2-b8953f3ca784	D2 v3/D2s v3	Sao Paulo State	Dv3/DSv3 Series	MS-AZR-0017P A	
Data #	01/07/2021 00:00:00	0.00	UsageBased	True	Virtual Machines	17b3fc96					



<https://www.edx.org/>

<https://www.finops.org/>



Storment, J. R. ; Fuller, Mike.
Cloud FinOps. O'Reilly



Viviam Ribeiro

Cloud Services Manager at Santander

www.linkedin.com/in/viviamrib

viviamrib@gmail.com



@viviamrib



THE DEVELOPER'S CONFERENCE