

“Cost management” is the process of **planning and controlling** costs

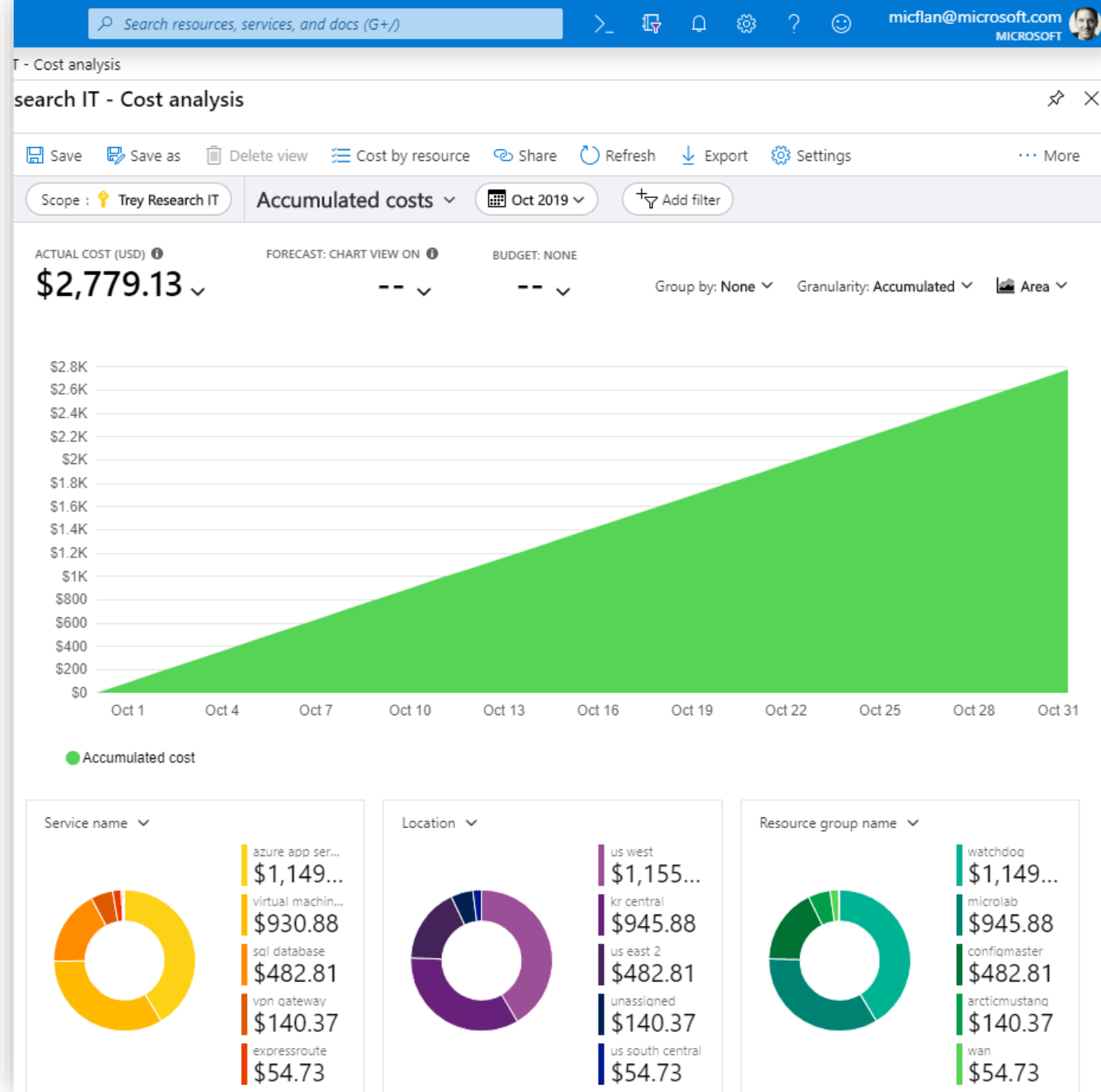
 Analyze

 Control

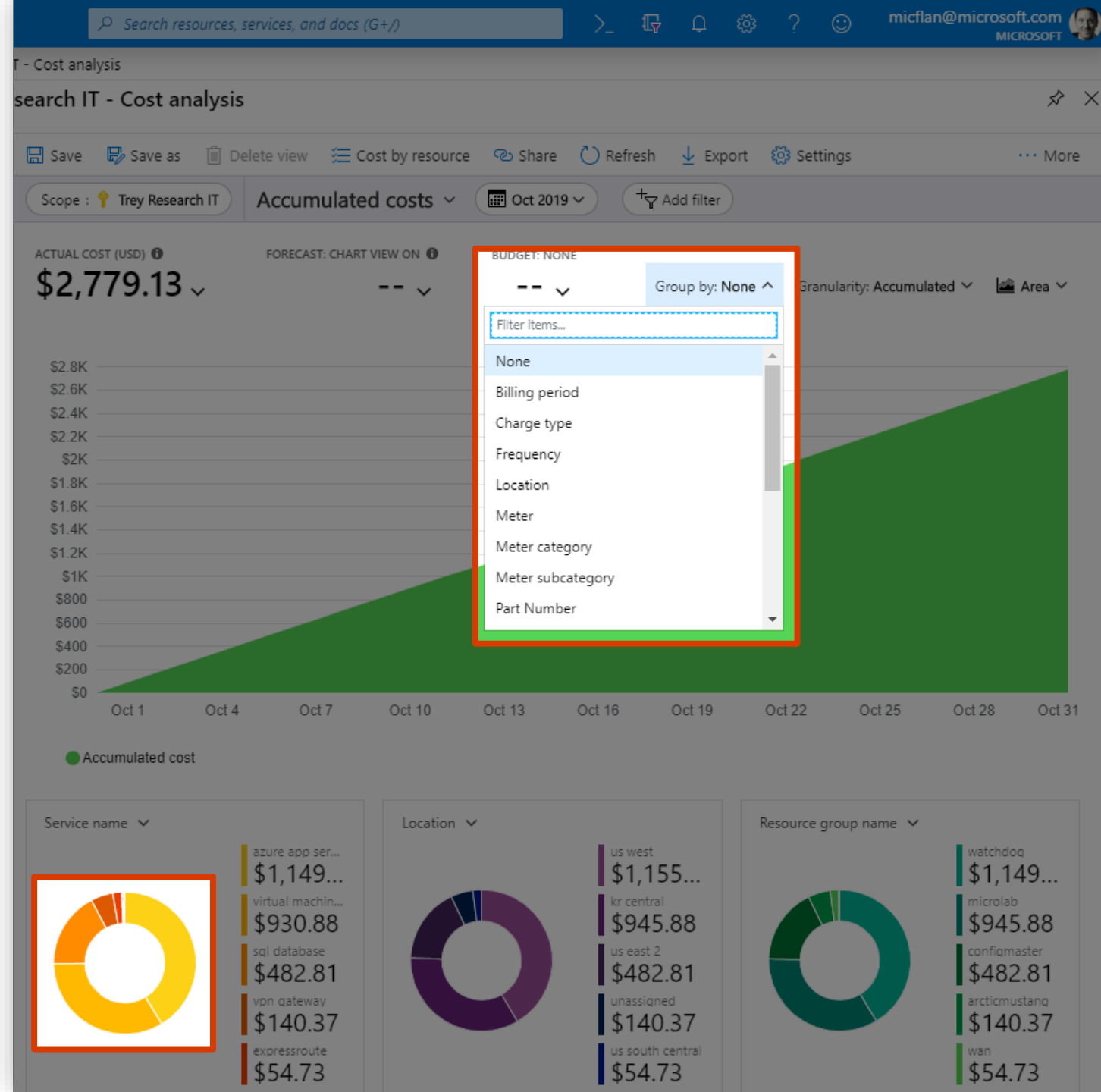
 Optimize



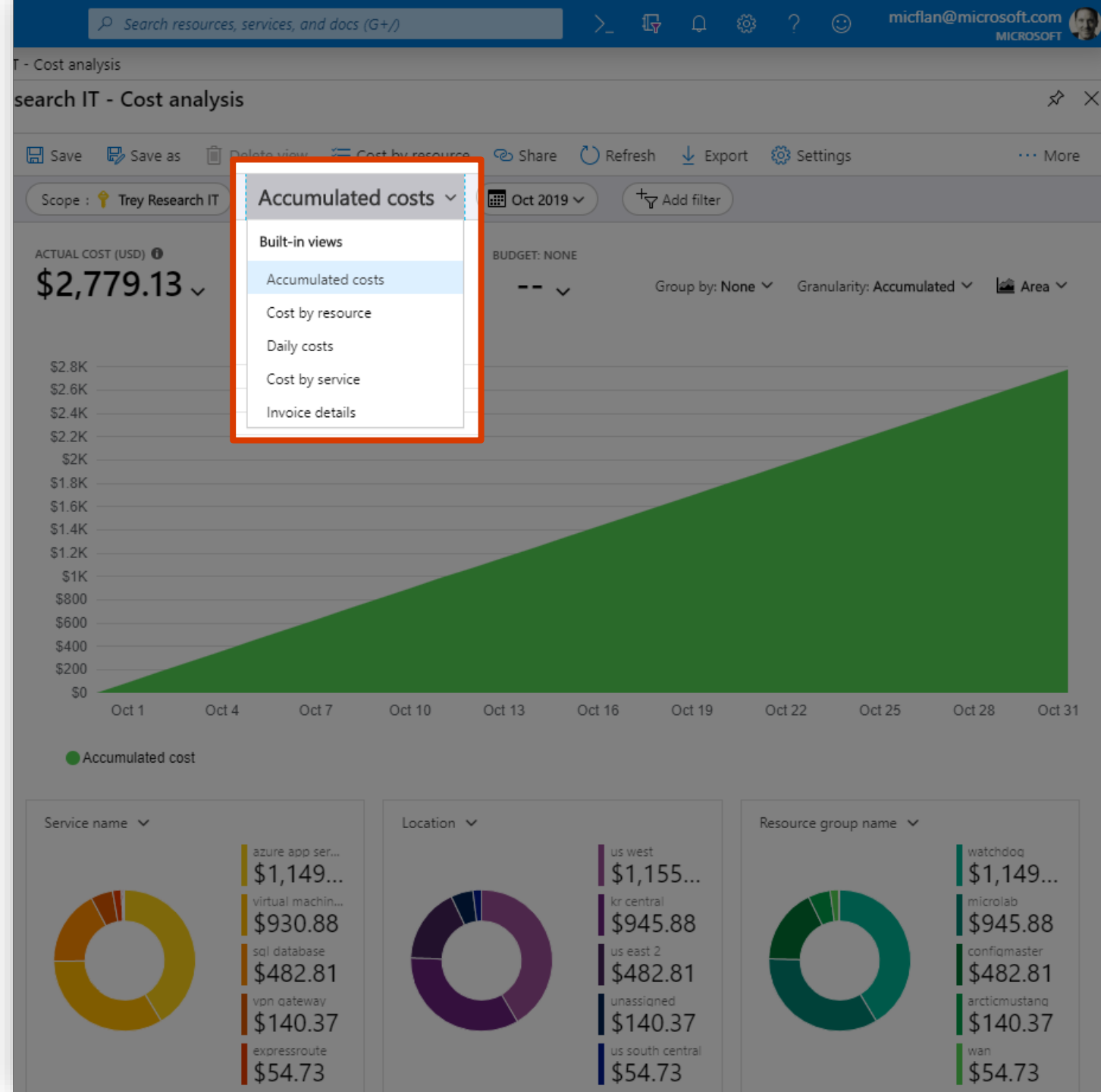
To understand what you're spending and where, you'll start in **cost analysis**



To **drill in** further,
click a **chart segment**
or set a **group by** option



Start with **built-in views**,
customize to explore



Start with **built-in views**,
customize to explore

Search resources, services, and docs (G+/)

micflan@microsoft.com MICROSOFT

T - Cost analysis

search IT - Cost analysis

Save Save as Delete view Cost by resource Share Refresh Export Settings More

Scope : Trey Research IT

Cost by resource

Built-in views

- Accumulated costs
- Cost by resource
- Daily costs
- Cost by service
- Invoice details

ACTUAL COST (USD) \$2,779.13

Filter items

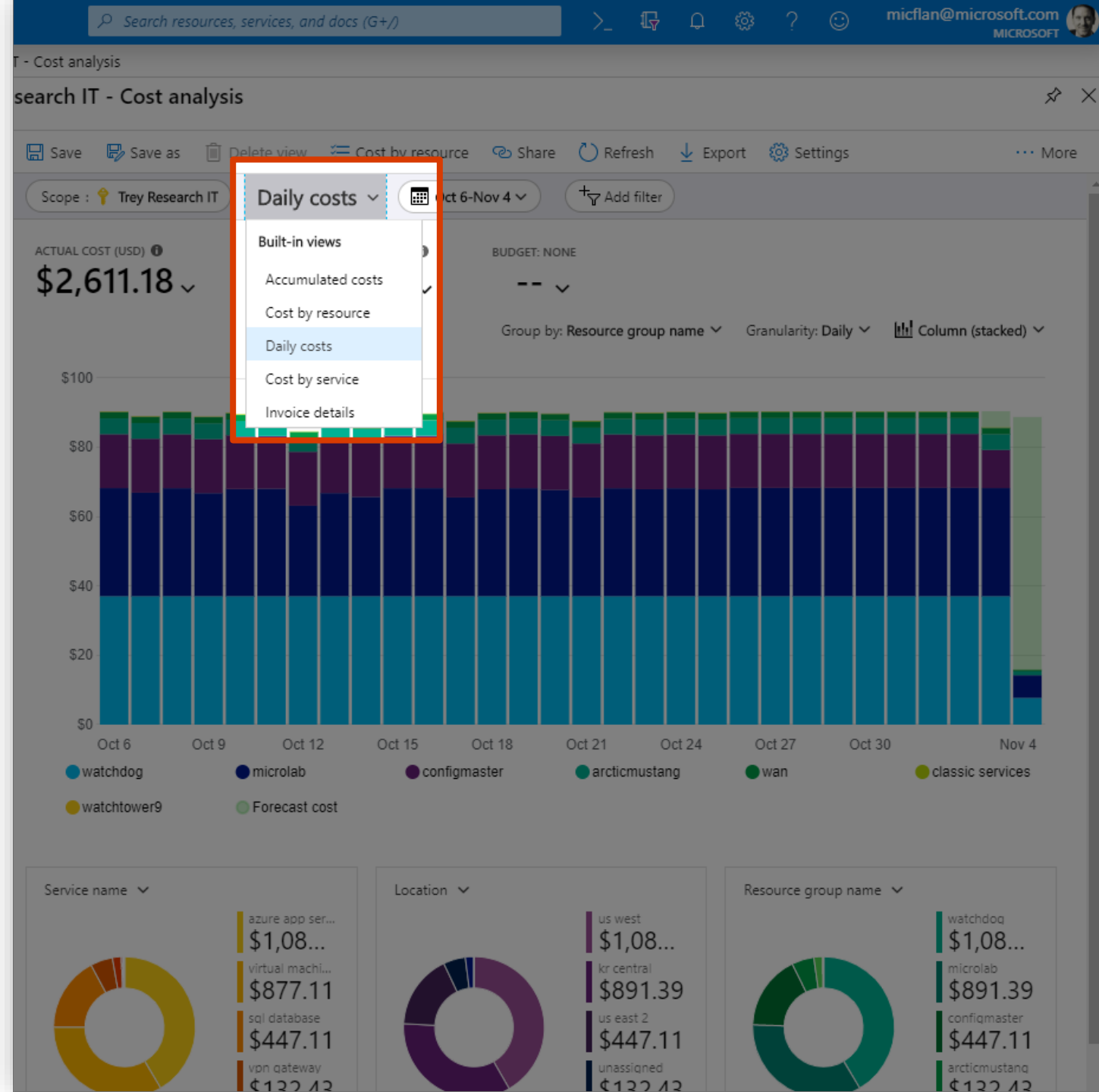
BUDGET: NONE

Group by: Resource Granularity: None Table

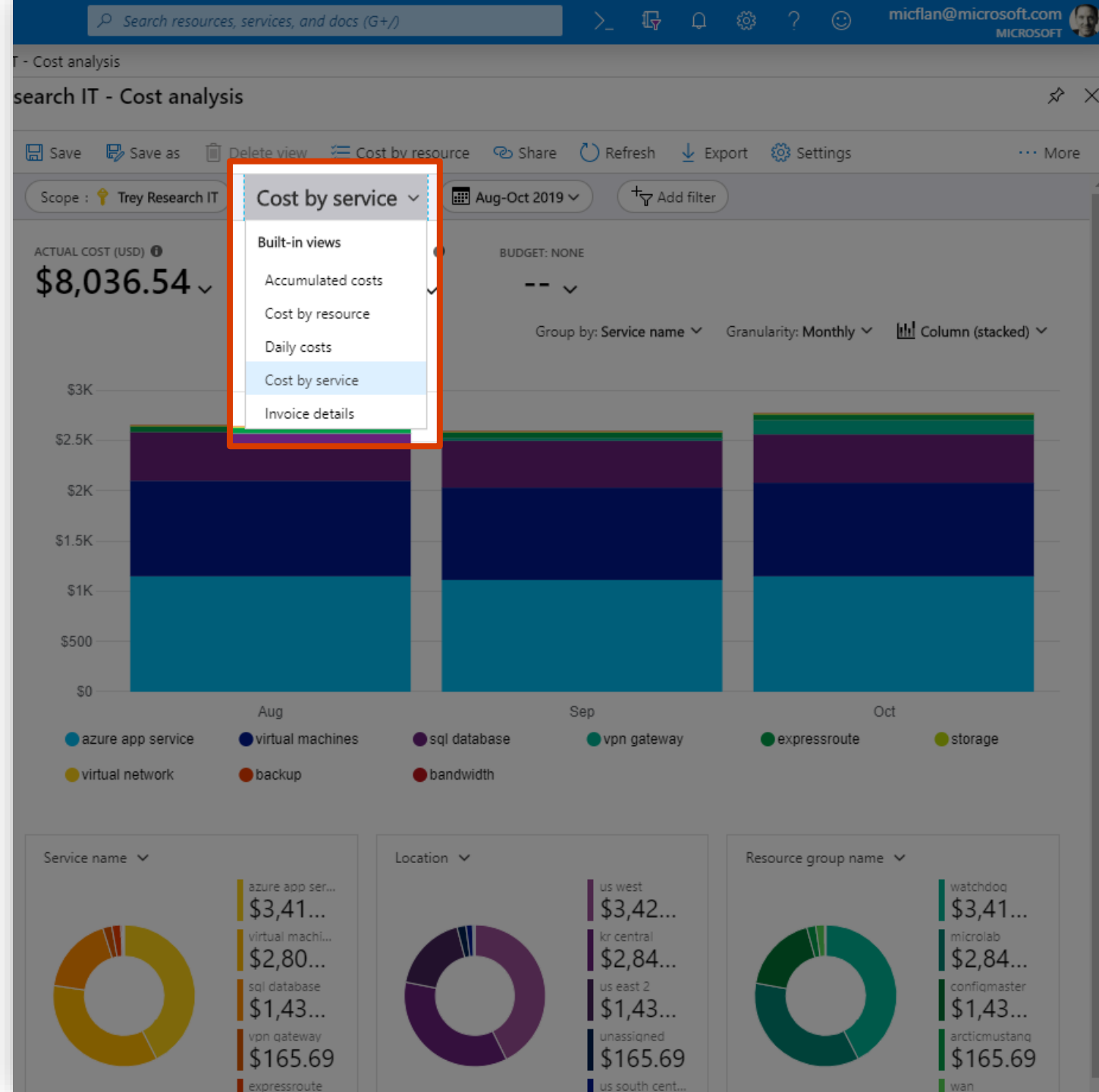
Resource	Resource group	Resource group	Tags	Cost
monthlystampfee_for_w...	App Service environment	us west	watchdog	\$1,149.48
microanalysisengine	Virtual machine	kr central	microlab	\$930.98
labconfigmaster / confi...	SQL server	us east 2	configmaster	\$452.35
arcticring	Virtual network gateway	unassigned	arcticmustang	\$140.37
shortcircuit	ExpressRoute circuit	us south central	wan	\$54.73
labconfigmaster /	SQL server	us east 2	configmaster	\$30.46
Not applicable	classic services	us west	classic services	\$5.86
microvault	Recovery Services vault	kr central	microlab	\$5.68
microanalysisengine_os...	Disk	kr central	microlab	\$5.51
microlabdiag629	Storage account	kr central	microlab	\$3.71
testtestet	Storage account	us east	arcticmustang	<\$0.01
watchtower9	Storage account	us central	watchtower9	<\$0.01
watchtower9	App Service	us central	watchtower9	\$0

2 Visibility

Start with **built-in views**,
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Invoice details

Built-in views

- Accumulated costs
- Cost by resource
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ACTUAL COST (USD) \$2,779.13

BUDGET: NONE

Group by: Meter Granularity: None Table

Publisher ty...	Charge ty	Service tier	Meter	Part Number	Cost ↑↓
azure	usage	azure app service	stamp fee	aaa-43481	\$1,149.48
azure	usage	virtual machines	ev3 series vm	aaa-48906	\$930.88
azure	usage	sql database	sql db single/elasti...	aad-17857	\$452.35
azure	usage	vpn gateway	vpn gateway	aaa-21819	\$140.37
azure	usage	expressroute	expressroute	j2q-00321	\$54.73
azure	usage	sql database	sql db single/elasti...	aad-18004	\$30.46
azure	usage	virtual network	ip addresses	t6z-00022	\$5.86
azure	usage	storage	premium ssd mana...	aad-18269	\$5.26
azure	usage	backup	backup	n9h-00430	\$5.00
azure	usage	storage	tables	aaa-19645	\$3.65
azure	usage	backup	backup	aaa-70236	\$0.68
azure	usage	storage	premium page blob	aaa-19633	\$0.25
azure	usage	bandwidth	bandwidth	q5h-00002	\$0.11
azure	usage	storage	general block blob	n9h-00821	\$0.03
azure	usage	storage	tables	n9h-00758	\$0.02
azure	usage	storage	standard page blob	n9h-00813	<\$0.01
azure	usage	storage	standard page blob	n9h-00795	<\$0.01
azure	usage	storage	general block blob	n9h-00825	<\$0.01
azure	usage	storage	general block blob	n9h-00741	<\$0.01
azure	usage	storage	tables	n9h-00637	<\$0.01

2 Visibility

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Search resources, services, and docs (G+)

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Cost analysis

search IT - Cost analysis

Save Save as Delete view Cost by resource Share Refresh Export Settings More

Scope : Trey Research IT * Cost by resource Oct 2019 Add filter

ACTUAL COST (USD) \$2,779.13 FORECAST: CHART VIEW ON BUDGET: NONE

Group by: Resource group name Granularity: None Table

Filter items 7 rows

Resource group name	Cost ↑↓
watchdog	\$1,149.48
microlab	\$945.88
configmaster	\$482.81
arcticmustang	\$140.37
wan	\$54.73
classic services	\$5.86
watchtower9	<\$0.01

Share views to
raise awareness and
drive accountability

Search resources, services, and docs (G+)

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- Cost analysis

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3 Accountability

Automate
accountability
with **budgets**

Search resources, services, and docs (G+/)

> Cost Management: Trey Research HR - Budgets > Create budget

rch HR - Create budget

✓ Create a budget

2 Set alerts

Create a budget and set alerts to help you monitor your costs.

BUDGET SCOPING

The budget you create will be assigned to the selected scope. Use additional filters like resource groups to have your budget monitor with more granularity as needed.

Scope

Trey Research IT

Change scope

+ Add filter

BUDGET DETAILS

Give your budget a unique name. Select the time window it analyzes during each evaluation period, its expiration date and the amount.

* Name

Enter a unique name

* Reset period ⓘ

Monthly

* Start date ⓘ

2019

October

1

* Expiration date ⓘ

2021

September

30

BUDGET AMOUNT

Give your budget amount threshold

Amount (\$) *

7965

ⓘ Suggested budget: \$7,965 based on forecast.

VIEW OF MONTHLY COST DATA

Apr 2019 - Mar 2020

LAST MONTH

\$3,529

MAX (PAST 7 MONTH)

\$6,307

8,000

7,000

6,000

5,000

4,000

3,000

2,000

1,000

0

Apr

May

Jun

Jul

Aug

Previous

Next >

3 Accountability

Use **scope and filters** to target teams and projects

Search resources, services, and docs (G+)

> Cost Management: Trey Research HR - Budgets > Create budget

rch HR - Create budget

✓ Create a budget

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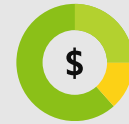
Previous

Next >

As usage grows, you
need a plan for how to
organize your resources



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organize your resources



Billing account

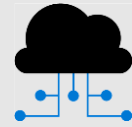


Management groups



Tags

How should you setup
management groups?



Policy assignment



Organizational reporting

You need a **tagging strategy**

You need a tagging strategy

Add tags for context to
control and analyze cost



Financial tracking e.g. CostCenter



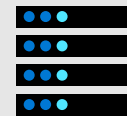
Organization hierarchy e.g. Department



Who is accountable e.g. BusinessOwner



Application context e.g. Application



Deployment context e.g. Environment

You need a tagging strategy

Add tags for context to control and analyze cost

Enforce with **Azure Policy**



Tags must be on resources



Copy resource group tags



Define required tags



Set allowed and default values



Track compliance

4 Optimization

Do more with less by
optimizing costs

4 Optimization

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optimizing costs

Always start in **Azure Advisor**



VM right-sizing



Delete unused resources



Use standard snapshots



Save with VM reservations

4 Optimization

Do more with less by
optimizing costs

Always start in Azure Advisor

Look for additional
savings with **reservations**



Save up to 72%



Available for 16 services



Monthly payment option



New reporting options coming!

4 Optimization

Do more with less by
optimizing costs

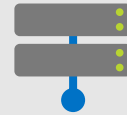
Always start in Azure Advisor

Look for additional
savings with reservations

Take advantage of unused
licenses with **Hybrid Benefit**



Virtual machines



Azure Dedicated Host



SQL databases



New reporting options coming!

4 Optimization

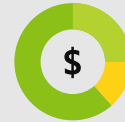
Do more with less by
optimizing costs

Always start in Azure Advisor

Look for additional
savings with reservations

Take advantage of unused
licenses with Hybrid Benefit

Look for **service-specific**
optimization **opportunities**



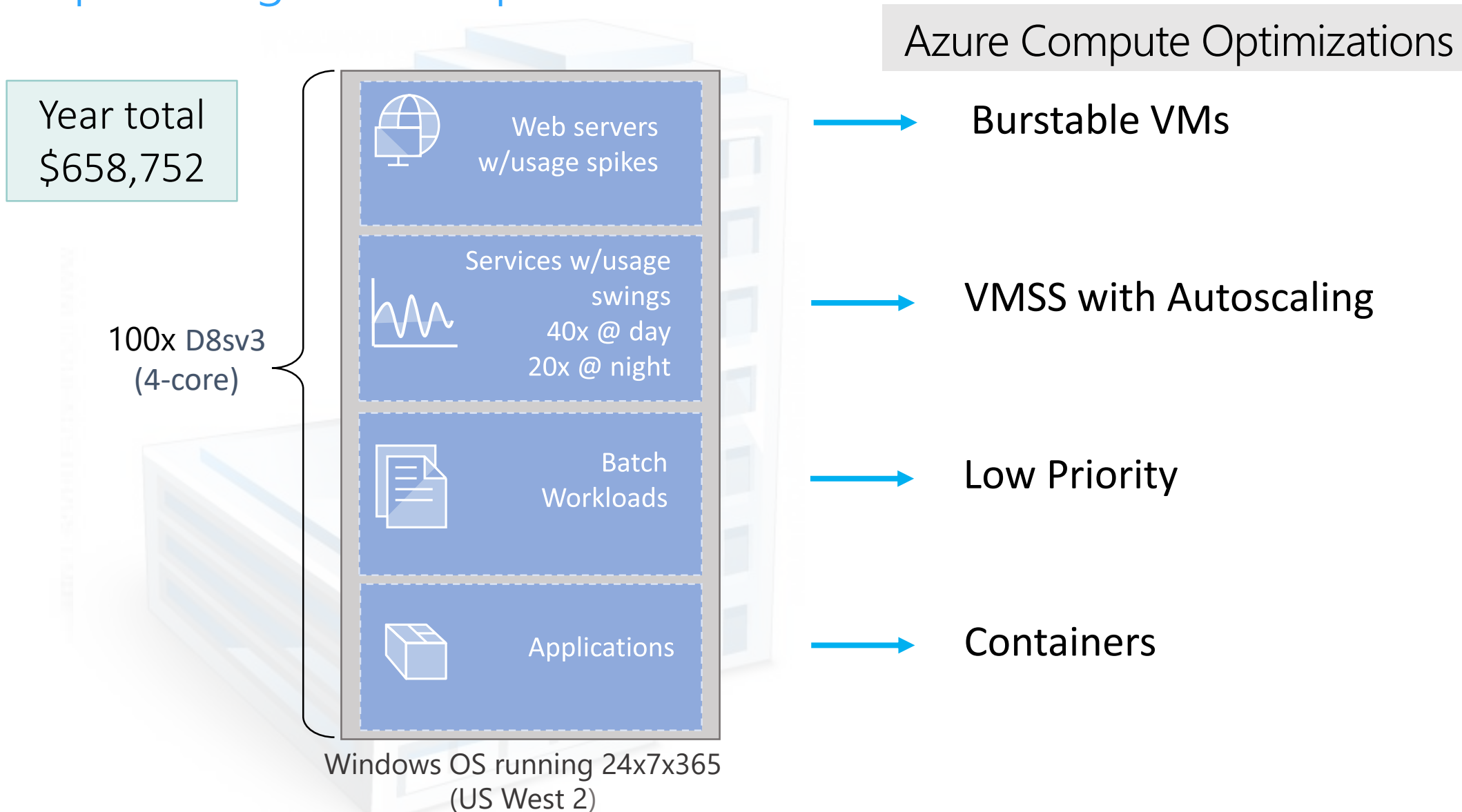
Learn about service charges



Factor into your architecture

Understand your workload

Optimizing VM composition



Burstable VMs

Efficiently handle workload spikes



Purchase VM with baseline performance, build credits to handle workload spikes

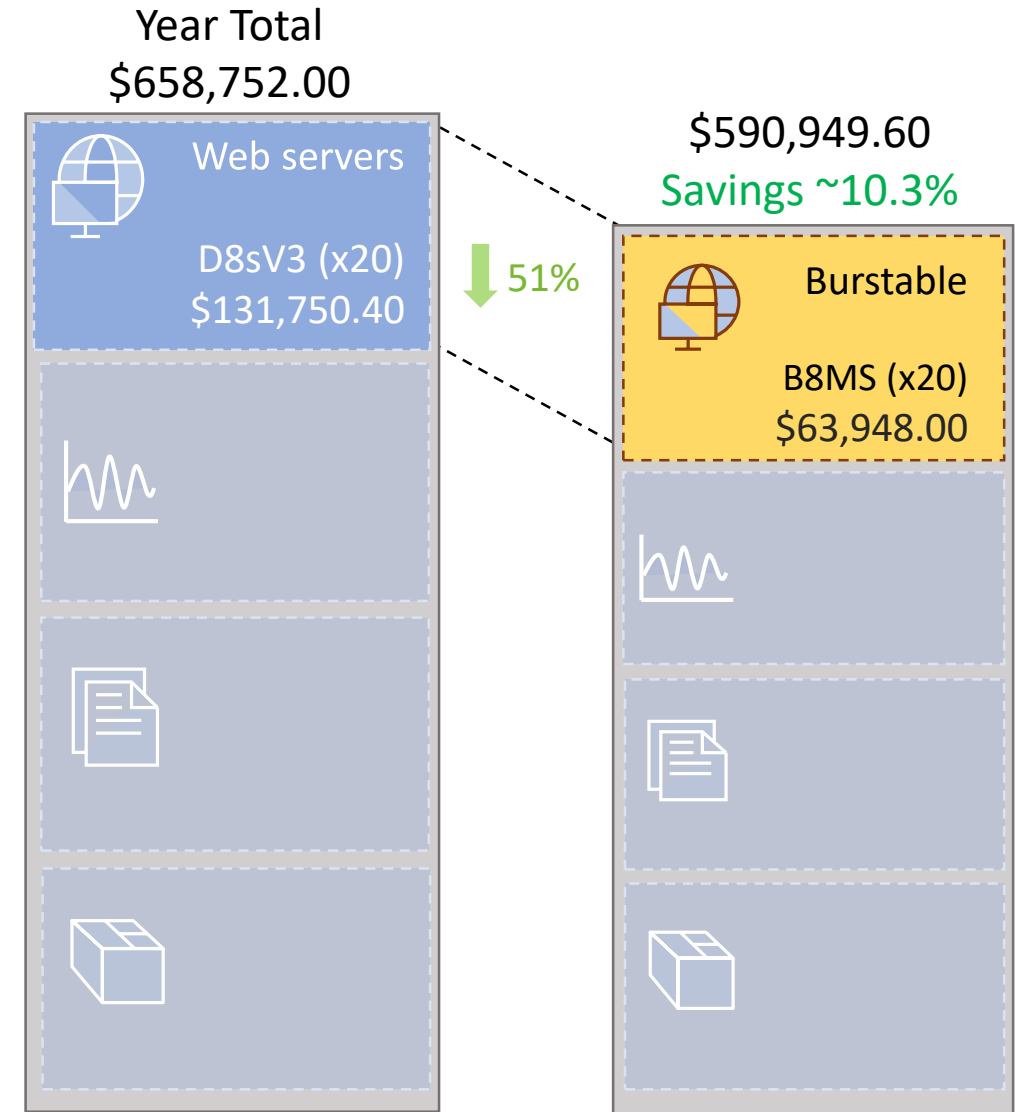


Burst up to 100% of the vCPU when the application requires higher CPU perf
Support sizes from 1 vcpu to 20 vcpu
Memory from 0.5G to 80G



Ideal for workloads that do not need full CPU perf continuously

- Web servers, Proof of concept, dev build env

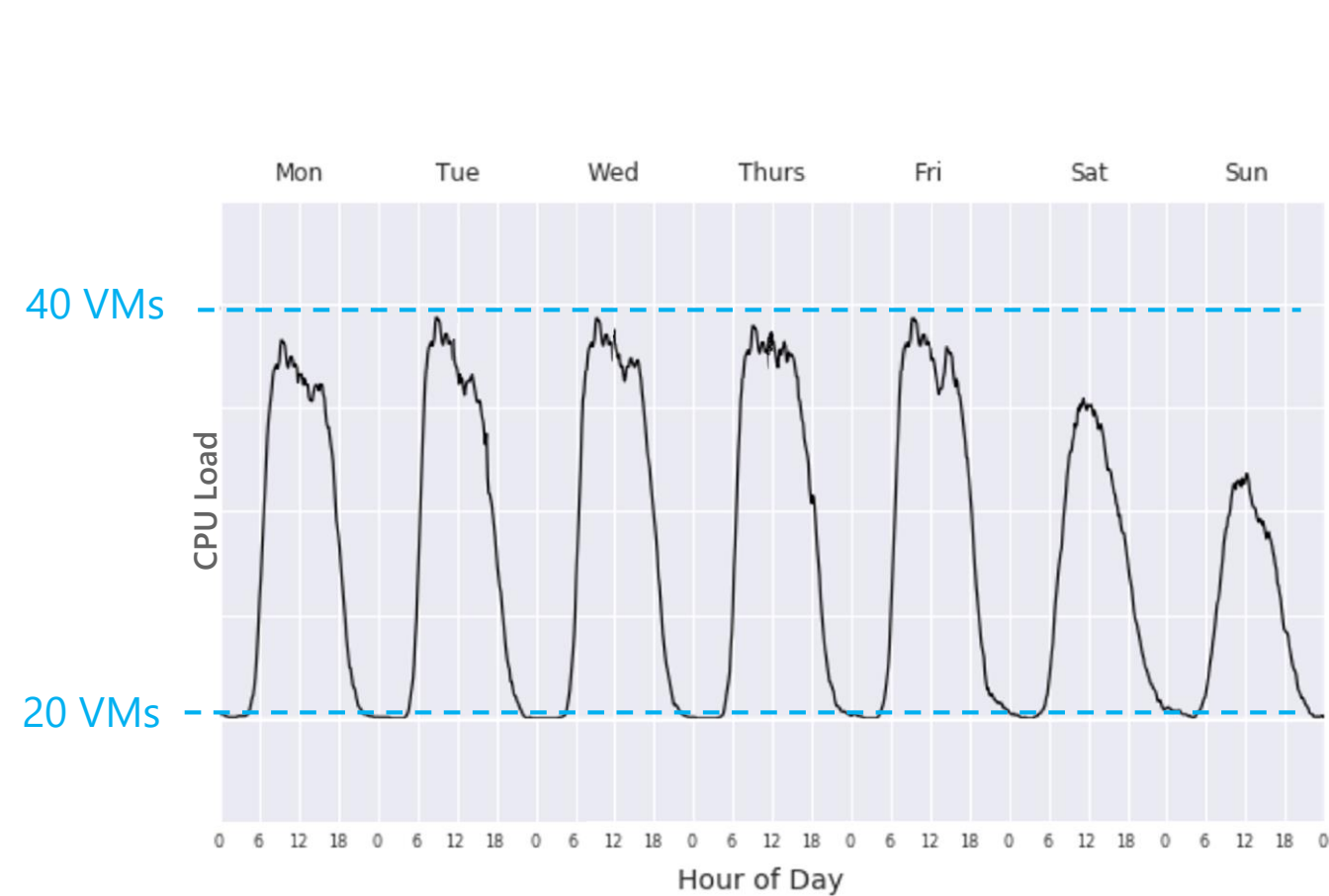


Windows OS running 24x7x365 (US West 2)

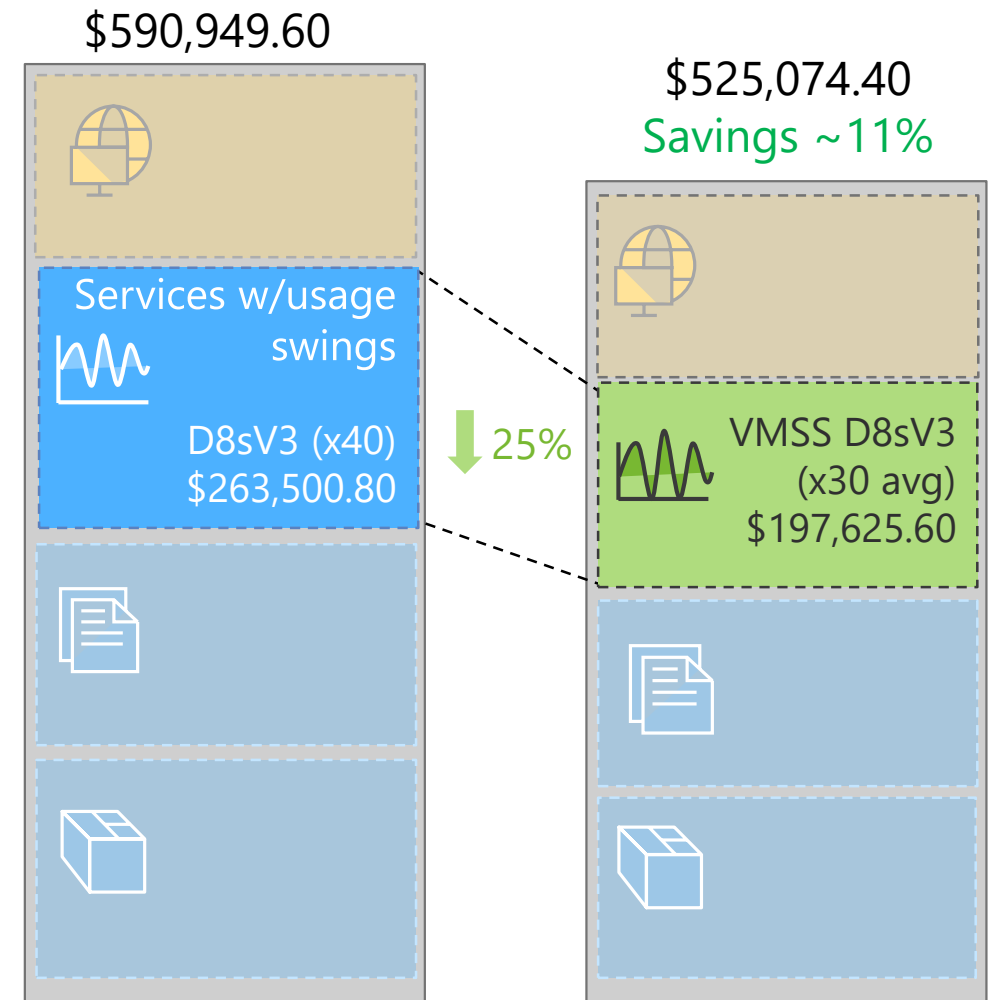
VMSS Autoscale

Optimize availability and savings

Starting total
\$658,752



Autoscale based on CPU threshold

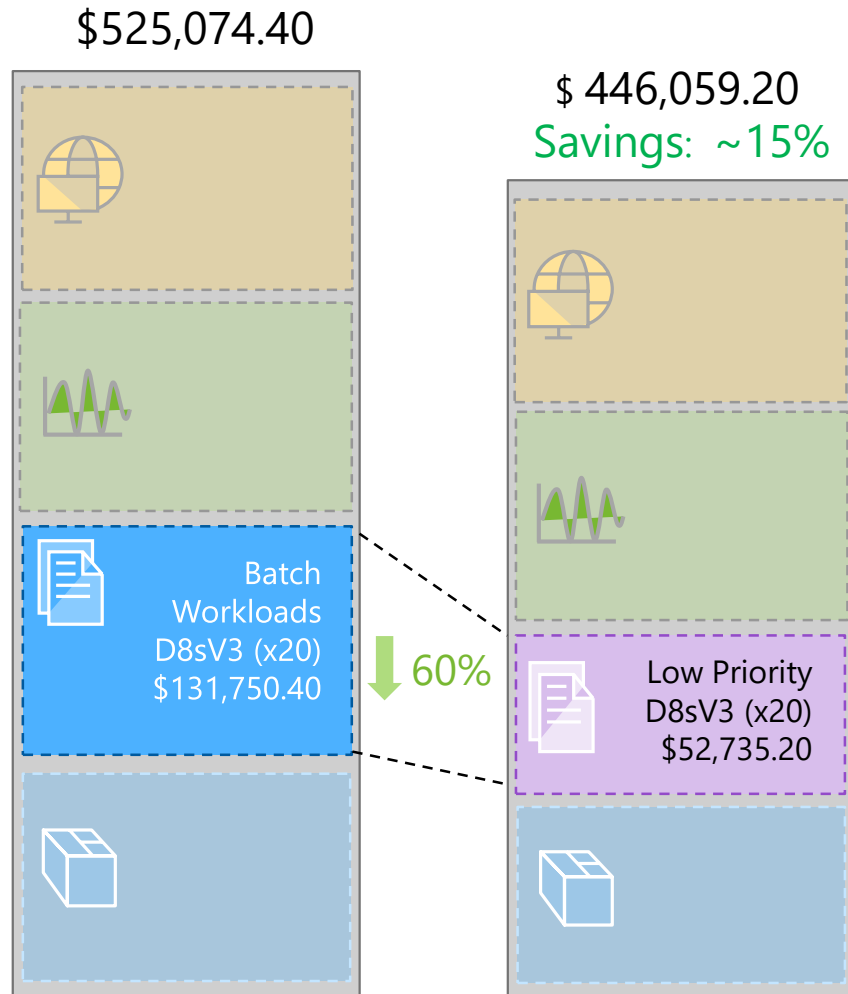


Windows OS running 24x7x365 (US West 2)

Low Priority

Leverage Azure's spare capacity

Starting total
\$658,752



Windows OS running 24x7x365 (US West 2)

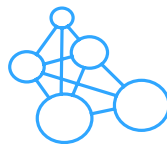


Take advantage of Azure's unutilized capacity at a steep fixed discounted price.

~60% - 80% depending on VM type/region



At any point when Azure needs the capacity back, VMs will be evicted with 30 seconds notice.



Great for batch workloads where job completion time is flexible and the work distributed across many VMs.

Containers

Reducing VM overhead

Starting total
\$658,752

