



Azure Cost Management

Demo Script

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Introduction

Azure makes it easy to build and deploy cloud solutions. However, it's important that those solutions are optimized to minimize cost to an organization. **Azure Cost Management** gives you the tools to plan for, analyze and reduce wasted spend to maximize cloud investment. This document provides you with a Cost Management walkthrough and highlights the features available to you, in addressing an organization's cost challenges. The goal of the Azure Cost Management demo script is to familiarize you with the tools, so you will feel comfortable demo'ing to a customer.

Talking Point

Objective provide visibility into my Azure spend with the ability analyze, monitor and optimize my Azure [and AWS] costs.

Demo Setup Steps

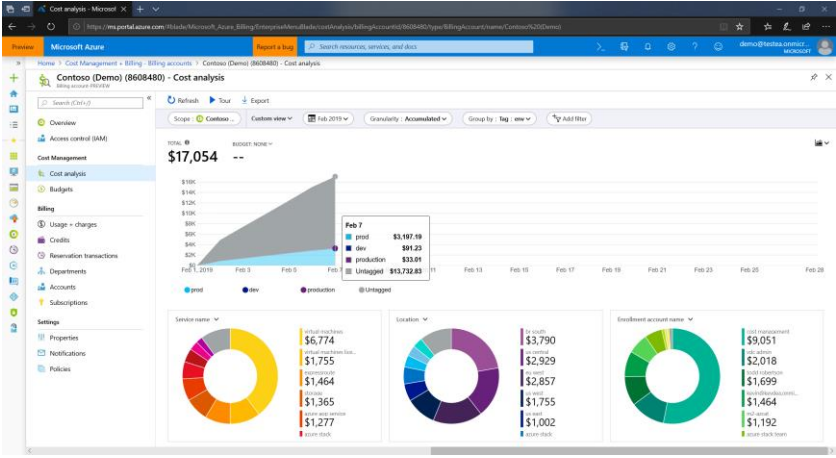
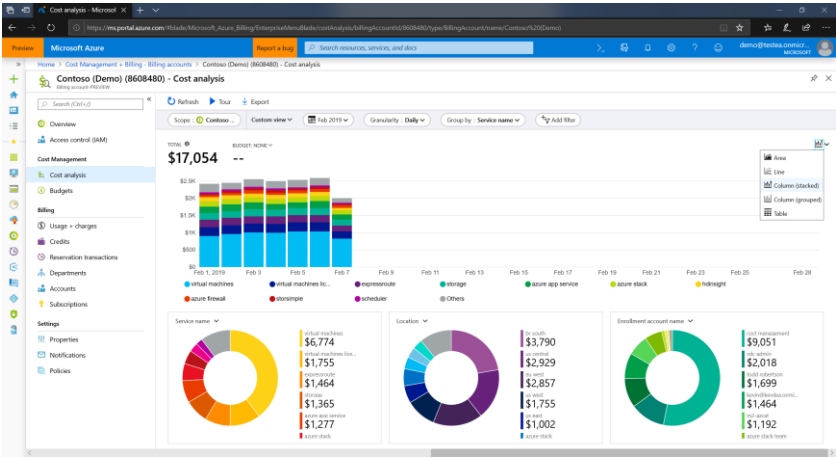
The demo displays best at **1080p** resolution in **Microsoft Edge** or **Google Chrome**.

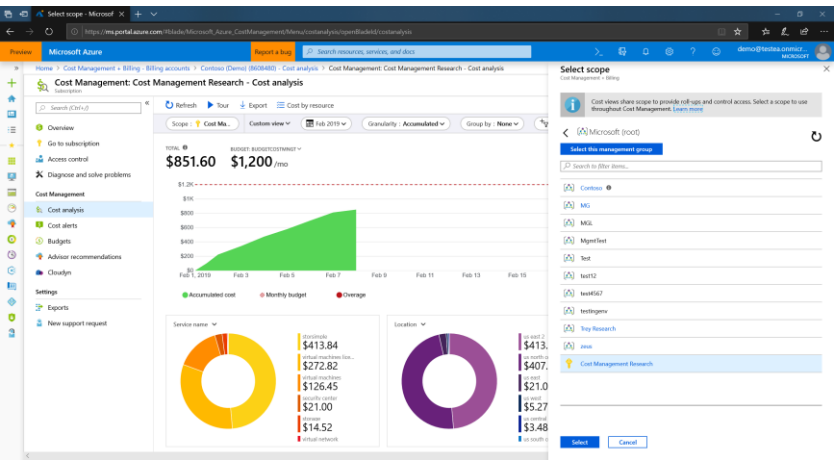
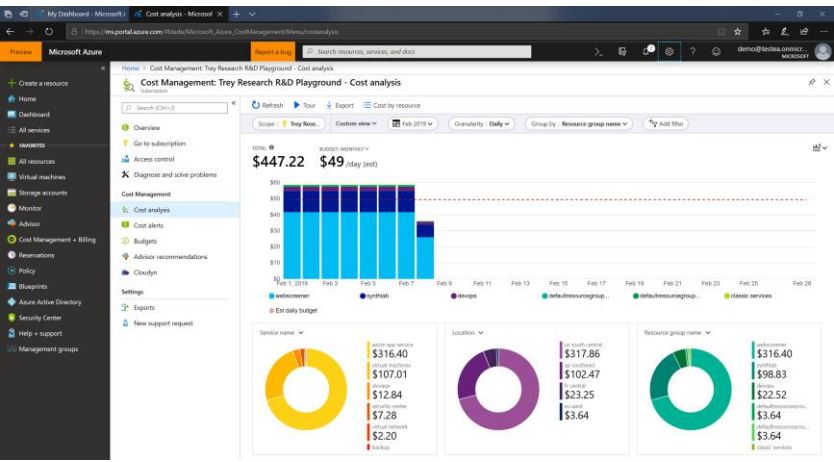
1. Start the demo:

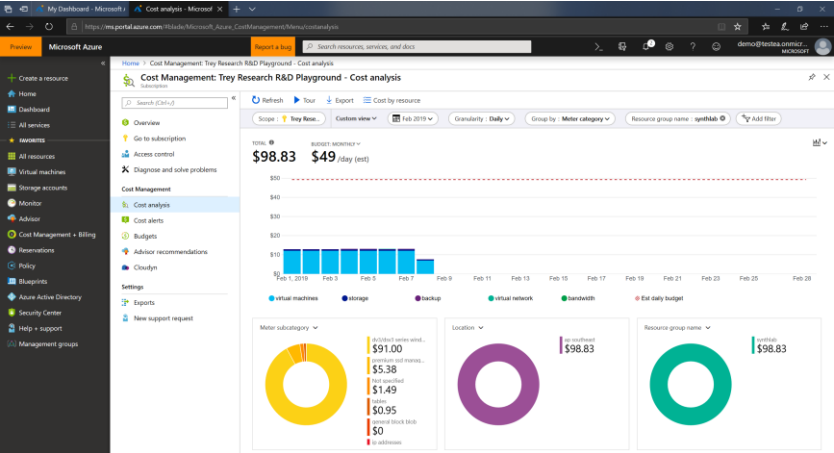
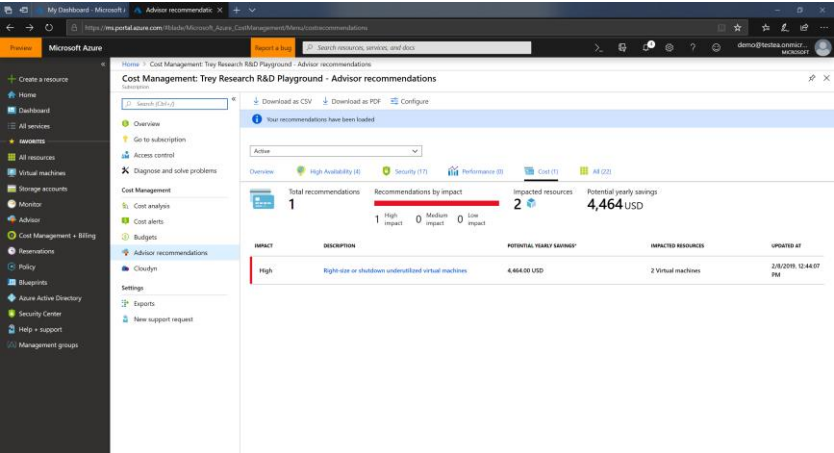
- In **Microsoft Edge** or **Google Chrome** navigate to <http://aka.ms/costmgmt/>
- Login as the following demo account:
 - U: demo@testea.onmicrosoft.com
 - P: Azdm##1!

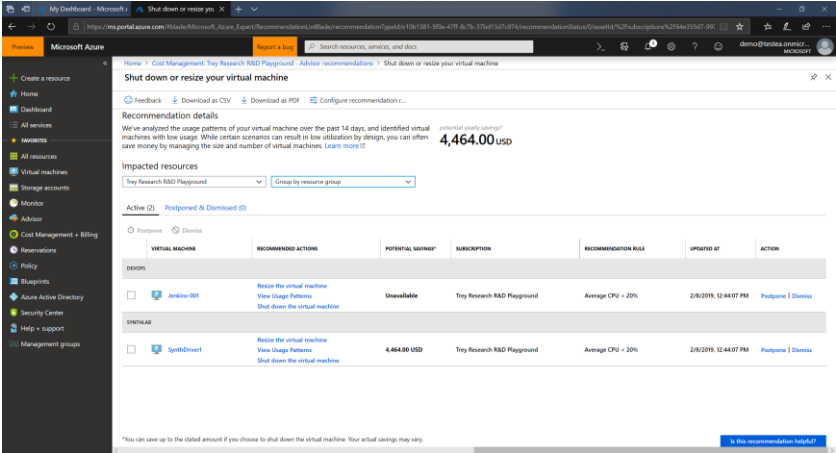
Azure Cost Management Overview Demo Steps

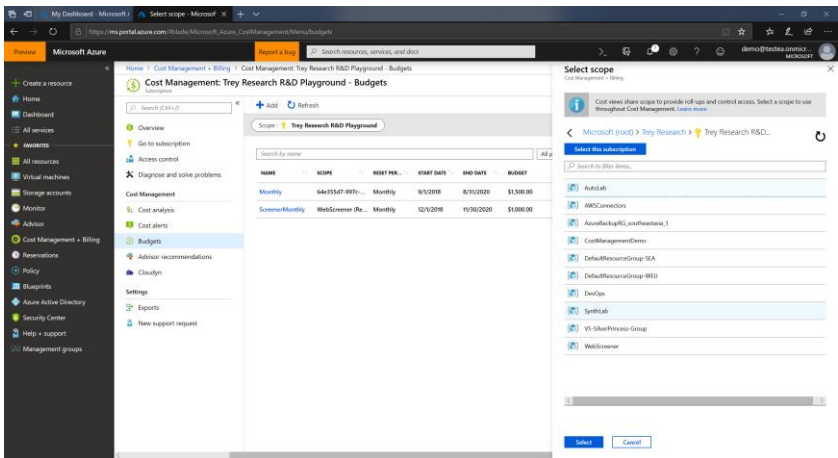
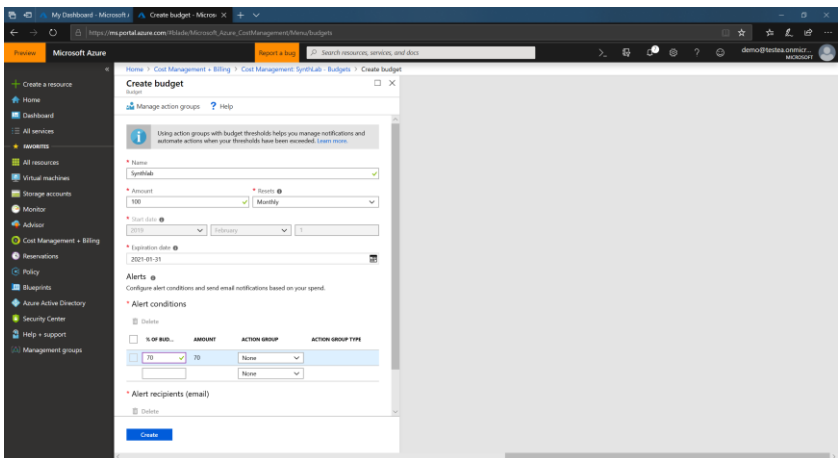
Script	Click Steps	Screenshots
<p>With 1-click, you can see a summary view of my accumulated costs to date ...</p> <p>...and get a quick, at-a-glance view of my costs broken down by service, location, and enrollment account name (or Resource groups for non-billing account scopes.)</p> <p>Notice that I can drill into data and pivot on different attributes to get a holistic picture of my primary cost drivers.</p>	<p>From the Cost Management overview</p> <ol style="list-style-type: none"> Click on Cost Analysis (<i>Focus on the main chart</i>) Click on the Scope pill (<i>top left</i>) and select the Contoso (Demo) (8608480) EA enrollment <p><i>Point out the pie charts</i></p> <p><i>On the 1st pie chart</i></p> <ol style="list-style-type: none"> Click virtual machines slice in the pie chart Click the Group By pill at the top and select MeterSubCategory 	

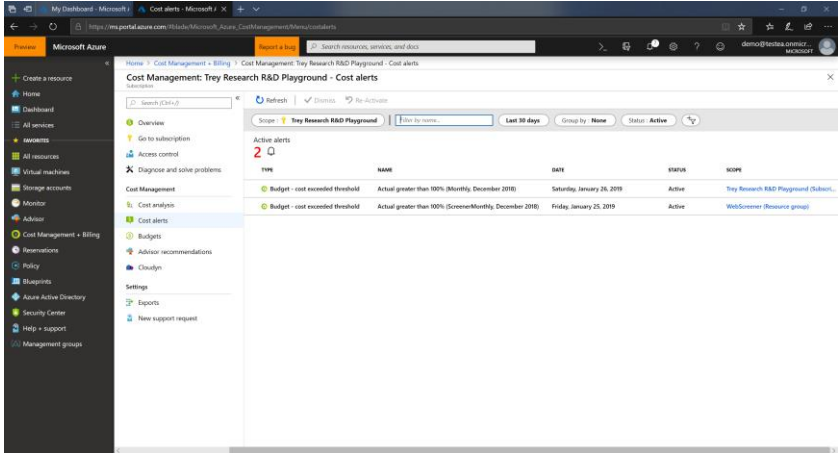
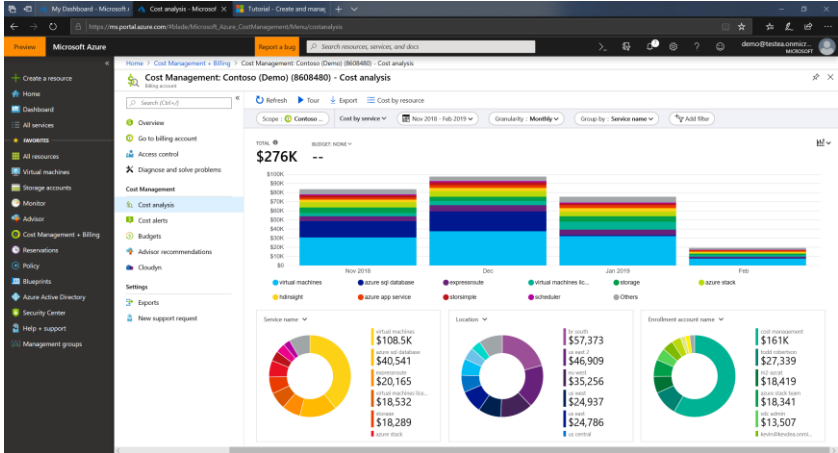
Script	Click Steps	Screenshots
<p>Or group by and filter common resource properties to further break down costs and refine my view.</p> <p>Notice that I can filter to identify my tagged environments' and their related cost.</p>	<ol style="list-style-type: none"> 1) Click the Group By pill and select Tag 2) For the tag's key choose env 	
<p>If I need to identify anomalies or analyze finer-grained trends across my enrollment, I simply switch from the accumulated view to a daily view..</p>	<ol style="list-style-type: none"> 1) Click Granularity pill and select Daily 2) Click the Group By pill and select Service name 3) Click on the Chart type selection (right side) and choose Column (stacked) 	

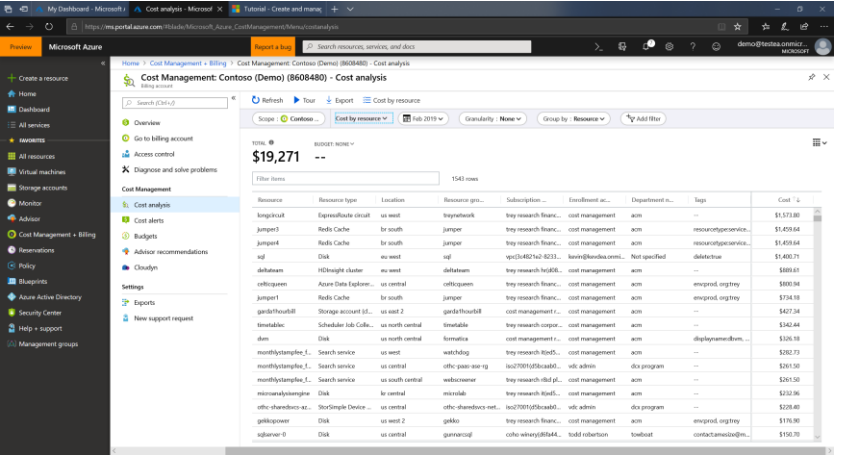
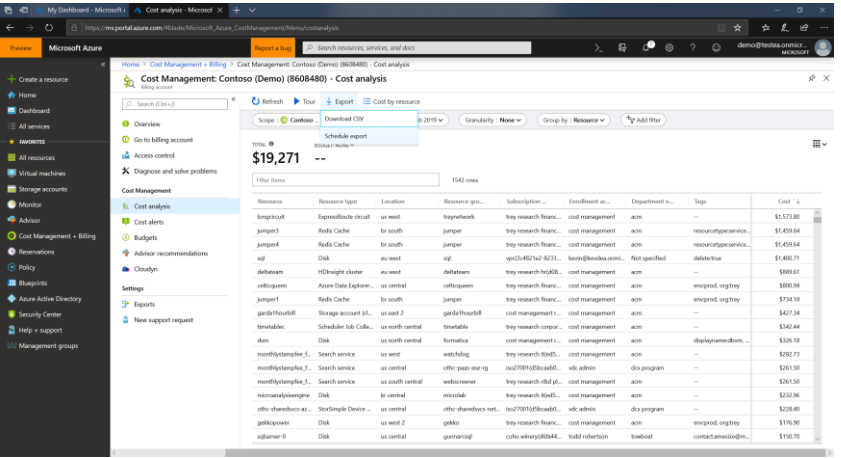
Script	Click Steps	Screenshots
<p>Not only can I view my costs at the enrollment level, I can also delve into costs at a subscription level to delve into a particular subscription's expenses</p> <p>Notice that I can set budgets on Subscriptions or Resource Groups to ensure that the teams stay within the allotted financial constraints.</p>	<ol style="list-style-type: none"> 1) Click on the Scope pill (<i>top left</i>) and click on the Microsoft (root) 2) click on Trey Research and then select the Trey Research R&D Playground management group <p><i>Point out the budget line from the MONTHLY budget dotted red line</i></p>	
<p>I can also flip to a daily view, and I can see I'll definitely be over-budget by the end of the month, if I don't act now..</p> <p>My organizations uses resource groups to partition and cross-charge teams, so I want to determine which team or teams are overspending...</p> <p>Notice that most of the cost is from two resource groups – <i>webscreener</i> & <i>synthlab</i></p>	<ol style="list-style-type: none"> 1) Click Granularity pill and select Daily 2) Click on the Chart type selection (<i>right side</i>) and choose Column (stacked) 3) Click on Group by and choose Resource Group Name 	

Script	Click Steps	Screenshots
<p>The <i>webscreener</i> is expected to utilize most of the budget, but the cost coming from the <i>synthlab</i> is a surprise.</p> <p>Notice that a majority of the cost is coming from a virtual machine...</p> <p>Notice that the cost appears to be from a d8 v3 Virtual machine.</p>	<ol style="list-style-type: none"> 1) Click on the <i>synthlab</i> resource group on the stack chart 2) Click on Group by and choose Meter Category 3) On the 1st pie chart, Click the dropdown to select Meter 	
<p>A d8 VM, is way overpowered for workloads being run in <i>synthlab</i>. There must be a more cost effective option.....</p> <p>I'll see if there is an Advisor recommendation for the <i>synthlab</i> virtual machine.</p>	<ol style="list-style-type: none"> 1) In the Cost Management menu, click on Advisor recommendations. 2) Click on Right-size or shutdown underutilized virtual machines 	

Script	Click Steps	Screenshots
<p>Notice that Advisor has flagged this VM as underutilized and suggested either to downsize it to a less expensive VM or to shut it down whilst it's unused....</p> <p>Since I don't have the permissions on the resource, I'll just send the details (attached PDF) over to the <i>synthlab</i> admin to either shutdown or resize the VM...</p> <p><i>Mention that Azure Advisor also has cost savings recommendations on unprovisioned ExpressRoute circuits, Idle VPN gateways and Reserved Instance (RI) purchases to surface additional savings.</i></p>	<p>1) On the second dropdown, select Group by resource group</p> <p><i>Point out the SynthDriver1 VM</i></p> <p><i>Point to the Download as PDF link</i></p>	

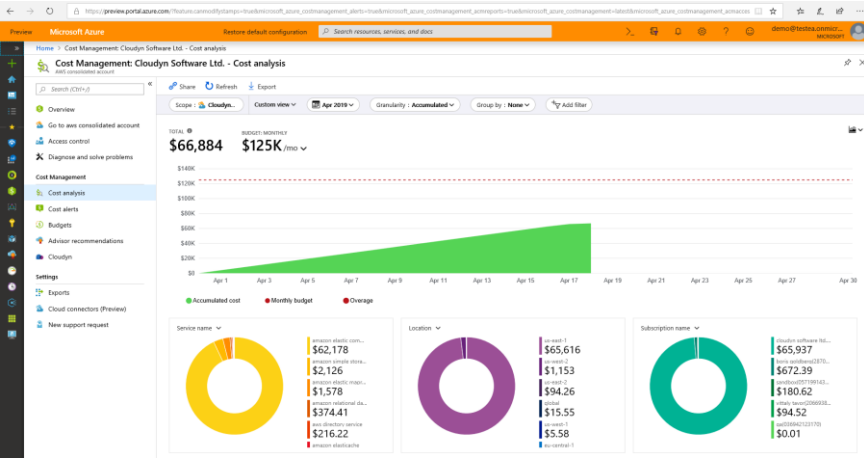
Script	Click Steps	Screenshots
<p>If I really want to ensure that the <i>synthlab</i> stays within a certain allotted budget range, I can create a budget specifically for their resource group.</p>	<ol style="list-style-type: none"> 1) Click on Cost Management + Billing from the Azure portal menu (<i>on left hand side</i>) 2) Click on Cost Management from the menu items 3) Click on Budgets 4) Click on the Scope pill (<i>top left</i>) and click on Trey Research R&D Playground, then select the <i>synthlab</i> resource group 	
<p>Notice that I can configure budget options to fiscally constrain the <i>synthlab</i> team. I can also set an alert threshold and add in email aliases of alert recipients.</p> <p><i>No need to create the budget, just point out the options</i></p>	<ol style="list-style-type: none"> 1) On the Budgets menu, click Add 2) Click X to close the budget dialog 	

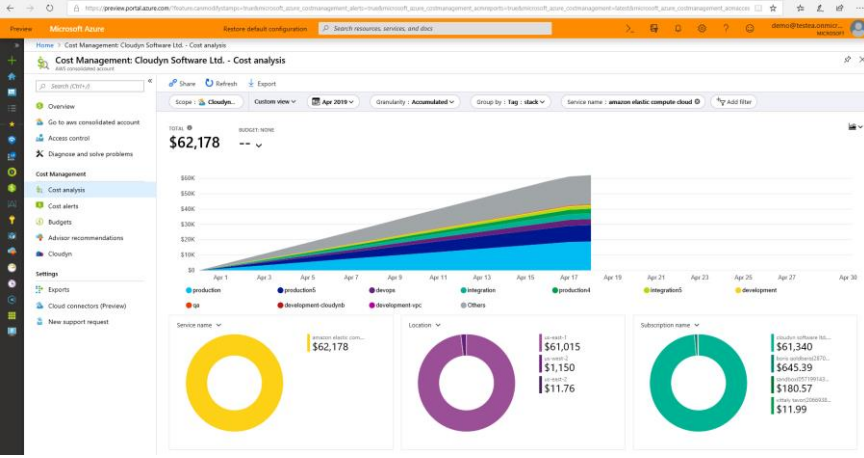
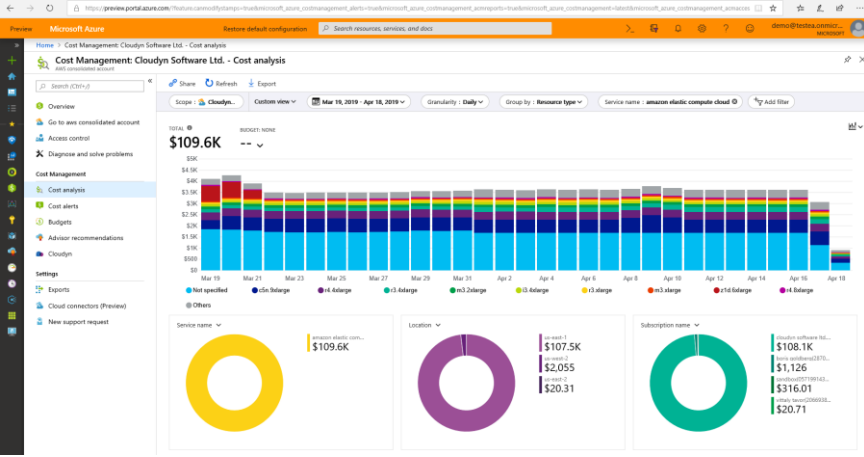
Script	Click Steps	Screenshots
<p>You can also see any cost alerts that are generated in the Cost Alerts view...</p> <p>This will allow you to see who is nearing or exceeding their budgets in an aggregated view....</p>	<p><i>Back on the Budgets menu</i></p> <ol style="list-style-type: none"> 1) Click on the Scope pill and navigate back to and select the Trey Research R&D Playground subscription. 2) Click on Cost Alerts from the left-hand menu 	
<p>Speaking of aggregated views, lets look at some of the new features in Cost Analysis, that highlight where your cost is being spent....</p> <p>You can see that this will give you an at-a-glance view into which resources utilization and their associated costs....</p>	<ol style="list-style-type: none"> 1) Click on Cost Analysis from the menu items 2) Click on the Scope pill and navigate back to and select the Contoso (Demo) (8608480) enrollment. 3) In the date picker pill, select This quarter 4) In the Custom view drop down, select Cost by service 	

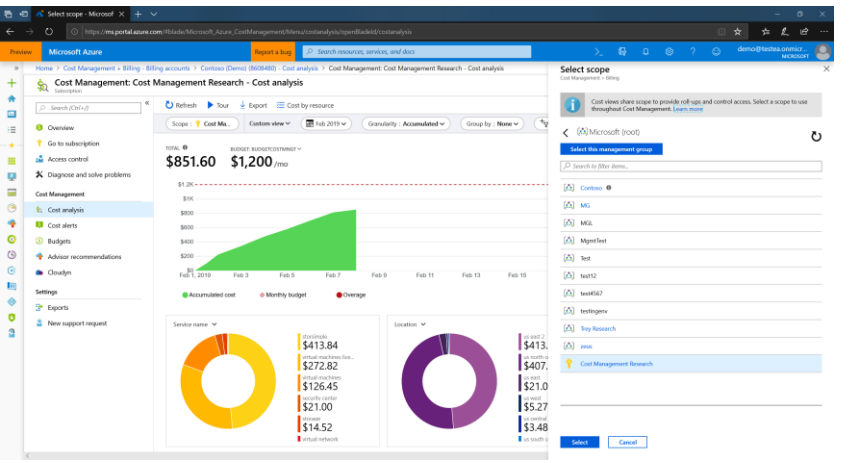
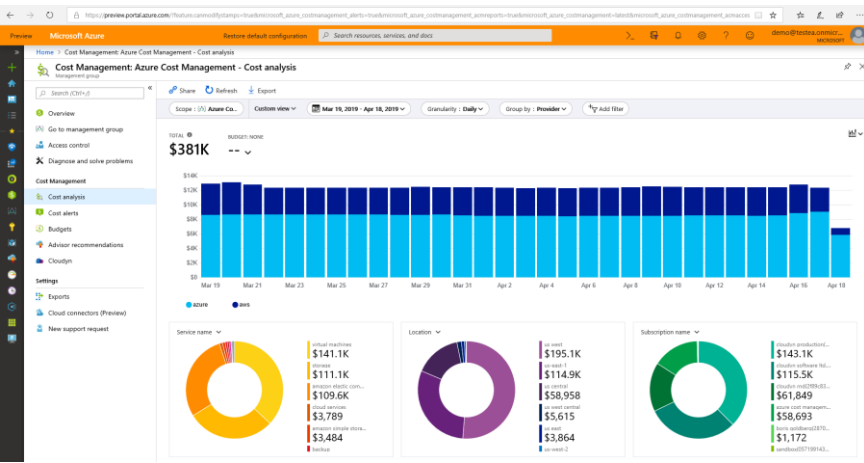
Script	Click Steps	Screenshots
<p>If you want to delve deeper, you can select a detailed view which includes associated resource information in a tabular format....</p>	<p>1) Select the Cost by service dropdown and select Cost by Resource</p>	
<p>If you'd like, you can export the data, either to present outside of the Azure portal (e.g. Power BI, etc.)..</p> <p>You can download the current view of your data to a CSV, or you can also schedule an automated reoccurring export of the data.</p>	<p>1) Click on Export action button</p> <p><i>Point out the export options</i></p>	

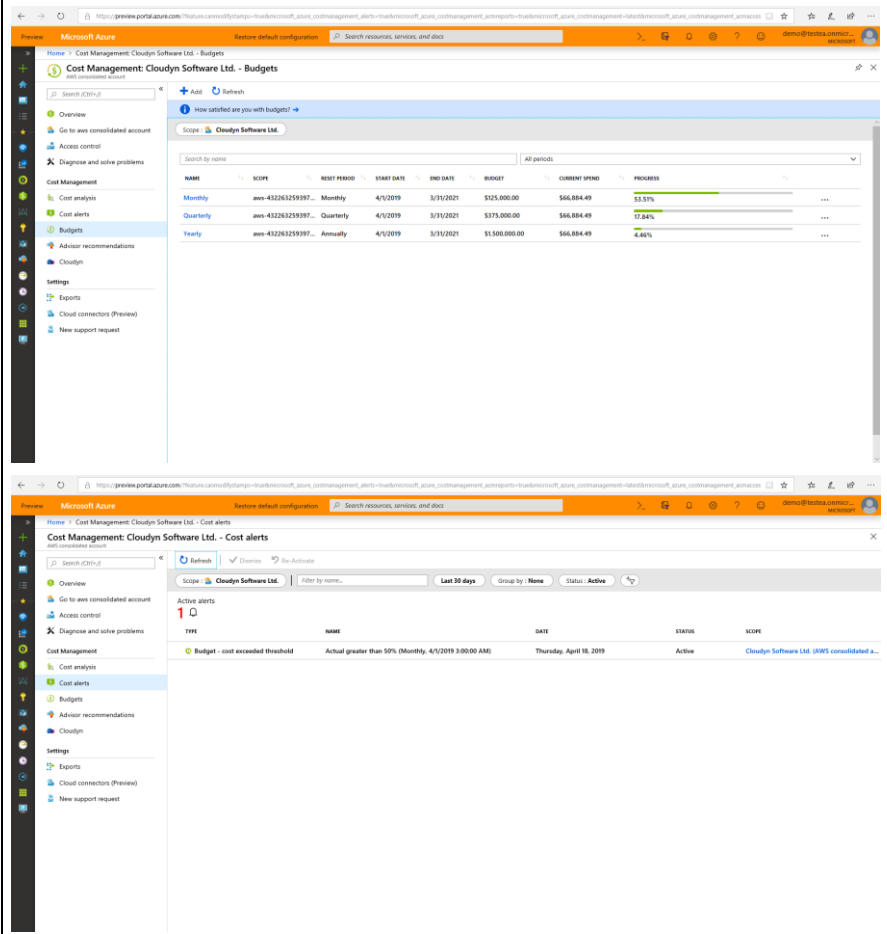
Azure Cost Management Cross Cloud (AWS) Demo Steps

With Amazon Web Services Cost and Usage report integration, you can monitor and control your AWS spending in Azure Cost Management. The integration allows a single location in the Azure portal where you can monitor and control spending for both Azure and AWS

Script	Click Steps	Screenshots
<p>With 1-click, you can see a summary view of my accumulated costs to date cross clouds (Azure & AWS) ...</p> <p>...and get a quick, at-a-glance view of my costs broken down by service, location, and linked account name</p> <p>Notice that I can drill into data and pivot on different attributes to get a holistic picture of my primary cost drivers.</p>	<p>From the Cost Management overview</p> <ol style="list-style-type: none"> 1) Click on Cost Analysis (<i>Focus on the main chart</i>) 2) Click on the Scope pill (<i>top left</i>) and select the Cloudyn Software Ltd. AWS Consolidated account <p><i>Point out the pie charts</i></p> <p><i>On the 1st pie chart</i></p> <ol style="list-style-type: none"> 3) Click elastic compute cloud slice in the pie chart 4) Click the Group By pill at the top and select Meter subcategory 	

Script	Click Steps	Screenshots
<p>Or group by and filter common resource properties to further break down costs and refine my view.</p> <p>Notice that I can filter to identify my tagged environments' and their related cost.</p>	<ol style="list-style-type: none"> 1) Click the Group By pill and select Tag 2) For the tag's key choose stack 	
<p>If I need to identify anomalies or analyze finer-grained trends across my consolidated account, I simply switch from the accumulated view to a daily view...</p>	<ol style="list-style-type: none"> 3) Select Daily costs from the view dropdown 4) Click the Group by pill and select Resource type 	

Script	Click Steps	Screenshots
<p>Not only can I view my costs at the consolidated account level, I can also delve into costs at a linked accounts level to delve into an account's expenses</p> <p>Notice that I can set budgets on consolidated account or linked accounts to ensure that the teams stay within the allotted financial constraints.</p>	<ol style="list-style-type: none"> 1) Click on the Scope pill (<i>top left</i>) and click on the Microsoft (root) 2) click on Trey Research and then select the Trey Research R&D Playground management group <p><i>Point out the budget line from the MONTHLY budget dotted red line</i></p>	
<p>You can view cross-cloud spends by selecting a management group scope,</p> <p>Management groups is the only scope type that can host diverse types (offerIDs) of subscriptions and an AWS linked account</p>	<ol style="list-style-type: none"> 1) Click on the Scope pill (<i>top left</i>) and click on the Microsoft (root) 2) click on Cloud + AI Platform->Commerce + Ecosystems ->Azure Engineering Group and then select the Azure Cost Management management group 3) Click the Group by pill and select Provider 	

Script	Click Steps	Screenshots
<p>Budgets for AWS scopes (consolidated account and linked account) works the same way it works for EA and Subscription</p> <p>You can also place a budget on a management group that contains Azure and AWS accounts</p> <p>Cost alerts aggregate alerts at different scopes, and allow you to investigate and remediate the alert</p>	<ol style="list-style-type: none"> 1) Click on Cost Management + Billing from the Azure portal menu (<i>on left hand side</i>) 2) Click on Cost Management from the menu items 3) Click on Budgets 4) Click on the Scope pill (<i>top left</i>) and click on Cloudyn Software Ltd. 5) Click on Cost alerts 	 <p>The top screenshot shows the 'Budgets' page in the Azure portal for 'Cloudyn Software Ltd.'. It displays a table with columns: NAME, SCOPE, RESET PERIOD, START DATE, END DATE, BUDGET, CURRENT SPEND, and PROGRESS. The table lists three budgets: Monthly, Quarterly, and Yearly, all for the scope 'aws-432263253937...'. The Yearly budget shows a current spend of \$68,884.49 against a budget of \$1,500,000.00, with a progress bar at 4.6%.</p> <p>The bottom screenshot shows the 'Cost alerts' page for 'Cloudyn Software Ltd.'. It displays a table with columns: TYPE, NAME, DATE, STATUS, and SCOPE. There is one active alert: 'Budget - cost exceeded threshold' with the name 'Actual greater than 50% (Monthly, 4/1/2019 3:00:00 AM)', dated 'Thursday, April 18, 2019', and status 'Active'. The scope is 'Cloudyn Software Ltd. (AWS consolidated A...'.</p>

Please note, the following features do not support AWS scopes

- Azure Advisor – we do not provide AWS Trusted Advisor recommendations report
- Scheduled Export – only export to CSV/Excel from cost analysis blade is supported

Azure Cost Management Showback (Private Preview)

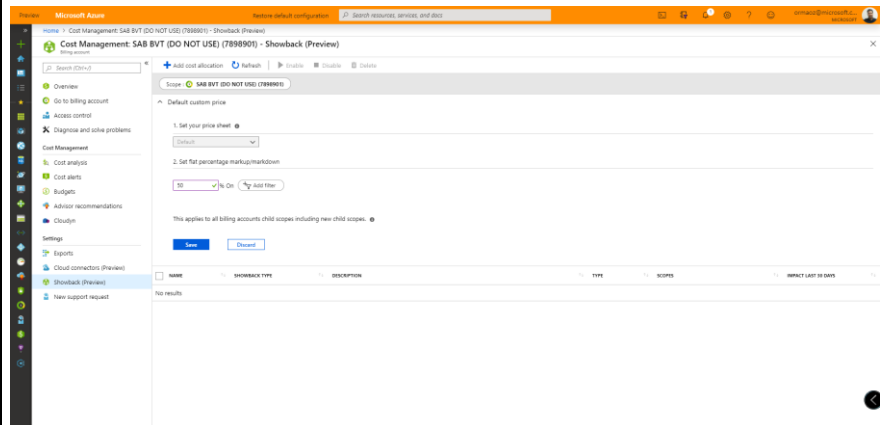
ACM Showback feature set is handling several scenarios where billing account owners would like to reflect different costs to their consumers, different from what the cloud provider charged them.

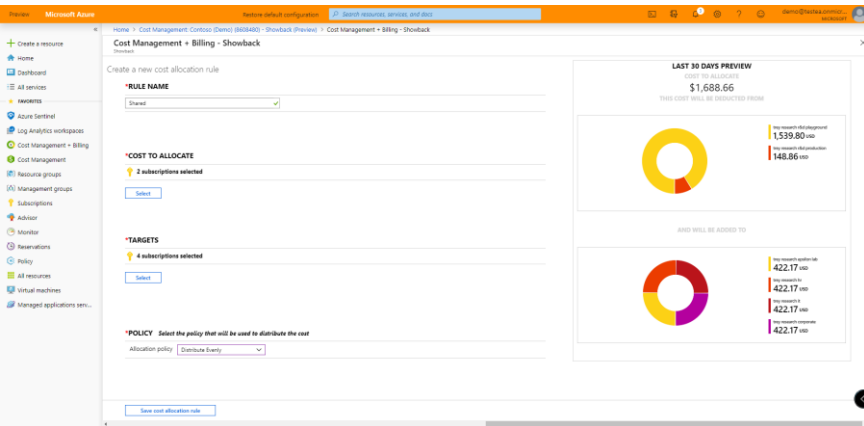
During the preview we are providing the ability to set a single markup/markdown with a scope-based filter, and to set a single cost allocation rule to distribute shared cost to its consumers.

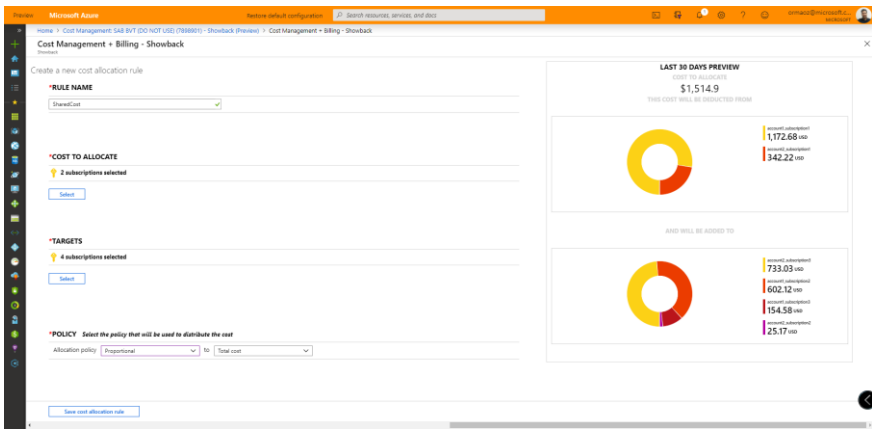
Our Showback solution is running on the fly, meaning that we do not persist the Showback results, we calculate them when the request is coming. Therefore, they immediately active after the rule creation.

To access the preview, use this URL: <https://aka.ms/showback/latest>

Please note EA's need to be whitelisted beforehand by Dev

Script	Click Steps	Screenshots
<p>Custom Price</p> <p>Custom price is working on 1st party charges only</p> <p>After opening the Showback blade I would duplicate the browser tab two times.</p> <p>In the first tab open Cost Analysis on the EA scope. In this tab we will show that billing account scopes are never affected by showback rules, it always shows the cost as it was charged by the provider</p>	<p>From the Cost Management Menu select Showback (Preview)</p> <ol style="list-style-type: none"> 1) Select the EA billing account (8608480) scope 2) In the Default custom price enter 50% in section 2 3) Save 4) Go to the first duplicated tab (EA scope) and select the refresh button. Cost does not change 	

Script	Click Steps	Screenshots
<p>In the second tab open Cost Analysis on Department ACM. in this tab we will show the rule impact</p> <p>All scopes below this billing account will be impacted including subscriptions, resource groups.</p> <p>All feature of ACM should support this rule, including Budget, Forecast, Exports</p>	<p>5) Go to the first duplicated tab (Department scope) and select the refresh button. Cost is 50% higher</p>	
<p>Cost Allocation</p> <p>In this scenario we are going to move cost from 2 subscriptions to 4 other subscription under a single billing account</p> <p>The preview feature of the create experience is very useful in explaining what will happen after we create the rule, after selecting the Cost to allocate and the Targets play with the policy to see different ways to distribute the cost to allocate</p>	<p>From the Cost Management Showback (Preview) blade</p> <ol style="list-style-type: none"> 1) Make sure the EA billing account (8608480) scope is selected 2) Click the add button to add a new Cost allocation rule 3) Give rule a name 4) In the Cost to Allocate select Subscription and Trey Research R&D Playground, Trey Research R&D Production 5) In the Targets select Subscription and Trey Research Corporate, Trey Research Finance, Trey Research HR, Trey Research IT 	<p>Distribute evenly</p>  <p>Proportional to total cost</p>

Script	Click Steps	Screenshots
	<ol style="list-style-type: none"> 6) In the Policy select Distribute evenly, review the Targets pie 7) In the Policy select Proportional to Total cost, review the Targets pie 	
<p>Cost Allocation in Cost Analysis</p> <p>In preview we are still missing the ability to group by and filter by IsAllocate dimension, to distinguish between original cost and allocated cost</p> <p>After opening the Showback blade I would duplicate the browser tab two times.</p> <p>First tab with one of the Cost to Allocate subscriptions and I will note the Resource Types</p> <p>Second tab with of the Targets subscriptions grouped by Resource Type</p>	<p>From the Cost Management menu open Cost analysis blade</p> <ol style="list-style-type: none"> 1) Make sure the EA billing account (8608480) scope is selected 2) Move to the first duplicated tab with Trey Research R&D Production (was selected as Cost to Allocate) as the scope 3) Note the list of Resource Types 4) View total cost, should be 0 5) Move to the first duplicated tab with Trey Research Finance (was 	

Script	Click Steps	Screenshots
	<p>selected as Target) as the scope</p> <p>6) Group by resource type to see new resource types cost that came from Trey Research R&D Production</p>	

Additional Information & Links

- Azure Cost Management Documentation - <https://docs.microsoft.com/en-us/azure/cost-management/>
- Understand Cost Management data - <https://docs.microsoft.com/en-us/azure/cost-management/understand-cost-mgt-data>
- Azure Cost Management Best practices - <https://docs.microsoft.com/en-us/azure/cost-management/cost-mgt-best-practices>
- Azure Cost Management APIs - <https://docs.microsoft.com/en-us/rest/api/cost-management/>
- Azure Advisor cost savings recommendations - <https://docs.microsoft.com/en-us/azure/advisor/advisor-cost-recommendations>
- Set up and configure AWS Cost and Usage report integration - <https://docs.microsoft.com/azure/cost-management/aws-integration-set-up-configure>
- Manage AWS costs and usage in Azure - <https://docs.microsoft.com/azure/cost-management/aws-integration-manage>