



# Cost Management Service 1-latest

## Visualizing your costs using cost explorer

Use Cost Explorer to visualize and understand your costs



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## Abstract

Learn how to manage your costs using the interactive Cost Explorer. 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. USING COST EXPLORER

The cost management Cost Explorer enables you to see your costs through time. With Cost Explorer, you can filter through your expenditure to find answers to your questions, view more details, and look for trends in data.

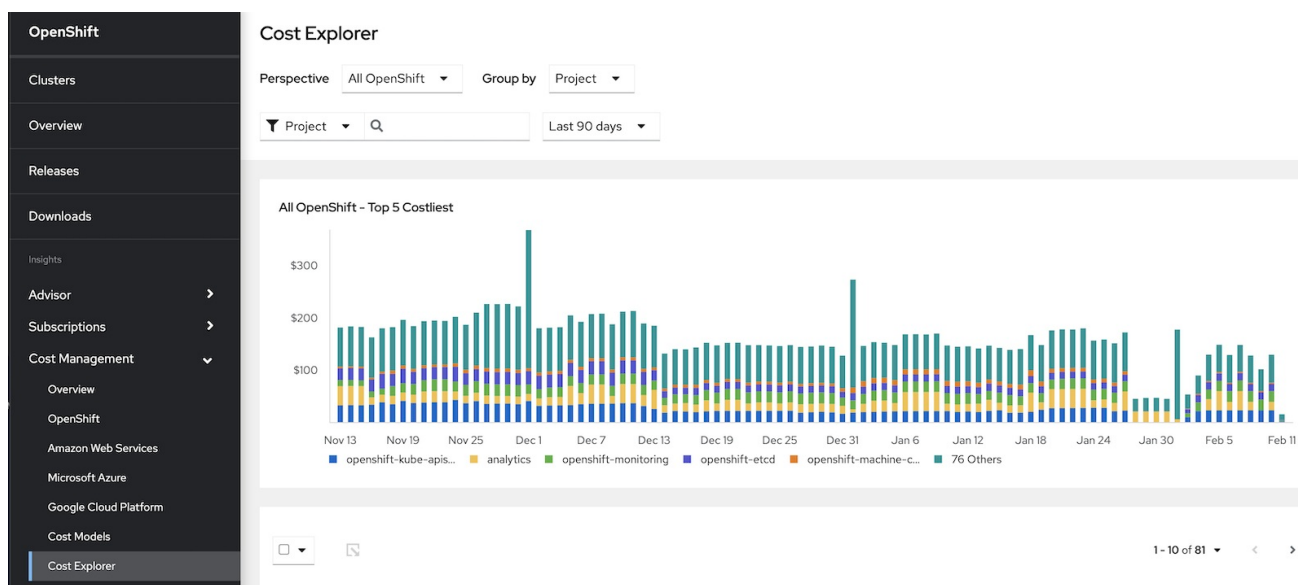
## 1.1. UNDERSTANDING COST EXPLORER

The cost management Cost Explorer enables you to see your costs through time. With Cost Explorer, you can filter through your expenditure to find answers to your questions, view more details, and look for trends in data.

With Cost Explorer you can:

- Identify abnormal events.
- Understand how your cost data changes over time.
- Create custom bar charts of your cost and usage data.
- Export custom cost data files.

Figure 1.1. The Cost Explorer Interface



A single bar in the Cost Explorer chart represents one day of cost and usage data corresponding to the filtered options. The five most significant metrics are individually displayed and all other metrics placed into the *Others* category. See [Section 1.2, “Filtering cost data with Cost Explorer”](#) for more information about filtering your cost and usage data.

### 1.1.1. Cost of unallocated resources in an OpenShift cluster

Unallocated costs are visible when viewing OpenShift cost data grouped by project. Rows named **Platform unallocated** and **Worker unallocated** are available when viewing OpenShift cost data by project.

#### Platform unallocated costs

The costs for parts of primary and infrastructure nodes that are not allocated to run workloads. In this case, those workloads are the OpenShift platform or control plane.

**Worker unallocated costs**

The costs that represent any unused part of your worker node's usage and request capacity.

**Network unattributed costs**

Costs associated with ingress and egress network traffic for individual nodes.

**1.1.2. Unattributed Storage project for OpenShift on Cloud****NOTE**

Azure and AWS are the only cloud service providers that create an **Unattributed Storage** project, but in the future, more providers might.

**Unattributed Storage** is a type of project that gets created when cost management is unable to correlate a portion of the cloud cost to an OpenShift namespace.

There are two scenarios where **Unattributed Storage** can happen:

1. Volumes without a claim
  - A persistent volume (PV) exists, but there are no persistent volume claims (PVCs) that use the volume. Without a claim, the cloud cost cannot be associated with a node or namespace.
2. Unutilized disk space
  - In some situations, cost management creates its own project because it cannot determine which project should be charged with the money from the cloud integration.

Consider the following example:

- You have a disk that has 30 GiBs.
- Project A creates a persistent volume that has a capacity of 20 GiBs.
- The cloud integration charges \$60 for that disk.

Cost management uses the following equation to calculate how much to charge Project A based on disk capacity. In this example, the cost is \$40:

**(PV's Capacity) / Disk Capacity \* Cost of Disk**

$$20/30 * 60 = \$40$$

The cloud integration still bills you for the \$60 dollars, but {product-title} can only attribute \$20 to Project A based off how much they requested. The remaining \$40 is assigned to the \*Unattributed Storage\* project. {product-title-up} calculates the remaining portion of that disk with the following equation. In this example, the cost is \$20:

**((Disk Capacity - Sum(PV capacity) / Disk Capacity) \* Cost of Disk**

$$(30 - 20) / 30 * 60 = \$20$$

**1.2. FILTERING COST DATA WITH COST EXPLORER**



To customize the cost data that appears, select items by using the filter options in the Cost Explorer. To change how your cloud and OpenShift costs display, select items in the **Perspective** menu. To display those costs at different levels of your OpenShift instance, select items in the **Project** menu. To see how costs are distributed based on CPU or memory metrics in project cost breakdowns, select **Overhead cost**.

### Prerequisites

- You must have your OpenShift cluster added as a cost management data integration. For instructions see [Integrating OpenShift Container Platform data into cost management](#).
- You must have your cloud infrastructure account added as a cost management data integration. For instructions for your cloud provider type see [Adding integrations to cost management](#).

### Procedure

1. To view cumulative costs from OpenShift or a cloud provider, go to the **Cost Explorer** and select an item from the **Perspective** menu. For example, to view your cumulative OpenShift Container Platform costs, select **All OpenShift Cost**.
2. To further refine your costs at different levels in your OpenShift instance, select a grouping. Depending on your cloud provider you can group by **Projects, Nodes, Clusters, or Tags**.
3. To search for a particular node, cluster or tag, you can filter by searching for one or more **Projects, Nodes, Clusters, or Tags**.
4. To refine the time period in your search, click **Month to date** to select a different time period from the menu. For example, select **Last 90 days** to view the cost data from the last 90 days.

### Next Steps

After filtering your data, you can export it into a CSV file. See [Section 1.3, “Exporting cost data”](#) for more information.

## 1.2.1. Tracking the cost of ROSA

You can track expenses associated with Red Hat OpenShift Service on AWS (ROSA) with Cost Explorer. To find costs associated with ROSA, filter the costs in Cost Explorer and view them grouped by services.

On Cost Explorer or AWS details page, view ROSA costs on the Amazon Web Service Filtered by OpenShift view by grouping by service and looking for virtual machine licenses.

### Procedure

1. In cost management, go to the **Cost Explorer** page.
2. On the **Cost Explorer** page, in the **Perspective** menu, select **Amazon Web Services filtered by OpenShift**.
3. In the **Group by** field, select **Service**.
4. In the results, find the **Red Hat OpenShift Service on AWS**

### Next Steps

After you filter your data, you can export it into a CSV file. See [Section 1.3, "Exporting cost data"](#) for more information.

## 1.2.2. Tracking the cost of ARO in OpenShift

You can track expenses associated with Microsoft Azure Red Hat OpenShift (ARO) when you calculate the cost of OpenShift for Microsoft Azure. To find costs associated with ARO, filter the costs in Cost Explorer and view them grouped by services.

The overall service cost includes all virtual machine license fees on the underlying nodes. For example, if the node is also running Red Hat Enterprise Linux, the specific cost of running ARO is included.

### Procedure

1. In cost management, go to the [Cost Explorer](#) page.
2. On the **Cost Explorer** page, in the **Perspective** menu, select **Microsoft Azure filtered by OpenShift**.
3. In the **Group by** field, select **Service**.
4. In the results, search for the virtual machine licences. The service cost includes all of the virtual machine licences fees on each node.

### Next Steps

After you filter your data, you can export it into a CSV file. See [Section 1.3, "Exporting cost data"](#) for more information.


## 1.3. EXPORTING COST DATA

Use the [Cost Explorer](#) to export customized CSV files of cost data to your local workstation. These files contain more details about your cost data that you can apply in your desired reporting tool.

### Prerequisites

- Your OpenShift cluster added as a cost management data integration. See [Integrating OpenShift Container Platform data into cost management](#) for instructions.
- Your cloud infrastructure account added as a cost management data integration. See [Adding integrations to cost management](#) for instructions for your cloud provider type.

### Procedure

1. Navigate to the [Cost Explorer](#) application.
2. Use the Cost Explorer filter options to create the desired information.
3. Select items to be exported in the list populated below the Cost Explorer graph.
4. Click the  **Export** button.
5. Click **Generate and Download**.  
The CSV file will download to your local system.

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## Prerequisites

- You are logged in to the Red Hat Customer Portal.

## Procedure

To provide feedback, perform the following steps:

1. Click the following link: [Create Issue](#).
2. Describe the issue or enhancement in the **Summary** text box.
3. Provide details about the issue or requested enhancement in the **Description** text box.
4. Type your name in the **Reporter** text box.
5. Click the **Create** button.

This action creates a documentation ticket and routes it to the appropriate documentation team. Thank you for taking the time to provide feedback.