Cost Management Service 1-latest

Integrating Microsoft Azure data into cost management

Learn how to add and configure your Microsoft Azure integration
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Abstract

This guide describes how to add a Microsoft Azure integration to cost management. Cost management is part of the Red Hat Insights portfolio of services. The Red Hat Insights suite of advanced analytical tools helps you to identify and prioritize impacts on your operations, security, and business.
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CHAPTER 1. INTEGRATING MICROSOFT AZURE DATA INTO COST MANAGEMENT

Configure your Microsoft Azure account to allow cost management access.

Configuring your Microsoft Azure account to be a cost management integration requires:

1. Creating a storage account and resource group
2. Choosing the appropriate scope for your cost export
3. Configuring a Storage Account Contributor and Reader roles for access
4. Scheduling daily cost exports

NOTE
As non-Red Hat products and documentation can change without notice, instructions for configuring the third-party integrations provided in this guide are general and correct at the time of publishing. See the Microsoft Azure documentation for the most up-to-date information.

Add your Microsoft Azure integration to cost management from the Integrations page.

1.1. CREATING A MICROSOFT AZURE RESOURCE GROUP AND STORAGE ACCOUNT

Cost export data is written to a storage account, which exists within a resource group. The resource group must be accessible by cost management to read the Microsoft Azure cost data.

Create a new storage account in Microsoft Azure to contain the cost data and metrics that cost management will collect. This requires a resource group; Red Hat recommends creating a dedicated resource group for this storage account.

NOTE
You must have a Red Hat account user with Integrations Administrator entitlements before you can add integrations to cost management.

1. From Red Hat Hybrid Cloud Console, go to the Integrations page and begin adding a Microsoft Azure integration to cost management:
   a. Navigate to Integrations and click Add source to open the Add a cloud source wizard.
   b. Enter a name for your integration and click Next.
   c. Select cost management as the application and Microsoft Azure as the integration type. Click Next.

2. Create a resource group and storage account in your Microsoft Azure account using the instructions in the See Microsoft Azure documentation Create a storage account.

Make a note of the resource group and storage account. They will be needed in subsequent steps.
3. In the Red Hat Hybrid Cloud Console, Add a cloud source wizard, enter the Resource group name and Storage account name and click Next.

1.2. CHOOSING A MICROSOFT AZURE COST EXPORT SCOPE

You can create cost export data with differing levels of granularity using scopes in Microsoft Azure Cloud. Microsoft Azure supports cost exports scoped as small as a resource group to as large as a billing account containing numerous subscriptions. Depending on the cost data requirements for a given use case, scopes can simplify the configuration of cost management by encompassing multiple subscriptions or isolating access to select resource groups.

**NOTE**

For more information about how scopes work in Microsoft Azure, see Understand and work with scopes in the Azure documentation.

Run one or more of the following commands in the Microsoft Azure Cloud Shell to collect the desired scopes for your cost export:

1. To collect your Resource Group scope, replace ResourceGroupName with the name of the Resource Group and run:
   
   ```bash
   $ az group show --name {ResourceGroupName} | jq .id | tr -d "'
   ```

2. To collect your Subscription scope, run:
   
   ```bash
   $ az account show --query "{ id: id }" | jq ".id" | tr -d "'" | awk '{print "/subscriptions/"$0}'
   ```

3. To collect your Billing Account scope, replace billingAccountName with the name of the Billing Account and run:
   
   ```bash
   $ az billing account show --name "{billingAccountName}" | jq ".id" | tr -d "'
   ```

4. To collect your Enrollment Account scope, replace enrollmentAccountName with the name of the Enrollment Account and run:
   
   ```bash
   $ az billing enrollment-account show --name "{enrollmentAccountName}" | jq ".id" | tr -d "'
   ```

5. To collect your Management Group scope, replace GroupName with the name of the Management Group and run:
   
   ```bash
   $ az account management-group show --name "{GroupName}" | jq ".id" | tr -d "'
   ```

6. To collect your Billing Profile scope, replace billingAccountName and billingProfileName with the names of the Billing Account and Billing Profile and run:
   
   ```bash
   $ az billing profile show --account-name "{billingAccountName}" --name "{billingProfileName}" | jq ".id" | tr -d "'
   ```

7. To collect your Invoice Section scope, replace billingAccountName, billingProfileName, invoiceSectionName with the names of the Billing Account, Billing Profile, and Invoice Section and run:
1.3. CONFIGURING MICROSOFT AZURE ROLES

Red Hat recommends configuring dedicated credentials to grant cost management read-only access to Microsoft Azure cost data. Configure a service principal with Storage Account Contributor and Reader role in Azure to provide this access to cost management.

1. In Microsoft Azure Cloud Shell, run the following command to obtain your Subscription ID:

   $ az account show --query "{subscription_id: id }"

2. In the Red Hat Hybrid Cloud Console Add a cloud source wizard, enter your Subscription ID. Click Next to move to the next screen.

3. In Microsoft Azure Cloud Shell, run the following command to create a cost management Storage Account Contributor role, and obtain your tenant ID, client (application) ID, and client secret:

   $ az ad sp create-for-rbac -n "CostManagement" --role "Storage Account Contributor" --scope /subscriptions/{subscriptionId}/resourceGroups/{resourceGroup1} --query '{"tenant": tenant, "client_id": appId, "secret": password}'

4. In the Red Hat Hybrid Cloud Console Add a cloud source wizard, enter your Microsoft Azure Tenant ID, Client ID, and Client Secret.

5. Create a Reader role in Microsoft Azure for cost management.

   a. If the cost export scope is for an Enterprise Agreement (EA) account then launch the Microsoft Azure Enterprise Portal to give the service principal created previously an Administrator role on the account. For more information, see Assign access to Cost Management data in the Azure documentation.

   b. If the cost export scope is for a billing account, billing profile, or invoice section in a Microsoft Customer Agreement (MCA), launch the Cost Management and Billing service in the Microsoft Azure portal. Select the appropriate scope and give the service principal created above the appropriate Reader role from the IAM view. For more information, see Understand Microsoft Customer Agreement administrative roles in Microsoft Azure in the Azure documentation.

   c. If the cost export scope is for a resource group, subscription, or management group then in Microsoft Azure Cloud Shell, run the following command to create a cost management Reader role:

      $ az role assignment create --assignee "<your_Client_ID>" --role "Cost Management Reader" --scope {costExportScope}

6. Click Next.

1.4. CONFIGURING A DAILY MICROSOFT AZURE DATA EXPORT SCHEDULE
Create a recurring task to export your cost data on a daily basis automatically to your Microsoft Azure storage account, where cost management will retrieve the data at the desired scope.

1. In Microsoft Azure, add a new export as described in the instructions in the Azure article Create and manage exported data.

   - Select a Name for the export that should be supplied in the Red Hat Hybrid Cloud Console Add a cloud source wizard.

   - For Export type, select Daily export of month-to-date costs

   - For Storage account, select the account you created earlier.

   - Enter any value for the container name and directory path for the export. These values provide the tree structure in the storage account where report files are stored.

   - Click Run now to start exporting data to the Microsoft Azure storage container.

2. In the Red Hat Hybrid Cloud Console Add a cloud source wizard, click Next when you have created the export schedule and review the integration details.

3. Click Finish to complete adding the Microsoft Azure integration to cost management.

After the schedule is created, cost management will begin polling Microsoft Azure for cost data, which will appear on the cost management dashboard.
CHAPTER 2. NEXT STEPS FOR MANAGING YOUR COSTS

After adding your OpenShift Container Platform and Microsoft Azure integration, in addition to showing cost data by integration, cost management will automatically show Azure cost and usage related to running your OpenShift Container Platform clusters on their platform.

On the cost management Overview page, your cost data will be sorted into OpenShift and Infrastructure tabs. From here, you can use Perspective to select different views of your cost data.

You can also use the left navigation menu to view the additional details of your costs by service.

Additional resources

- Adding an OpenShift Container Platform integration to cost management
- Adding a Google Cloud integration to cost management
- Adding an Amazon Web Services (AWS) integration to cost management

2.1. LIMITING ACCESS TO COST MANAGEMENT RESOURCES

After you add and configure integrations in cost management, you can limit access to cost data and resources.

You might not want users to have access to all of your cost data. Instead, you can grant users access only to data that is specific to their projects or organizations. With role-based access control, you can limit the visibility of resources in cost management reports. For example, you can restrict a user’s view to only AWS integrations, rather than the entire environment.

To learn how to limit access, see the more in-depth guide Limiting access to cost management resources.

2.2. CONFIGURING TAGGING FOR YOUR INTEGRATIONS

The cost management application tracks cloud and infrastructure costs with tags. Tags are also known as labels in OpenShift.

You can refine tags in cost management to filter and attribute resources, organize your resources by cost, and allocate costs to different parts of your cloud infrastructure.

IMPORTANT

You can only configure tags and labels directly on an integration. You can choose the tags that you activate in cost management, however, you cannot edit tags and labels in the cost management application.

To learn more about the following topics, see Managing cost data using tagging:

- Planning your tagging strategy to organize your view of cost data
- Understanding how cost management associates tags
- Configuring tags and labels on your integrations

2.3. CONFIGURING COST MODELS TO ACCURATELY REPORT COSTS
Now that you configured your integrations to collect cost and usage data in cost management, you can configure cost models to associate prices to metrics and usage.

A cost model is a framework that uses raw costs and metrics to define calculations for the costs in cost management. You can record, categorize, and distribute the costs that the cost model generates to specific customers, business units, or projects.

In Cost Models, you can complete the following tasks:

- Classifying your costs as infrastructure or supplementary costs
- Capturing monthly costs for OpenShift nodes and clusters
- Applying a markup to account for additional support costs

To learn how to configure a cost model, see Using cost models.

2.4. USE THE COST EXPLORER TO VISUALIZE YOUR COSTS

The cost management Cost Explorer allows you to create custom graphs of time-scaled cost and usage information to better visualize and interpret your costs.

See Visualizing your costs using Cost Explorer to learn more about:

- Using Cost Explorer to identify abnormal events.
- Understanding how your cost data changes over time.
- Creating custom bar charts of your cost and usage data.
- Exporting custom cost data tables.
If you found an error or have a suggestion on how to improve these guidelines, open an issue in the cost management Jira board and add the Documentation label.

We appreciate your feedback!