

# CCW04: The Fin-tastic Way to Boost Your Cloud ROI

**René van Osnabrugge**

**Xebia | Xpirit**

**Level: Intermediate**



**#KATRINA**

EAT  
THE  
RICH.

EAT  
THE  
RICH

EAT  
THE  
RICH





CLOUD & DEVOPS GO HAND IN HAND



**THE SAME MODEL THAT  
BROUGHT FREEDOM  
REMOVED CONTROL**

A stylized illustration of a hand in a dark blue suit jacket pointing directly at the viewer. The hand is rendered with a halftone dot pattern. The background is a brick wall with vibrant graffiti in shades of orange, yellow, and teal. The text 'THIS IS ABOUT YOU!' is written in a white, bold, sans-serif font across the bottom of the image.

**THIS IS ABOUT YOU!**



WHY NOW?

# THE CLOUD PROMISE

**ZDNET** Tomorrow belongs to those who embrace it today

Home / Innovation / Cloud

## Survey: Cost, scalability are primary drivers for cloud usage

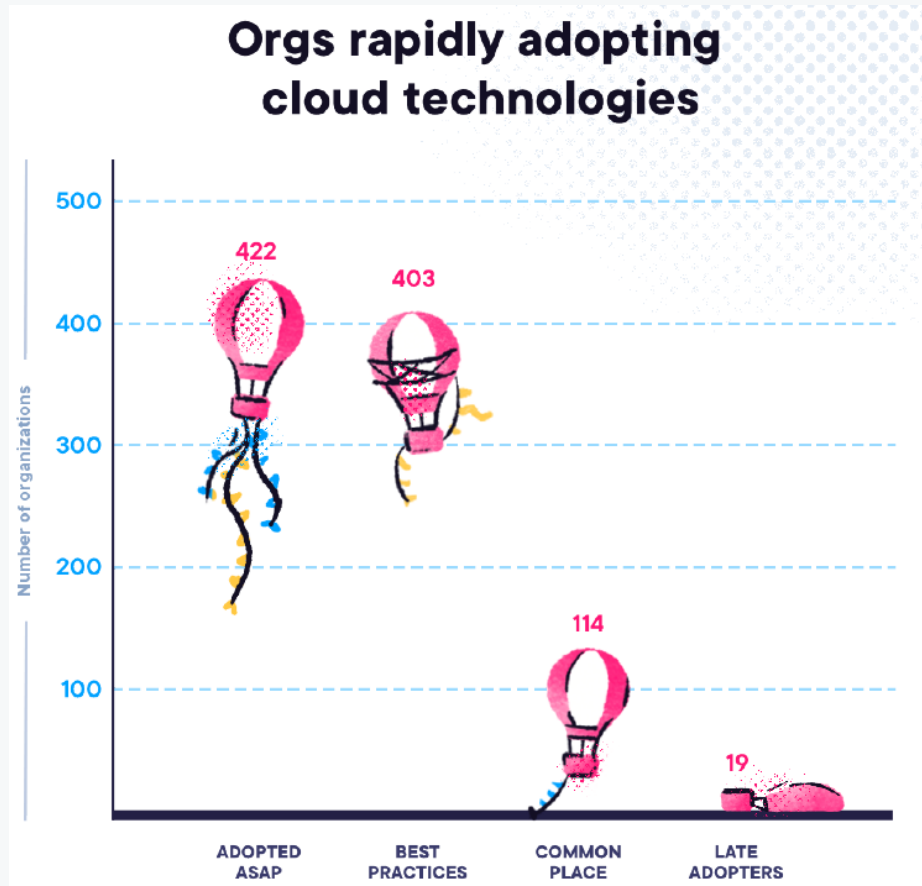
There's nonstop talk about how cloud computing is in its infancy this week at GigaOm's Structure conference in San Francisco. Nevertheless, more companies are favoring the cloud each day for different reasons, but there are a few that stick out.

Written by [Rachel King](#), Contributor on June 23, 2011

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According to the "[Inaugural Future of Cloud Computing Survey](#)," the primary drivers for cloud usage are more flexible scalability and the potential for lower costs on the part of the customers.

# And cloud is here to stay...

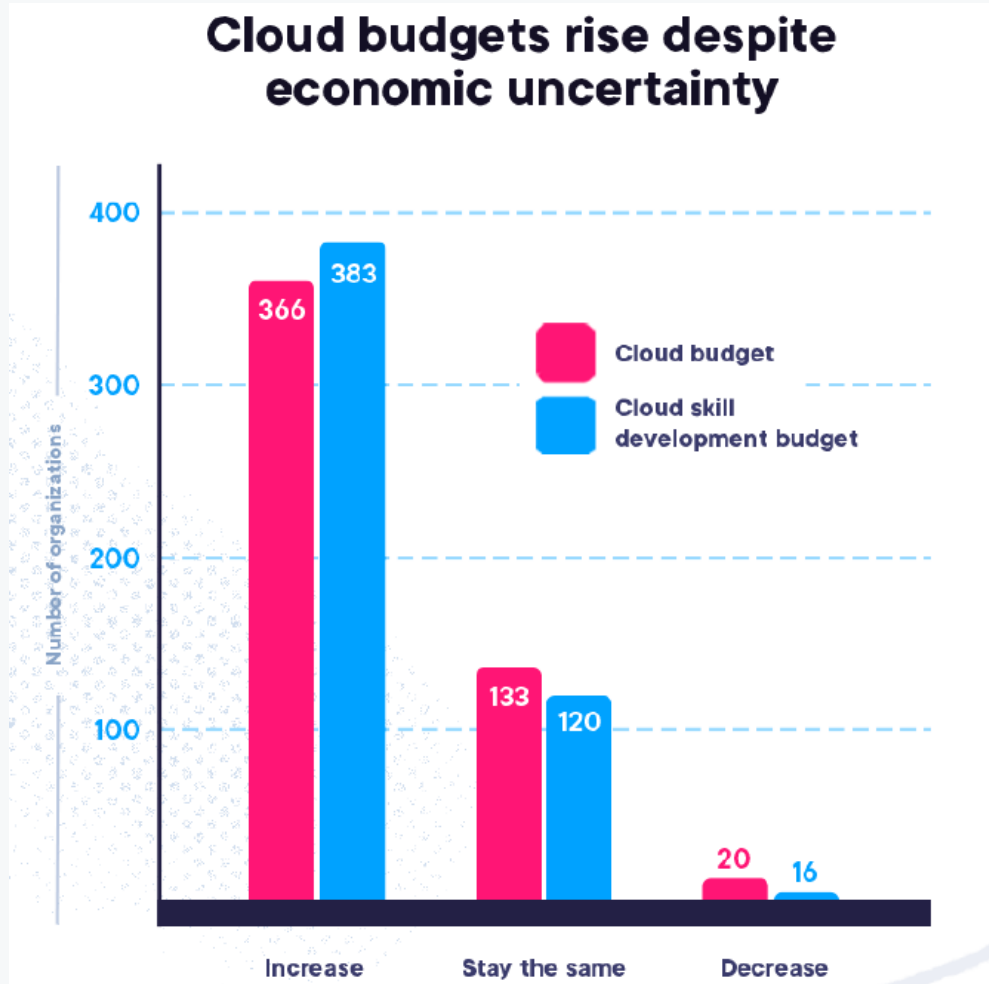


70% of organizations has over 50% of their infrastructure in the cloud.

49% actively move data to the cloud.



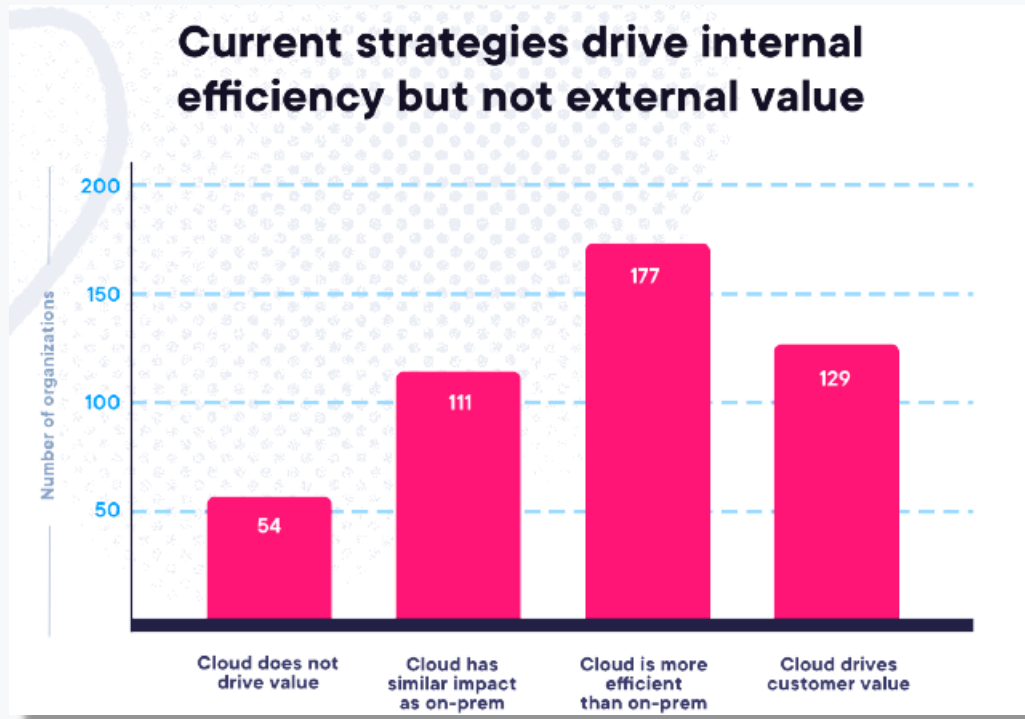
# Cloud budgets rise



71% of leaders saying their cloud budgets will increase over the next 12 months

74% of leaders also expect their cloud skill development budgets to increase

# But cloud does not reach its full potential



80% struggle to improve performance and measurement of cloud systems.

27% of leaders succeed in driving consumer value with their cloud solutions

61% of organizations able to push out new code to consumers more than once per month


# BEFORE & AFTER

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Home / Innovation / Cloud

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**businesswire** ANALYTICAL TECHNOLOGY COMPANY

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## anodot

### New Survey Reveals that Organizations Struggle with Skyrocketing Cloud Computing Costs Amidst the Move to Remote Work

*Independent Survey Sponsored by Anodot Points to Need for AI-Based Cloud Monitoring and Machine Learning to Reduce Cloud Costs Within 30-60 Days*

June 10, 2021 09:00 AM Eastern Daylight Time

ASHBURN, Va. --(BUSINESS WIRE)--Anodot, the autonomous business monitoring company, today announced the results of an independent survey that reveals how organizations struggle to control skyrocketing cloud computing costs of the remote workforce, even as business moves to a hybrid model.

**"Cloud costs are extremely hard to track"**

[Tweet this](#)

In Q2 of 2021, Anodot surveyed more than 100 senior IT, finance, and operations leaders on their experiences managing cloud costs during the pandemic and shortly thereafter as vaccinations became commonplace and more people returned to work. The survey revealed the following:

- **Cloud costs are skyrocketing, and most organizations are having a hard time controlling these costs**
  - Fewer than 20% of survey respondents stated that they were able to immediately detect spikes in cloud costs
  - Greater than 25% stated that it can take months or weeks or several days to notice a spike in cloud costs

# WHAT WE HEAR

SAVE COST OPTIMIZE COST EXPENSIVE POLICIES  
PREDICT COST CLOUD SPEND INVISIBLE CLOUD FEAR  
DATA CENTERS SAVE COST OPTIMIZE COST EXPENSIVE  
POLICIES PREDICT COST CLOUD SPEND INVISIBLE CLOUD  
FEAR DATA CENTERS SAVE COST OPTIMIZE COST  
EXPENSIVE POLICIES PREDICT COST CLOUD SPEND  
INVISIBLE CLOUD FEAR DATA CENTERS SAVE COST  
OPTIMIZE COST EXPENSIVE POLICIES PREDICT COST  
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EXPENSIVE POLICIES PREDICT COST CLOUD SPEND  
INVISIBLE CLOUD FEAR DATA CENTERS SAVE COST





SOME QUESTIONS  
TO YOU

WITH GREAT  
POWER



COMES GREAT  
RESPONSIBILITY

**YET ANOTHER ... OPS**



**FINOPS IS AN EVOLVING CLOUD FINANCIAL MANAGEMENT DISCIPLINE AND CULTURAL PRACTICE THAT ENABLES ORGANIZATIONS TO GET MAXIMUM BUSINESS VALUE BY HELPING ENGINEERING, FINANCE, TECHNOLOGY AND BUSINESS TEAMS TO COLLABORATE ON DATA-DRIVEN SPENDING DECISIONS.**





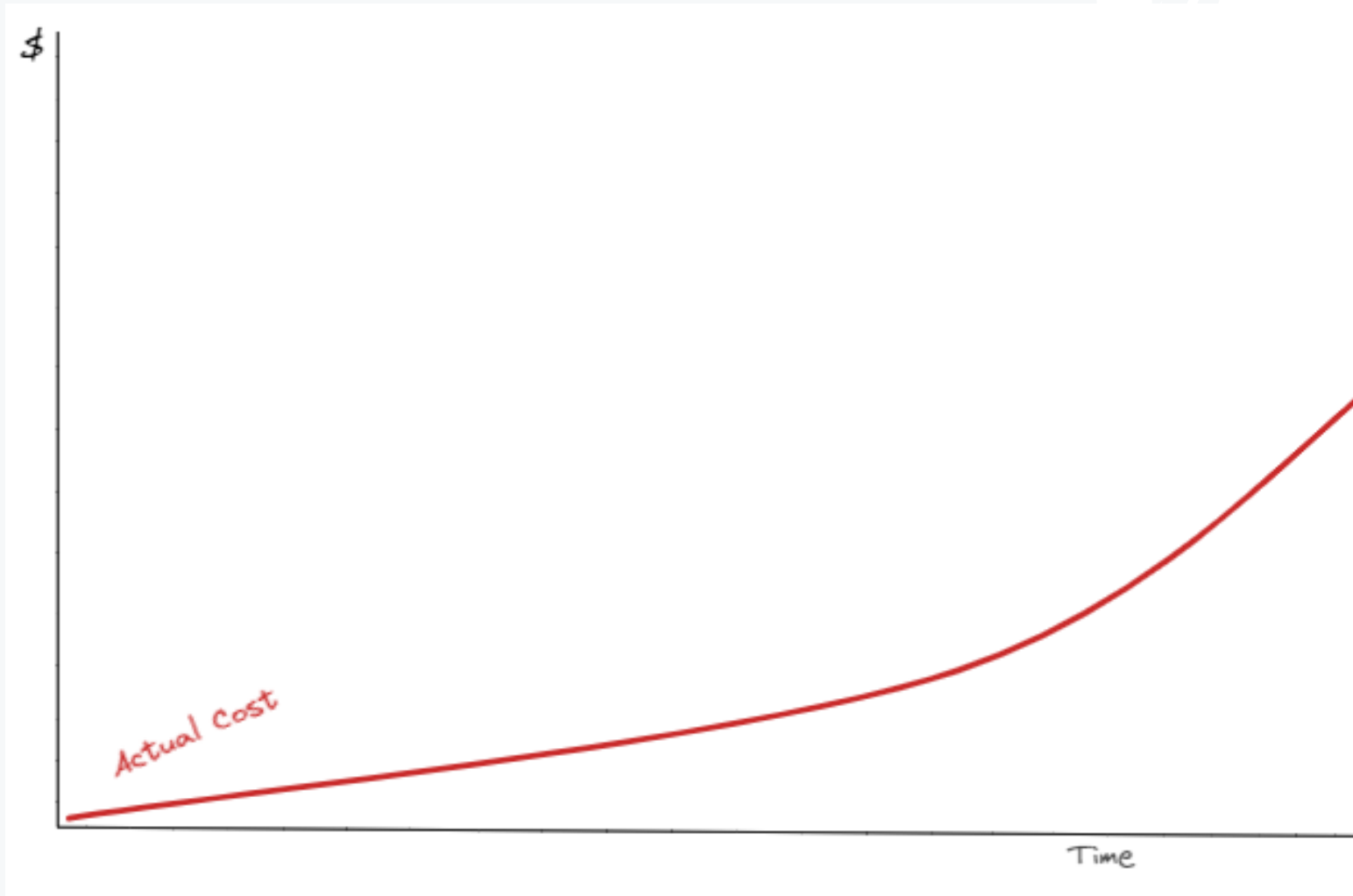


VISIBILITY

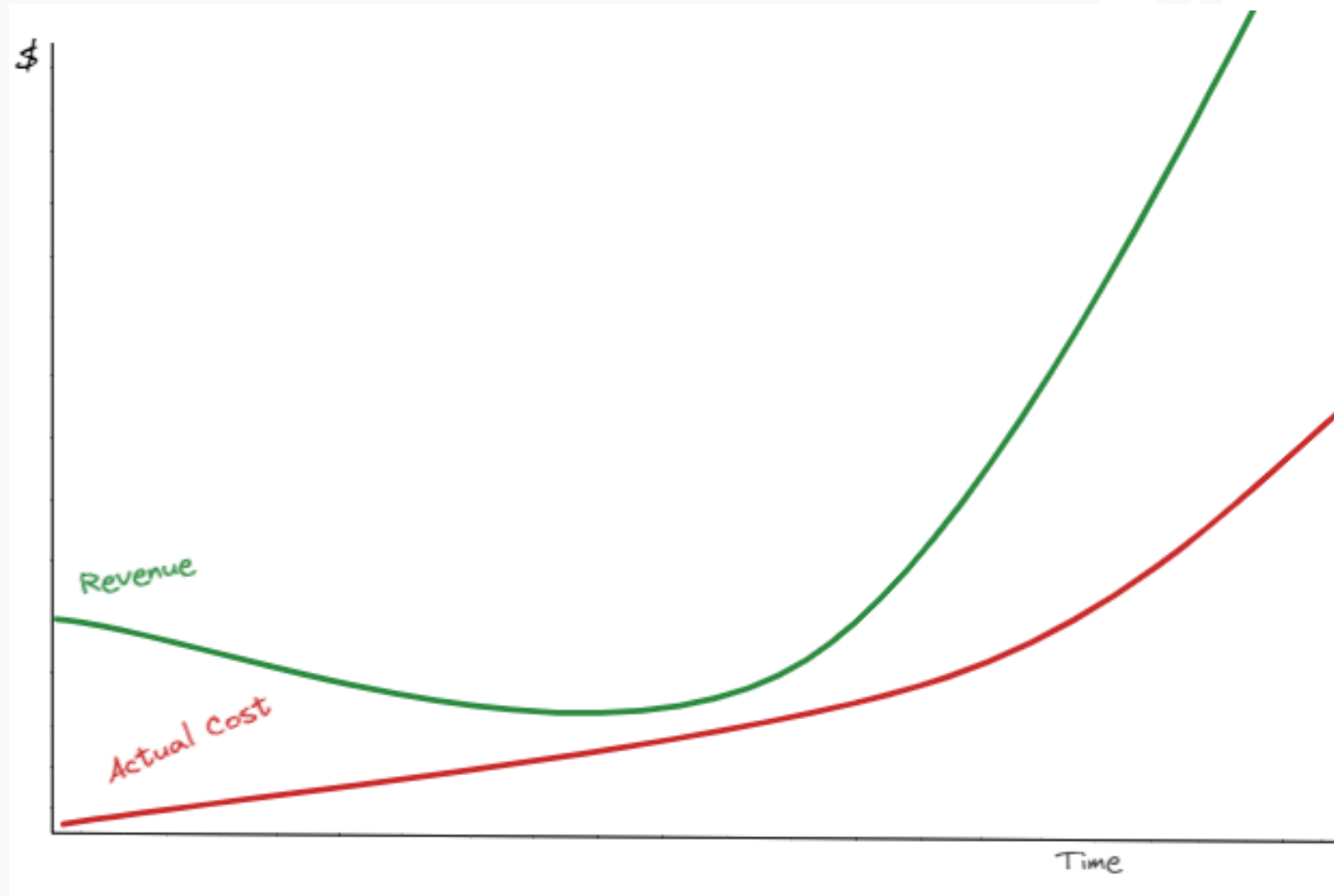
COST  
ARCHITECTING

OWNERSHIP

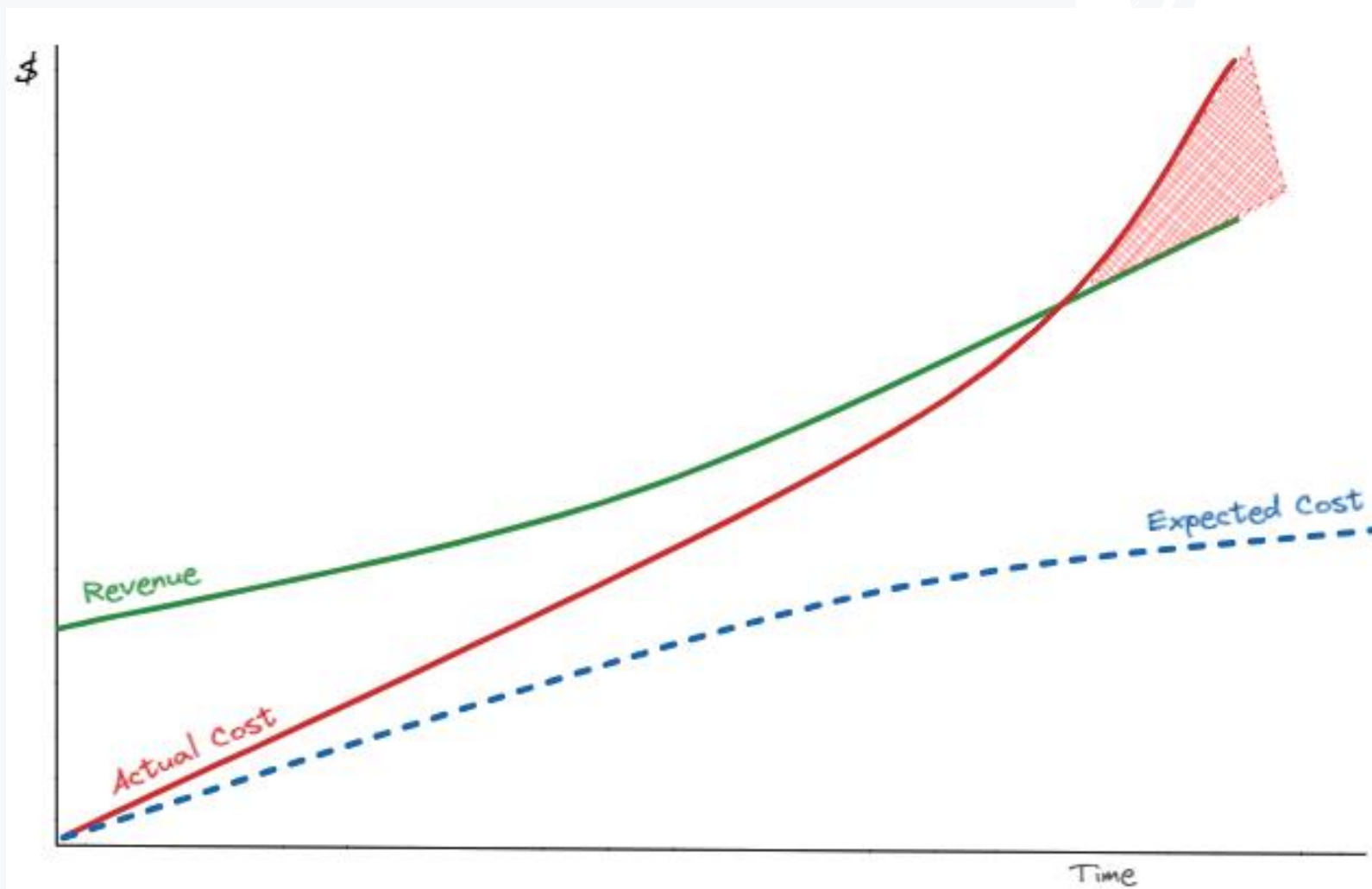
# Cloud is too expensive!



# And now?



# And now?



#PERSPECTIVE



AC18.01

WHAT IS  
CLOUD  
SPEND?



**Bill to**Contoso  
1234 Address Way  
City, State Zip

**Customer PO No.** 512  
**Invoice No.** E12345JTHE  
**Billing Cycle** 3/5/2017 to 4/4/2017  
**Invoice Date** 4/5/2017  
**Payment Method** Credit Card

**Pay-As-You-Go**  
**Account Owner Email** Joe@contoso.com

**Invoice Summary****Production Storage**

Previous balance 664.14  
 Payment - Thank you! -216.00  
 Outstanding balance (from previous billing cycle) 448.14

|                              |        |
|------------------------------|--------|
| <b>Current Charges</b>       |        |
| Usage charges                | 219.45 |
| Adjustments                  | -20.00 |
| <b>Total Pre-Tax Charges</b> | 199.45 |
| VAT (0.000%)                 | 0.00   |

**Total Amount** **647.59** USD

\*Payment instructions on page 2

**Contoso**

Invoice No. E12345JTHE



## Usage Charges

| Name             | Type                  | Resource  | Region   | Consumed  | Included | Billable  | Rate  | Value  |
|------------------|-----------------------|---|----------|-----------|----------|-----------|-------|--------|
| Storage          | Locally Redundant     | Standard IO - Page Blob/Disk (GB)                           |          | 1505.0000 | 0.0000   | 1505.0000 | .0500 | 75.35  |
| Virtual Machines | BASIC.A3 VM (Windows) | Compute Hours   | EU North | 365.9500  | 0.0000   | 365.9500  | .3000 | 109.79 |
| Storage          | Locally Redundant     | Standard IO - Table (GB)                                    |          | 318.7142  | 0.0000   | 318.7142  | .0700 | 22.31  |
| Data Management  |                       | Standard IO - Block Blob Write Operation Units (in 10,000s) |          | 30.0000   | 0.0000   | 30.0000   | .4000 | 12.00  |
| Sub-Total        |                       |   |          |           |          |           |       | 219.45 |

**Grand Total** **219.45** USD

B25

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8

WARD

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AMP  
"E"  
"OID"



COI 4A  
MILLT  
2.1.2



SPEND

USAGE X RATE

7.1.6

7.7.8.7

64

81







DEMO

# Usage

- Compute power
- Storage space
- Disks
- Network inbound/outbound
- IP Addresses
- Security features
- AI functionality
- Number of instances
- Redundancy
- Etc.



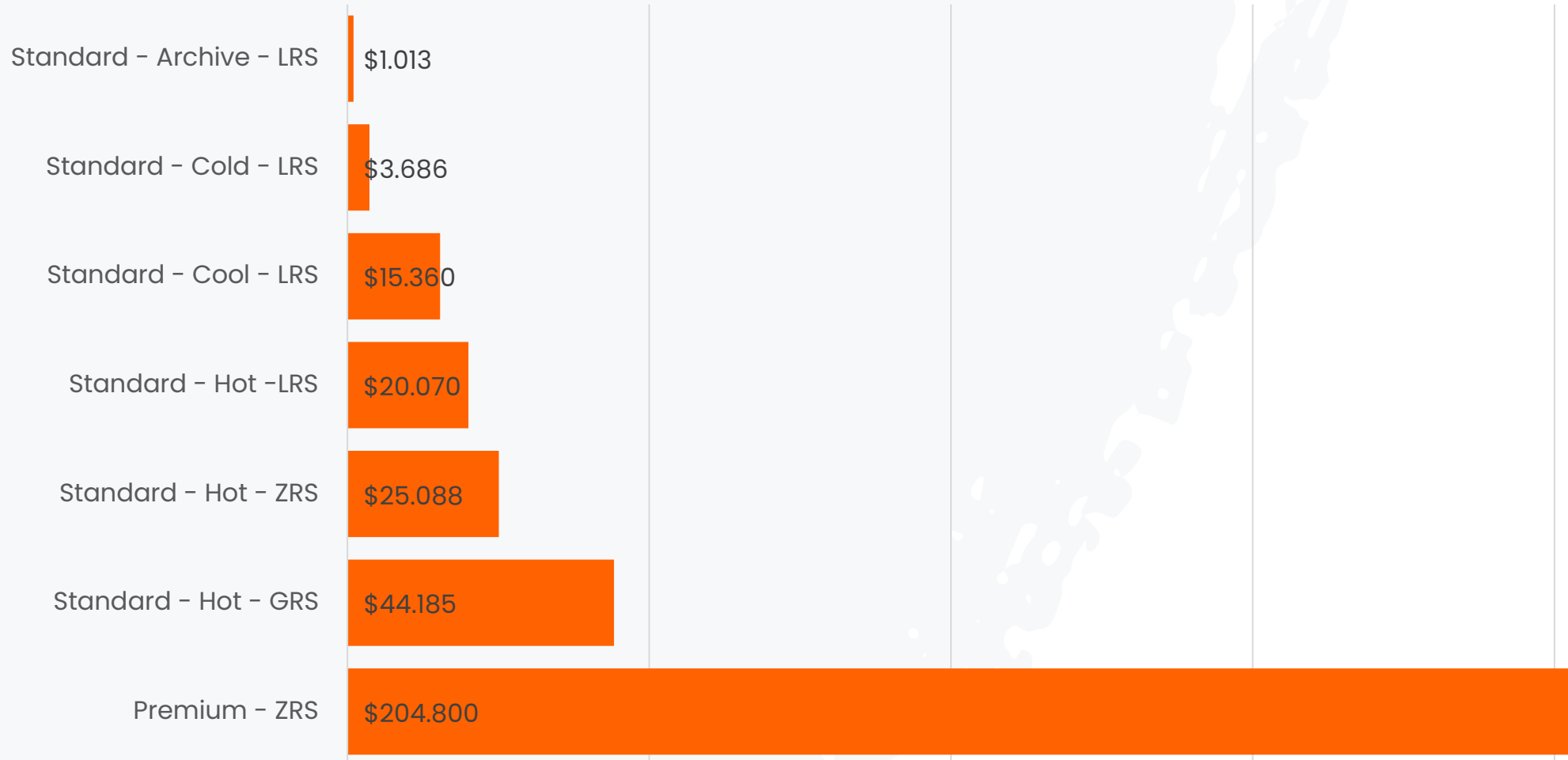
PAY WHAT  
YOU USE?



PAY WHAT  
YOU PROVISION?



# Example of Storage Account SKU



1 Petabyte storage / month in West Europe

# Rates

The amount of money charged or paid for a particular service, product, or activity

Different rates for many different services

Compute, Network, I/O, Scaling, Instances, SKU,  
Availability

Rates vary depending on usage





PRICE IS WHAT YOU PAY.  
VALUE IS WHAT YOU GET.

WARREN BLANKET

**RATE**

**REDUCTION**

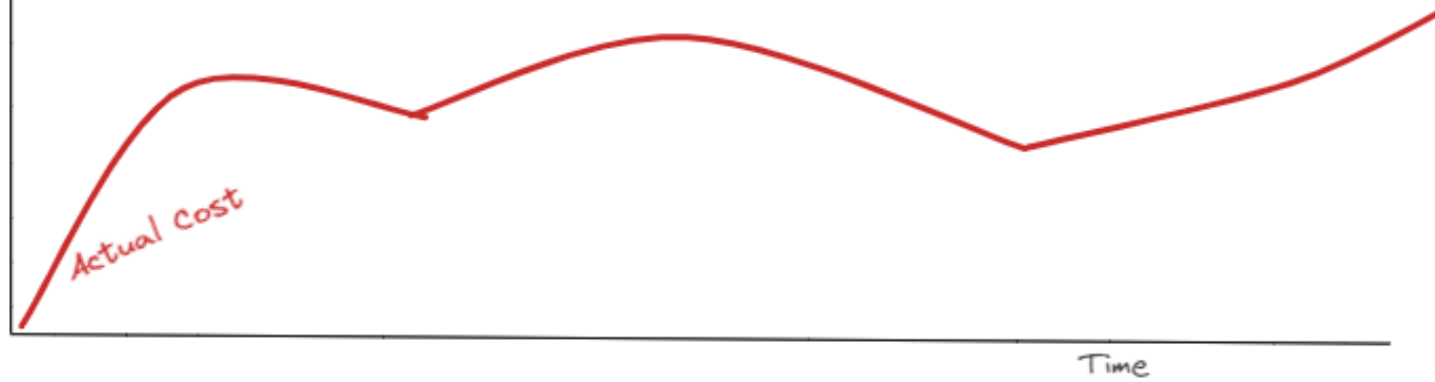


**COST**

**AVOIDANCE**

# Revisions to the Budget

\$





# Rate Reduction

Pay-as-you-go (on-demand)

Spot Instances

Reserved Instances

Saving Plans

Commitment-Based Discounts

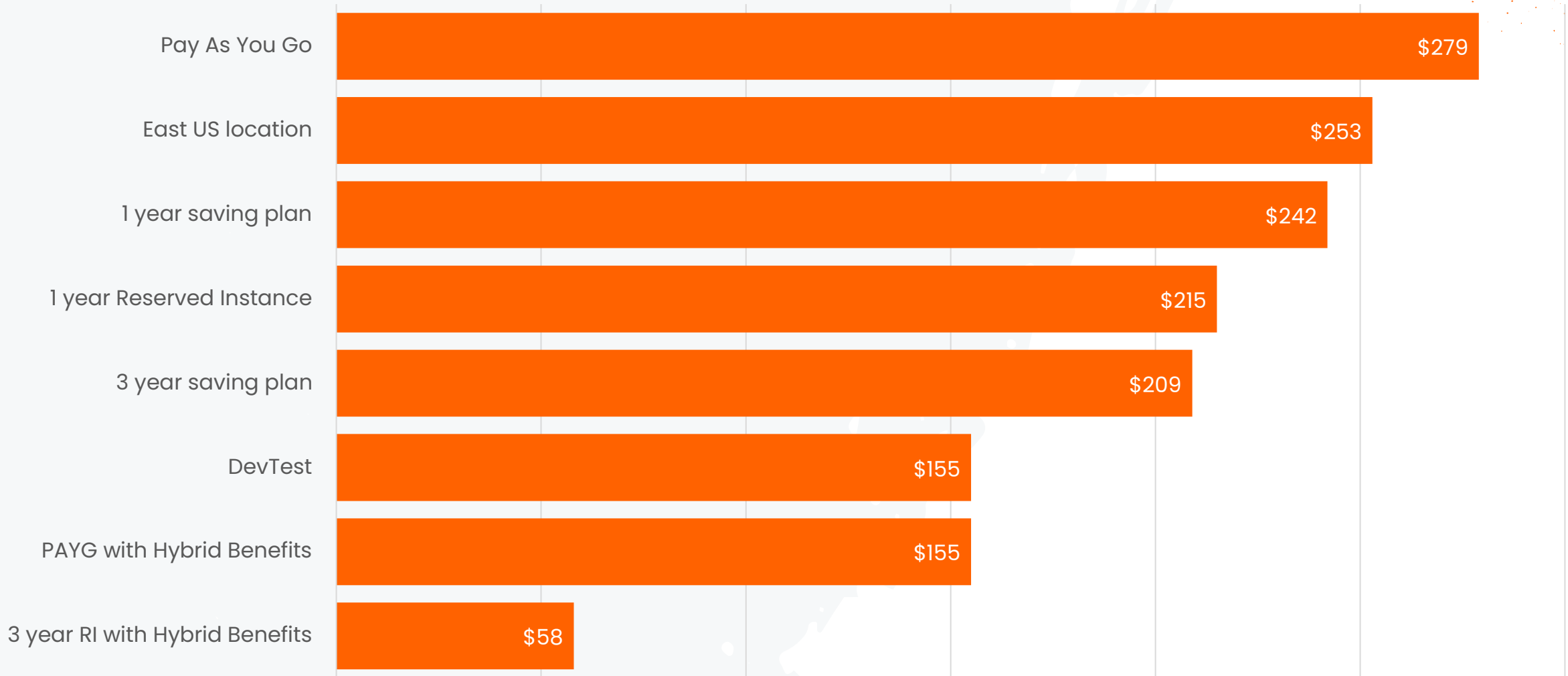
Enterprise Agreement

Dev/Test subscriptions

Hybrid Benefits



# Example VM rates



1 VM in West Europe - D4 v5 - 730 Hours - Standard Windows, per Month

# Cost Avoidance

## Which resources show a stable usage?

Removing / Moving

Data Retention Policies

Delete Resources

Rightsizing

Smart Combining

Shared Services

Prod or Non-Prod?

Selective Use / Scaling

Re-Architecting

SKU





DEMO  
COST  
ADVISOR

# Azure Cost Recommendations

Microsoft Azure | Search resources, services, and docs (G+)

Home > Cost Management: Mechanics

## Cost Management: Mechanics | Advisor recommendations

Billing account

Search

Feedback | Download as CSV | Download as PDF | Create alert | Create recommendation digest

Subscription equals 64 of 76 selected | Recommendation Status equals Active | Resource Group equals All | Type equals All | Add Filter

Commitments equals 3 years, 30 days

No grouping

Total recommendations: 8

Recommendations by impact: 5 High impact, 2 Medium impact, 1 Low impact

Impacted resources: 76

Potential yearly savings based on retail pricing: 138,988 USD

For more cost management and optimization capabilities, visit Cost Management

| Impact | Description   | Potential yearly savings based on... | Impacted resources        | Last updated        |
|--------|---|--------------------------------------|---------------------------|---------------------|
| High   | Right-size or shutdown underutilized virtual machines <a href="#">Quick fix</a> | 24,084 USD                           | 61 Virtual machines       | 6/21/2023, 11:14 AM |
| High   | Purchasing a savings plan for compute could unlock lower prices                 | 5,377 USD                            | 1 Subscription            | 6/21/2023, 06:26 PM |
| High   | Consider SQL PaaS DB reserved instance to save your pay-as-you-go costs         | 2,911 USD                            | 1 Subscription            | 6/21/2023, 02:30 PM |
| High   | Consider virtual machine reserved instance to save over your on-demand costs    | 7,902 USD                            | 1 Subscription            | 6/21/2023, 04:22 PM |
| High   | Use Standard Storage to store Managed Disks snapshots                           | No data                              | 11 Managed Disk Snapshots | 6/21/2023, 04:30 PM |
| Medium | Unused running Data Explorer resources  | 81 USD                               | 1 Data explorer resource  | 6/21/2023, 06:19 PM |
| Medium | Enable optimized autoscale for Data Explorer resources                          | 1,893 USD                            | 1 Data explorer resource  | 6/21/2023, 03:25 PM |
| Low    | Provision the optimal amount of Request Units for Azure Cosmos DB               | 96,740 USD                           | 1 Cosmos DB account       | 6/21/2023, 12:02 PM |

Recommendations are powered by Azure Advisor. [View all recommendations in Advisor >](#)

[Are these recommendations helpful?](#)

# Azure Cost Recommendations

The screenshot displays the Azure Cost Management dashboard. On the left, the 'Summary' tab is active, showing an amount due of \$10,047.00 for July 2023. Below this, there are buttons for 'Pay now' and 'View invoice'. A line chart shows the ending rate and forecast from 07/01 to 07/29. On the right, the 'Upcoming invoices' section shows the billing period and a pre-tax total of \$8,850.20. Below that, a donut chart shows 'This month's top product categories' with Networking at 72%, Storage at 17%, and Compute at 100%.

**Copilot in Cost Management**

Your invoice has an amount due of \$10,047.00. The billing period was June 1, 2023 to June 30, 2023. Invoice T000990077 is scheduled to be paid on July 31, 2023.

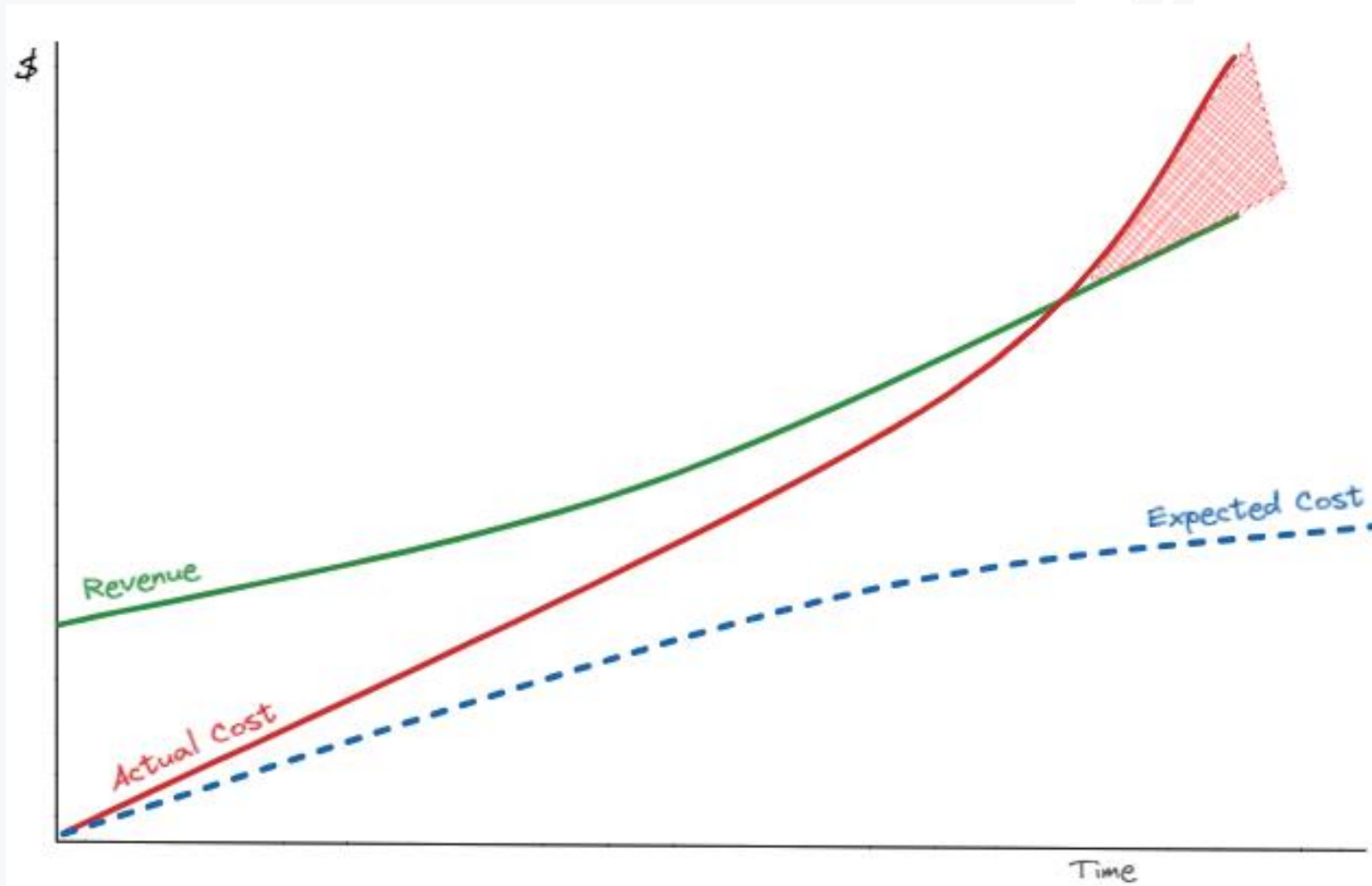
Here are the top charges by service:

| Service    | Amount     | % of total |
|------------|------------|------------|
| Networking | \$6,229.14 | 62%        |
| Storage    | \$1,808.46 | 18%        |
| Compute    | \$1,507.05 | 15%        |
| Other      | \$502.35   | 5%         |

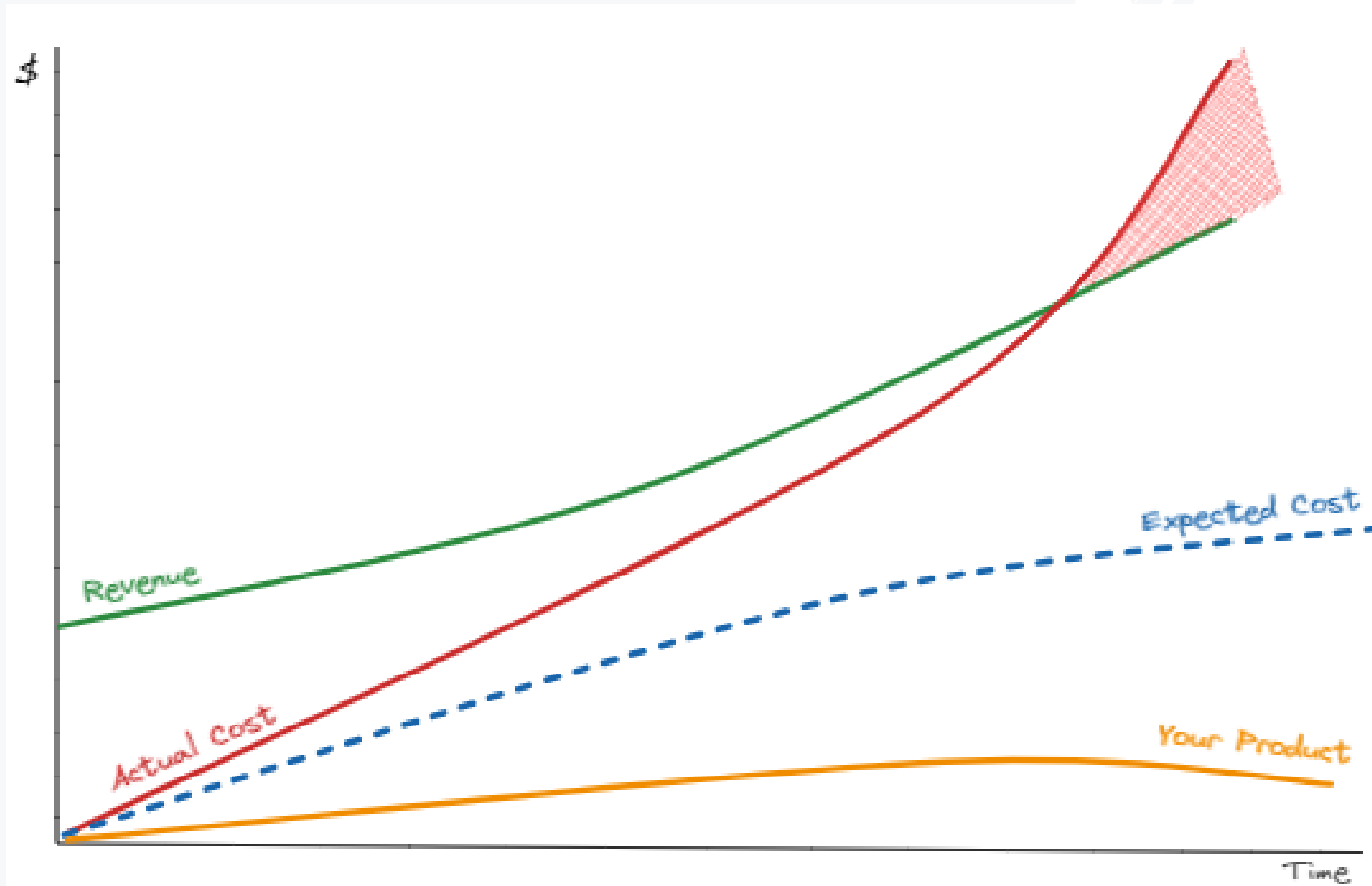
**Insight**  
This is a 12% increase from the previous billing period of May 1, 2023 to May 31, 2023.

2 references ⌵ AI-generated content may be incorrect 👍 👎

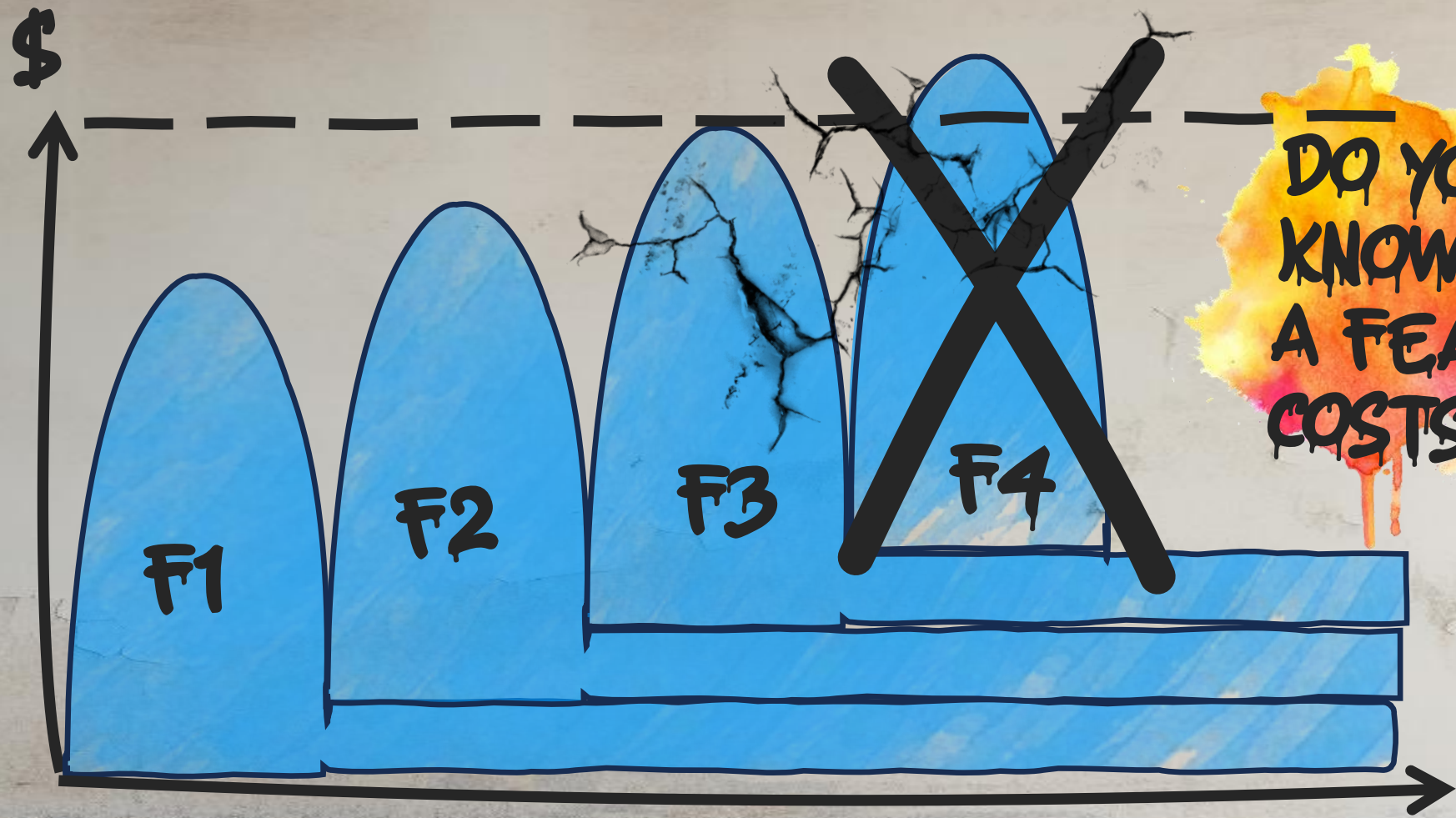
# Development teams need to save cost!



# Is that true?

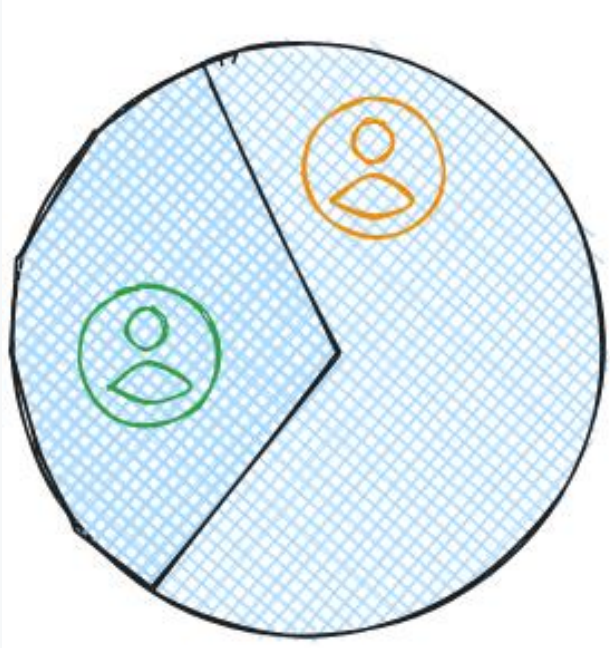




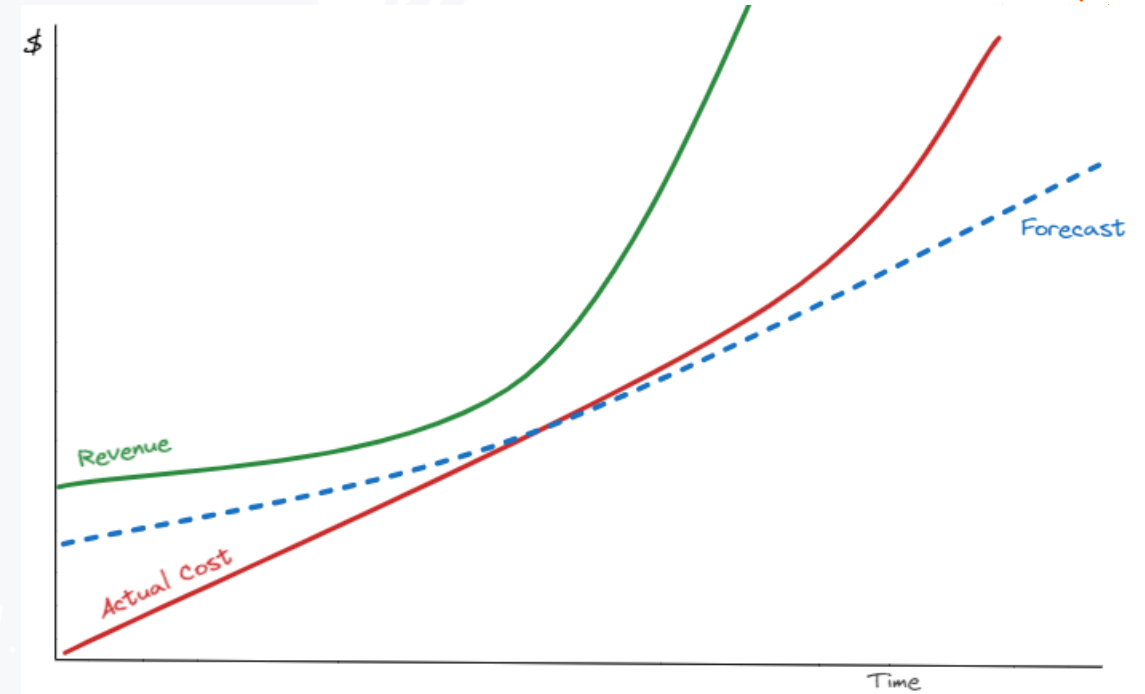


DO YOU  
KNOW WHAT  
A FEATURE  
COSTS?

# We need ownership..



# ..and budgets





**OWNERSHIP!**

# Ownership

Who owns the cost?

- per product
- per department
- per unit
- per ?

Who owns the shared cost?

How to showback or chargeback?





DEMO

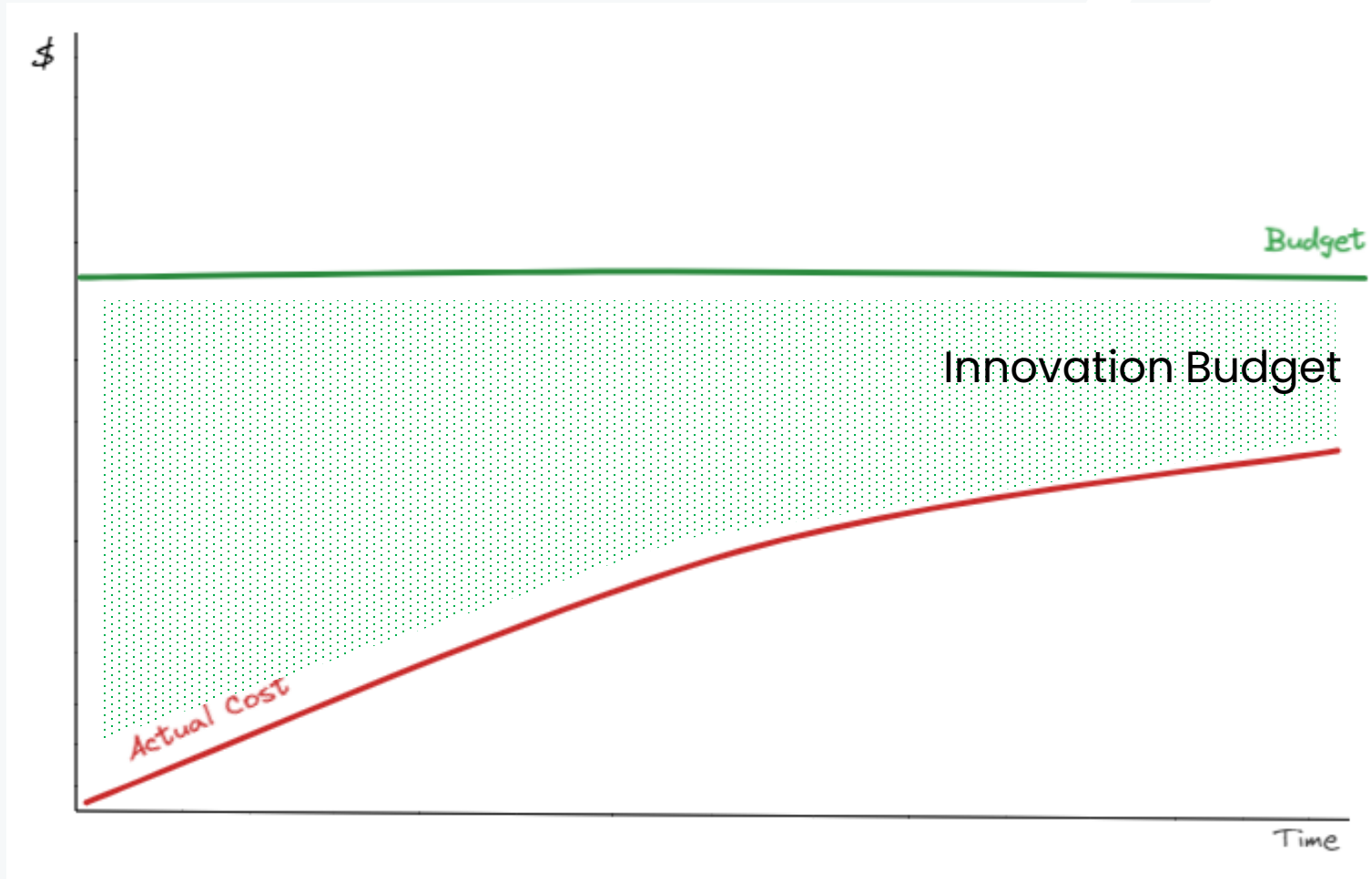


AND CONTAINERS?

CREATE VALUE INSTEAD  
OF CONSUME IT!

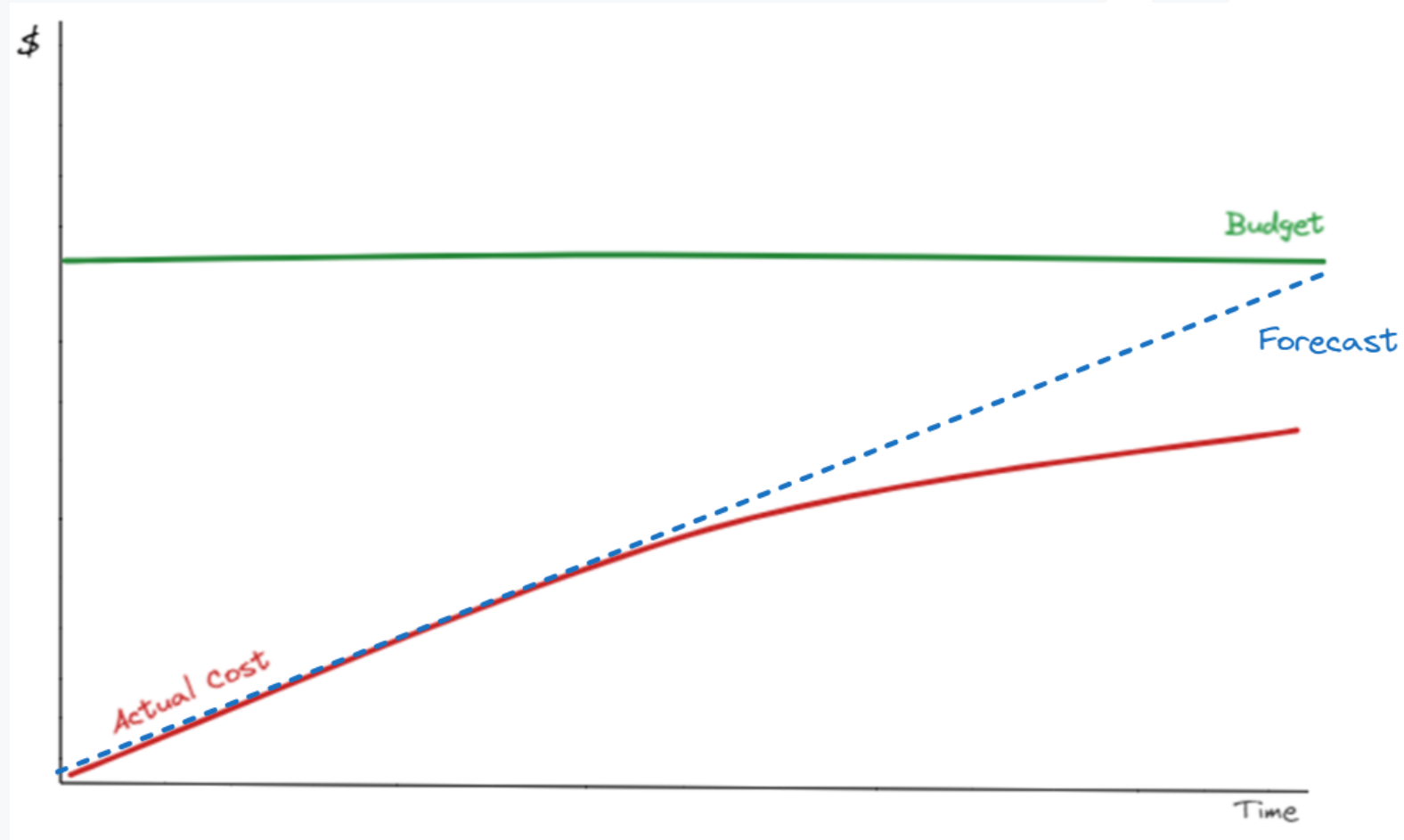


# Budgets are real





# Forecasts are needed



# Understand growth with Cloud Unit Economics

Unit economics is about understanding the money you make and spend on each thing you sell.







Cloud unit economics does this specifically for cloud products or services, helping you see if they're making you money.





DIFFERENT PEOPLE  
DIFFERENT  
PERSPECTIVES

# Examples

|   |   |   |   |   |  |
|---|---|---|---|---|--|
|  |  |  |        |  |                                 |
| <b>Financial SaaS Company</b>   | <b>Governmental Organization</b>  | <b>Online Hotel Booking company</b>   | <b>Rideshare company</b>  | <b>Video Conferencing Company</b>   | <b>Professional Services Company</b>   |
| <b>Product:</b> SaaS platform   | <b>Product:</b> Application to let residents request literature                   | <b>Product:</b> Booking platform  | <b>Product:</b> Ridesharing app   | <b>Product:</b> Video Conferencing SaaS   | <b>Product:</b> Internal application used to provide accounting services   |
| <b>Metric:</b> Cost per analyzed financial transaction                            | <b>Metric:</b> Cost per user  | <b>Metric:</b> Cost per reservation   | <b>Metric:</b> Cost per ride  | <b>Metric:</b> Cost per active user   | <b>Metric:</b> Cost per client engagement  |
| <b>Benefit:</b> Tied to cost to serve, Tied to pricing                            | <b>Benefit:</b> Understand better how the site usage affects their costs          | <b>Benefit:</b> Understand the impact of seasonality on infrastructure consumption  | <b>Benefit:</b> Determine cost-effective scaling strategies connected to passenger demand | <b>Benefit:</b> Track who their most expensive customers are                        | <b>Benefit:</b> Per-engagement profitability analysis; identify inefficient use of application by engagement teams |



AND NOW WHAT

# APPLY FINOPS



TEAMS NEED TO COLLABORATE

DECISIONS ARE DRIVEN BY BUSINESS  
VALUE OF CLOUD

EVERYONE TAKES OWNERSHIP FOR THEIR  
CLOUD USAGE

REPORTS SHOULD BE ACCESSIBLE  
AND TIMELY

A CENTRALIZED TEAM ENABLES FINOPS

TAKE ADVANTAGE OF THE VARIABLE COST  
MODEL OF THE CLOUD

**APPLY FINOPS**

**USAGE**

**RATE**

**USAGE**

**USAGE**

**IT SAYS  
NOTHING ABOUT  
SAVING COST!**



SHIFT LEFT



# REQUIREMENTS

COST IN THE DOD  
PRICING CALCULATOR

# BUILD

COST ARCHITECTING  
DIRECT FEEDBACK LOOPS



# RUN

MONITORING & INSIGHTS  
ALERTS





DEMO

**WRAP-UP**

EAT  
THE  
RICH.

EAT  
THE  
RICH

EAT  
THE  
RICH





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**HTTPS://ROADTOALM.COM**

## **Attributions**

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Music: [Spotify](#)

Thanks: Michiel, Matthijs, Geert

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