



Configuring and Using the Profiler Application

- [Adding a Server to the Profiler, on page 1](#)
- [Starting Data Profiling, on page 7](#)
- [Downloading Profiling Results, on page 11](#)
- [Viewing Data Collections from Servers, on page 13](#)
- [30-Days Sizing Summary Report, on page 20](#)

Adding a Server to the Profiler

Adding vCenter to the ESXi Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to the landing page where you can find the + **Add Workload** option on the top right corner of the page. You can select vCenter, then you can add multiple vCenters.

To calculate the metrics for a host, the Profiler captures the metrics for all the VMs on the Host. You then need to select the VM to be profiled. By default none of the VM's are selected.

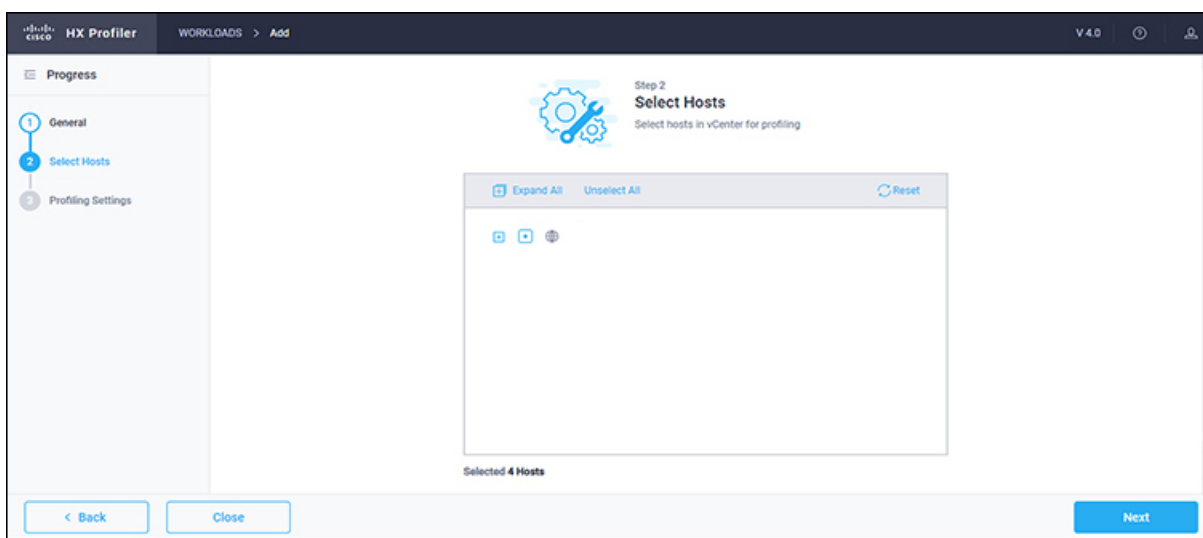
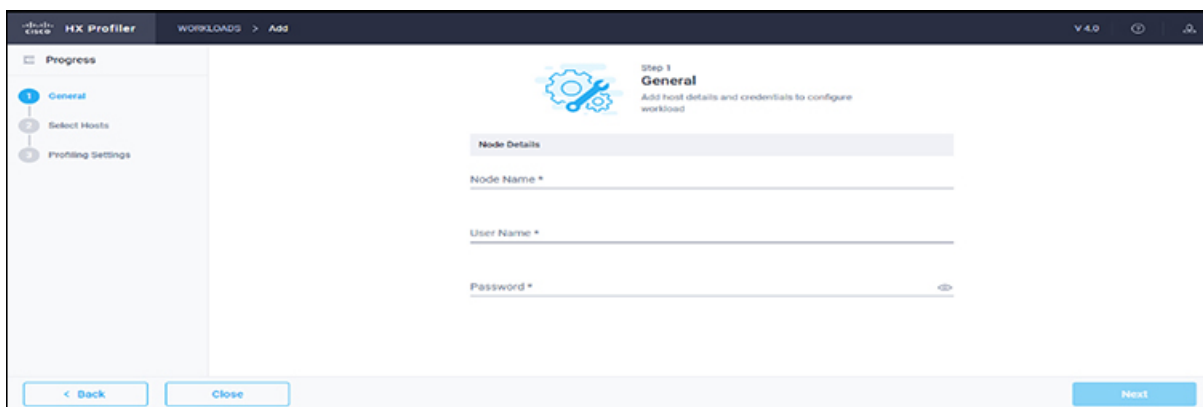
The workflow includes:

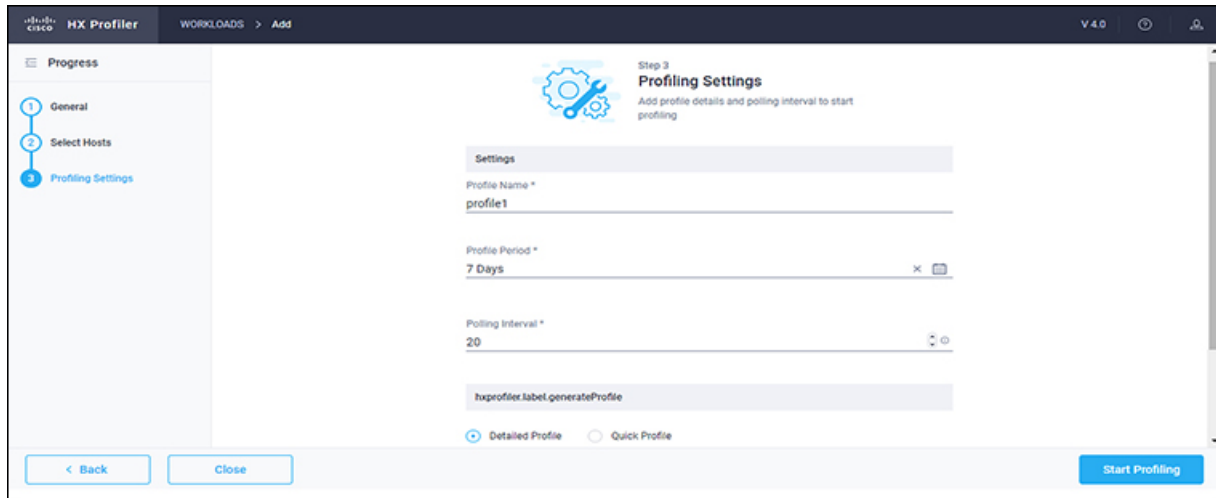
- **Node details tab:** Records your vCenter details and then connects to the vCenter. If the connection succeeds, the **Next** button displays enabling you to select the hosts for profiling.
- **Select Hosts tab:** Provides the vCenter details in hierarchy of vCenter, Datacenters, Clusters, and Hosts, with the option to select hosts to Profile. Default: All hosts in vCenter are selected.
- **Profiling Setting tab,** which provides:
 - **Profile Name:** for specifying the name of the profile which must be unique.
 - **Profile period:** for specifying the period of profiling. Default value is 7days and the minimum value is 1day.
 - **Polling Interval:** for specifies the frequency for which polling should occur.
 - **Quick Profile:** for a quick estimate
 - **Detailed Profile:** for detailed end-to-end profile results.

Step 1 Log in to the Profiler. See [Logging in to the ESXi Profiler](#).

Step 2 Follow the steps provided to enter values for the following options:

Item	Description
vCenter Name	Name of the vCenter you are adding.
User Name	Name of the user as part of the login credentials for the vCenter. Note HX Profiler uses VMware SDK to collect different performance metrics. To get the performance data, the user account connecting to the VMware vSphere must have administrator privileges.
Password	The password set as part of the login credentials for the vCenter.
Polling Interval	The interval at which you want polling to occur. The default is 20 seconds. You can change the interval to between 20-120 seconds, based on the number of hosts and VMs being polled in that vCenter.

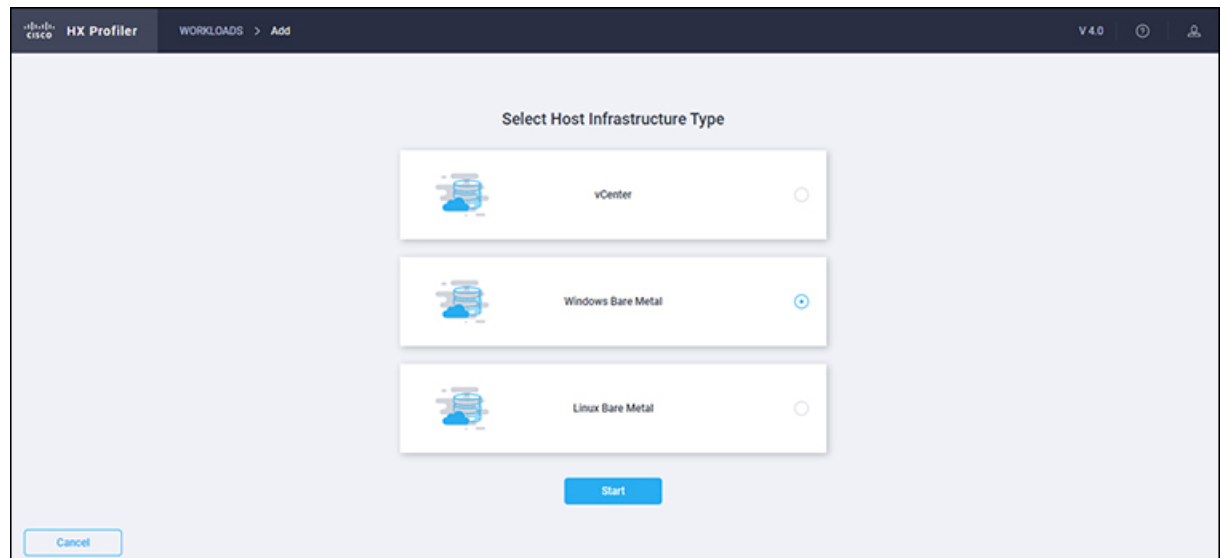




- Step 3** Click **Start Profiling**. The Profiler service starts automatically. When the connection status indicates successful connection, click **Next**.
- Step 4** On the **Poll filter** tab, review the hierarchy values.

Adding Windows Bare Metal to the Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to + **Add Workflow**. You can select **Windows Bare Metal** to add Windows Bare Metal to the workload.



SUMMARY STEPS

1. Log in to the Profiler.
2. On the **Node details** tab, enter values for the following options:

3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
4. If you select the IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
5. If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

DETAILED STEPS

Step 1 Log in to the Profiler.

Step 2 On the **Node details** tab, enter values for the following options:

Item	Description
Windows Cluster Name	Name of the cluster you are trying to add
Host Name/IP Address	To enter a single host / different IPs
IP Address Range	To enter a range of VM IPs
User Name	Login username for windows baremetal Note The username must have the administrator role assigned to it.
Password	Login password for windows baremetal
Polling Interval (seconds)	Default 20 seconds

The screenshot shows the 'General' configuration page in the HX Profiler application. The page title is 'General' with the subtitle 'Add host details and credentials to configure workload'. A note indicates: 'Note : Supported and tested version of Windows Servers 2012R2, 2016 and 2019'. The 'Cluster Details' section includes a text input for 'Windows Cluster Name *'. Below this is a 'Host' section with radio buttons for 'Host Name / IP' (selected) and 'IP Address Range'. A 'Host IP *' input field with a '+' icon is also present. At the bottom, there is a 'Credentials' section. Navigation buttons at the bottom include '< Back', 'Close', and 'Next'.

The screenshot shows the 'Step 2 Profiling Settings' configuration page in the Cisco HX Profiler. The page includes a progress indicator on the left with 'General' and 'Profiling Settings' steps. The main content area contains a 'Settings' section with three input fields: 'Profile Name *' (value: profile1), 'Profile Period *' (value: 7 Days), and 'Polling Interval *' (value: 20). At the bottom, there are buttons for '< Back', 'Close', and 'Start Profiling'.

- Step 3** If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
- Step 4** If you select the IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
- Step 5** If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

Adding Linux Bare Metal to the Profiler

At the first login following installation of Hx Workload Profiler, you are redirected to + **Add Workflow**. You can select **Linux Bare Metal** to add Linux Bare Metal to the workload.

The screenshot shows the 'Select Host Infrastructure Type' dialog box. It features three radio button options: 'vCenter', 'Windows Bare Metal', and 'Linux Bare Metal'. The 'Linux Bare Metal' option is selected, indicated by a blue dot. Below the options is a 'Start' button, and at the bottom left is a 'Cancel' button.

SUMMARY STEPS

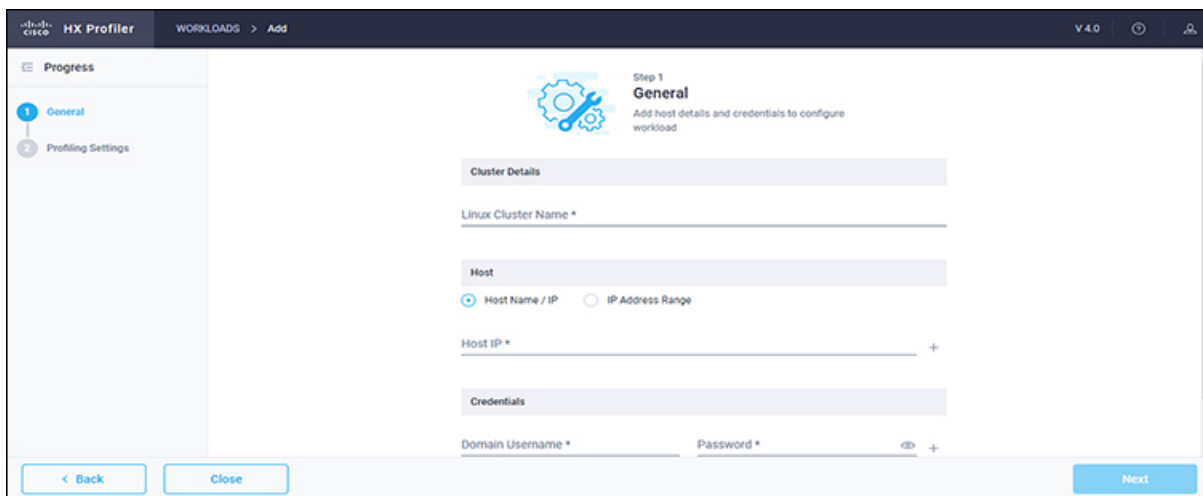
1. Log in to the Profiler.
2. On the **Node details** tab, enter values for the following options:
3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
4. If you select IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
5. If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

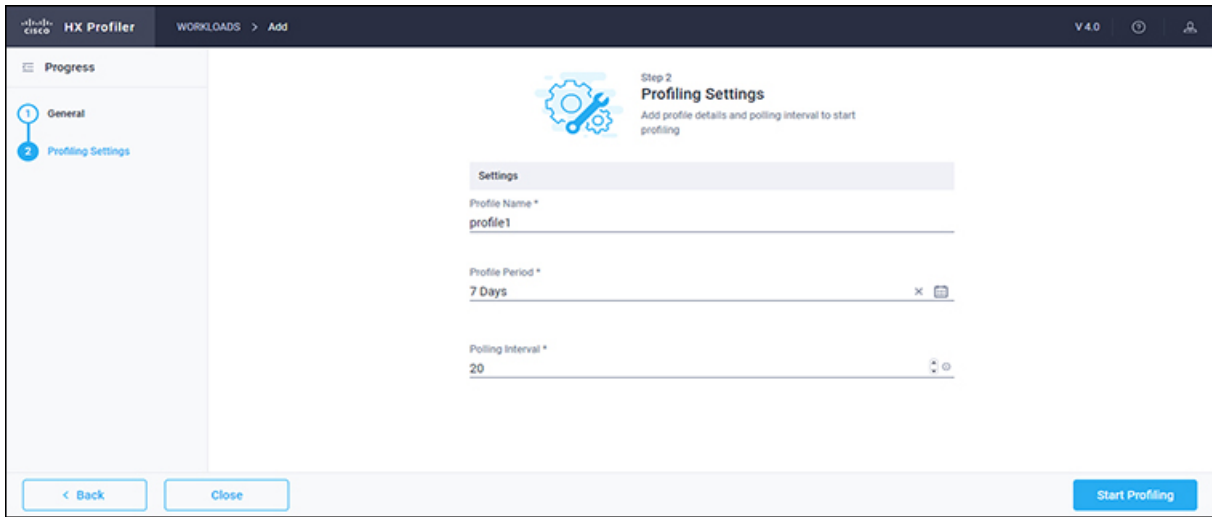
DETAILED STEPS

Step 1 Log in to the Profiler.

Step 2 On the **Node details** tab, enter values for the following options:

Item	Description
Linux Cluster Name	Name of the cluster you are trying to add
Host Name/IP Address	To enter a single host / different IPs
IP Address Range	To enter a range of VM IPs
User Name	Login username for Linux baremetal
Password	Login password for Linux baremetal
Polling Interval	Default 20 seconds





- Step 3** If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
- Step 4** If you select IP Address Range, click **Validate**. Given IP range and credentials are validated, and if any of the VMs are not reachable, any error details will be updated in tabular format.
- Step 5** If no errors are observed, click **Save**. If there are errors, please check the respective error VM details, rectify them manually and then click on **Revalidate**. Click **Save** to add the workload.

Starting Data Profiling

Starting ESXi Data Profiling

Following the successful addition of a vCenter Server, the new vCenter displays on the Data Inventory (home) page. You configure the profiling attributes by providing the profile name and duration.

Table 1: Profiling Operation Options

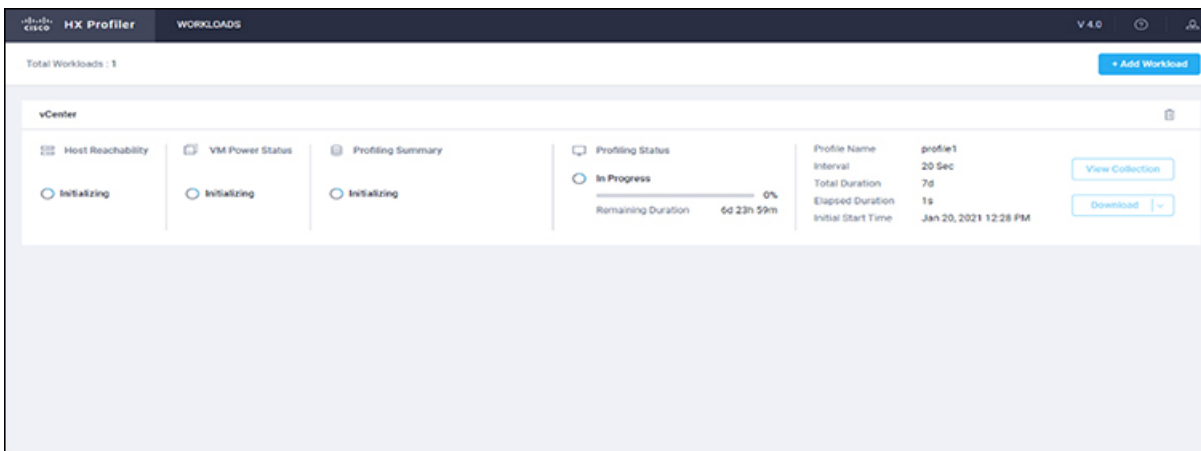
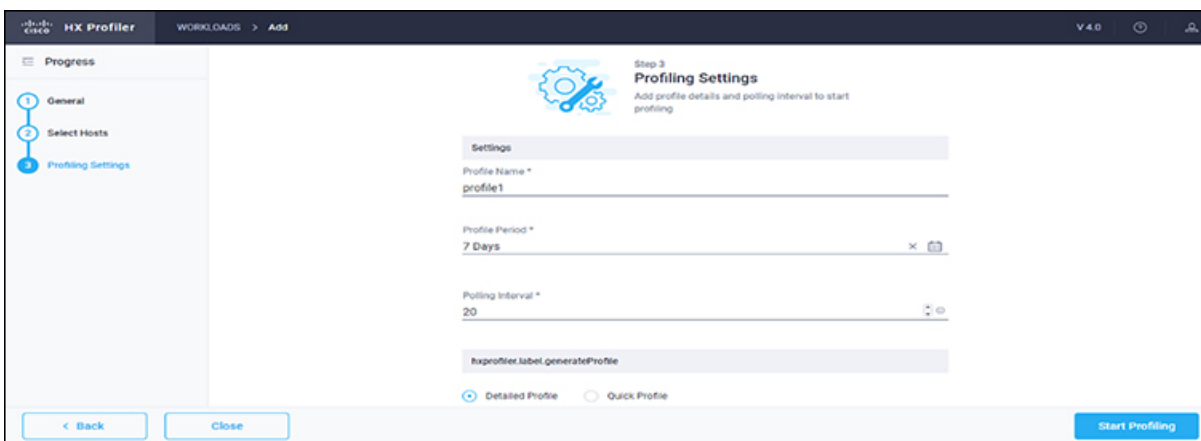
Item	Description
Delete (trash can)	Deletes a previously added vCenter.
Edit (pen)	Edit vCenter properties to add or remove hosts for polling.
Stop (symbol)	Stops the profiling so you can resume it later.
Reset (refresh symbol)	Performs a reset operation, which creates a new profile and starts polling. When you trigger reset, the profiler stops the active/running profile and creates a new one. A prompt asks for confirmation.

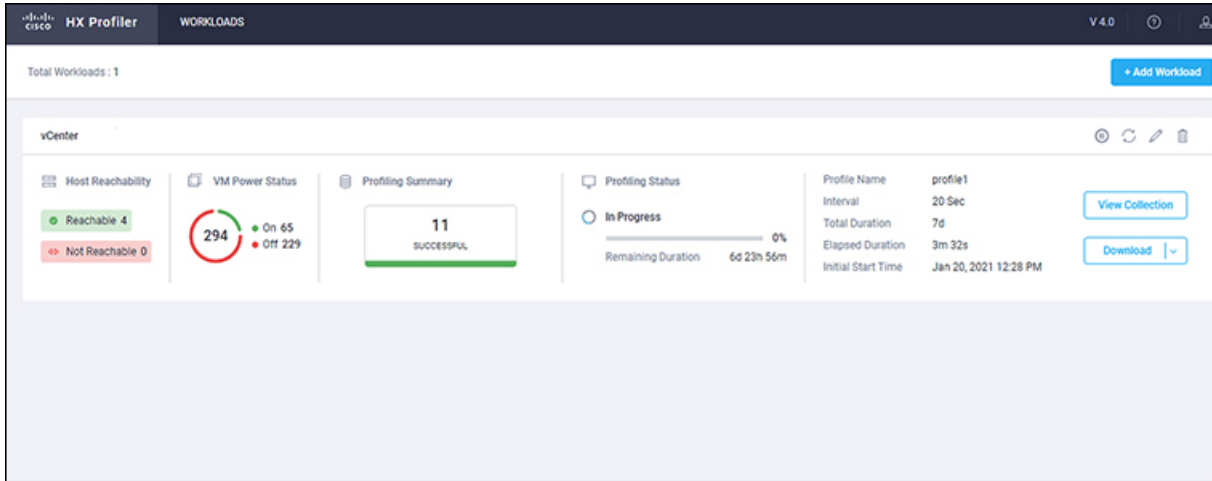
Item	Description
View Collection	Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data.

Polling starts as soon as you enter the profiler name ,days and polling period.

Step 1 In the dialog that displays, perform the following steps:

- a) Enter a name for the profile.
- b) Select a duration value from the **Profiling Period** down-drop list.
- c) Click **Ok**.





Following successful profile creation, the Profiler begins polling the selected hosts and all the VMs on those hosts. When the polling starts, the data collector runs as a background process. The Datacenter Inventory page displays information about the hosts and polling, showing number of hosts and the status of the polling.

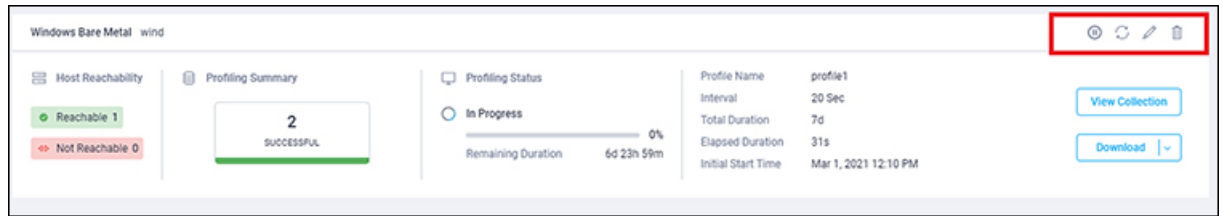
- Step 2** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service](#).
- Step 3** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
- Step 4** (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 18](#).
- Step 5** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 11](#).

Starting Windows Bare Metal Data Profiling

Following the successful addition of a Windows Bare Metal, the newly added Windows Bare Metal displays on the Data Inventory (home) page. You can configure the profiling attributes by providing the profiling name and duration.

Table 2: Profiling Operation Options

Item	Description
Delete (trash can)	Deletes the selected Windows Bare Metal workload / node
Edit (pen)	Edit Windows Bare Metal to add / remove existing VM/hosts for profiling.
Stop (symbol)	Stops the profiling
Refresh	Performs a reset operation, which creates a new profile and starts the polling. When reset is clicked, profiler stops the active/running profile and creates a new one. A prompt asks for confirmation.
View Collection	Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data.



SUMMARY STEPS

1. (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service](#)
2. (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
3. (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 18](#).
4. (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 11](#).

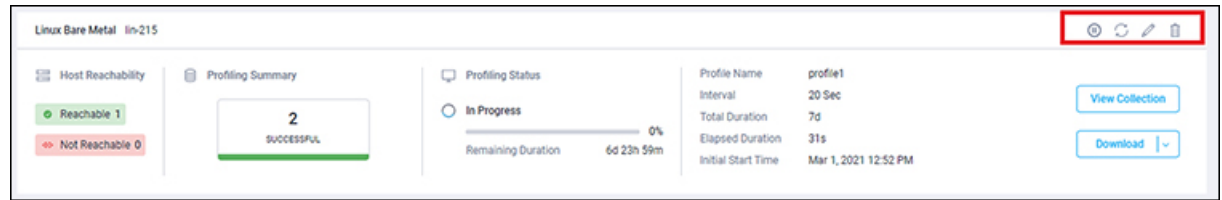
DETAILED STEPS

-
- Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service](#)
- Step 2** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
- Step 3** (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 18](#).
- Step 4** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 11](#).
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Starting Linux Bare Metal Data Profiling

Following the successful addition of a Linux Bare Metal, the newly added Linux Bare Metal displays on the Data Inventory (home) page. You can configure the profiling attributes by providing the profiling name and duration.

Item	Description
Delete (trash can)	Deletes selected Linux Bare Metal workload / node
Edit (pen)	Edit Linux Bare Metal to add / remove existing VM/hosts for profiling.
Stop (symbol)	Stops the profiling
Refresh	Performs a reset operation, which creates a new profile and starts the polling. When reset is clicked, profiler stops the active/running profile and creates a new one. A prompt asks for confirmation.
View Collection	Opens the View Collection page so you can browse through the collected data as part of the profiling to review the HOST and VM level data.



SUMMARY STEPS

1. (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service](#)
2. (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
3. (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 18](#).
4. (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 11](#).

DETAILED STEPS

- Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service](#)
- Step 2** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
- Step 3** (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 18](#).
- Step 4** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 11](#).

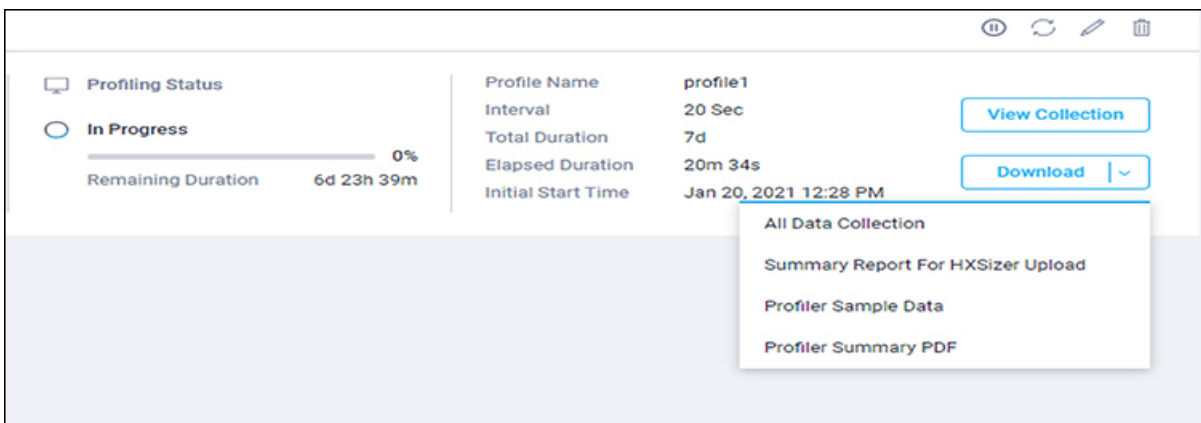
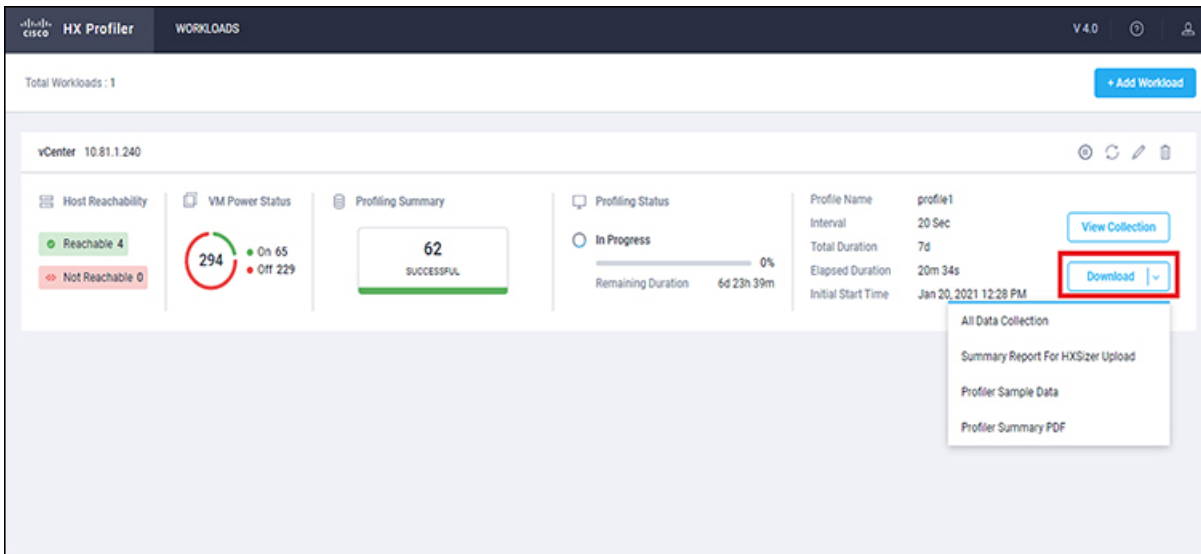
Downloading Profiling Results

Downloading ESXi Profiling Results

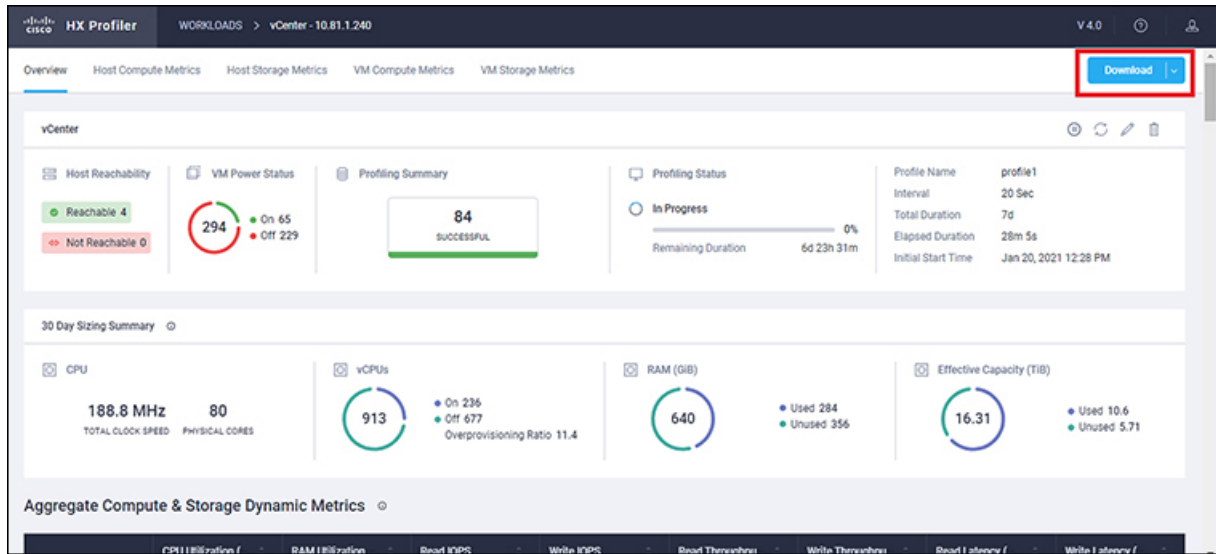
- Step 1** On the Datacenter Inventory page, locate and select the profile whose data you want to download.
- Step 2** Use the **Download** option to select one of the following:

Option	Description
All Data Collection	Downloads 30-day host summary, time series, and CVS for both the host and VM
Summary Report for HxSizer Upload	Collects the historic 30-day information from vCenter and does not require any active polling. The download provides the output in CSV format and can be directly uploaded to the Compute and Capacity Workload of HxSizer.
Profiler Sample Data	Downloads the sampled data for the selected profile in the following formats: <ul style="list-style-type: none"> • Summarized host data (CVS) • Summarized VM data (CVS) • Time series data of host (zipped CSV file) • Time series data of VM (zipped CSV file)

Option	Description
Profiler Summary PDF	PDF download



Step 3 You can still download the profiling results when viewing the compute, storage and network data of various hosts and VMs by clicking on the **Download** button on the top right corner of the UI.



Viewing Data Collections from Servers

Viewing ESXi Data Collections from vCenter Servers

The View Collection page has five tabs at the top left of the page, Overview, Host Compute Metrics, Host Storage Metrics, VM Compute Metrics, VM Storage Metrics. When clicked, they show summary data described in this section. The View Collection page also provides the summarized data for Compute Summary and Storage Summary of individual host and VMs. You can also fetch the data for specific period of profiling using the predefined filter present on the top right corner of the page with the minimum being 30 minutes or the user can also use the time line to select the time period. The following sections describe the summary data shown through filter tool use and in that shown in each tab and view.

Viewing ESXi Data Collections from vCenter Servers

HX Profiler WORKLOADS vCenter 10.81.1.240

Total Workloads: 1

Host Reachability: Reachable 4, Not Reachable 0

VM Power Status: 294 On 64, Off 230

Profiling Summary: 3368 SUCCESSFUL, 25 PARTIAL

Profiling Status: In Progress 11%, Remaining Duration 6d 5h 9m

Profile Name: profile1, Interval: 20 Sec, Total Duration: 7d, Elapsed Duration: 18h 50m 49s, Initial Start Time: Jan 19, 2021 06:52 PM

View Collection (highlighted)

HX Profiler WORKLOADS vCenter

Overview Host Compute Metrics Host Storage Metrics VM Compute Metrics VM Storage Metrics

Host Reachability: Reachable 4, Not Reachable 0

VM Power Status: 294 On 64, Off 230

Profiling Summary: 3353 SUCCESSFUL, 25 PARTIAL

Profiling Status: In Progress 11%, Remaining Duration 6d 5h 14m

Profile Name: profile1, Interval: 20 Sec, Total Duration: 7d, Elapsed Duration: 18h 45m 48s, Initial Start Time: Jan 19, 2021 06:52 PM

30 Day Sizing Summary

CPU: 188.8 MHz, 80 Physical Cores

vCPUs: 913, On 232, Off 681, Overprovisioning Ratio 11.4

RAM (GiB): 640, Used 284, Unused 356

Effective Capacity (TiB): 16.31, Used 10.59, Unused 5.72

Aggregate Compute & Storage Dynamic Metrics

Download

HX Profiler WORKLOADS vCenter

Overview Host Compute Metrics Host Storage Metrics VM Compute Metrics VM Storage Metrics

Aggregate by Average value

Reset Zoom 30m 1H 24H 1W 1M 2M

Aggregate Metrics (All VMs Selected)

Status: 294 On 64, Off 230

CPU: 23399.6 MHz TOTAL CPU UTILIZATION

vCPUs: 913, Active 232, Inactive 681

RAM (GiB): 2279.5, Used 290.5, Unused 1989

Transfer Rate (Mbps): 2, Receive 1.1, Transmit 0.9

Aggregate Metrics (All VMs Selected)

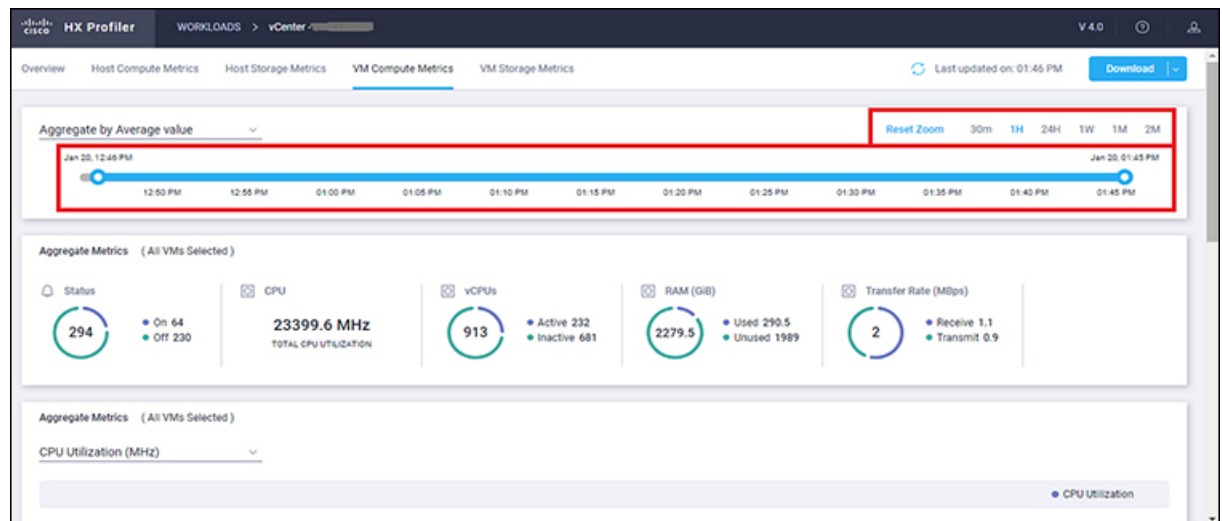
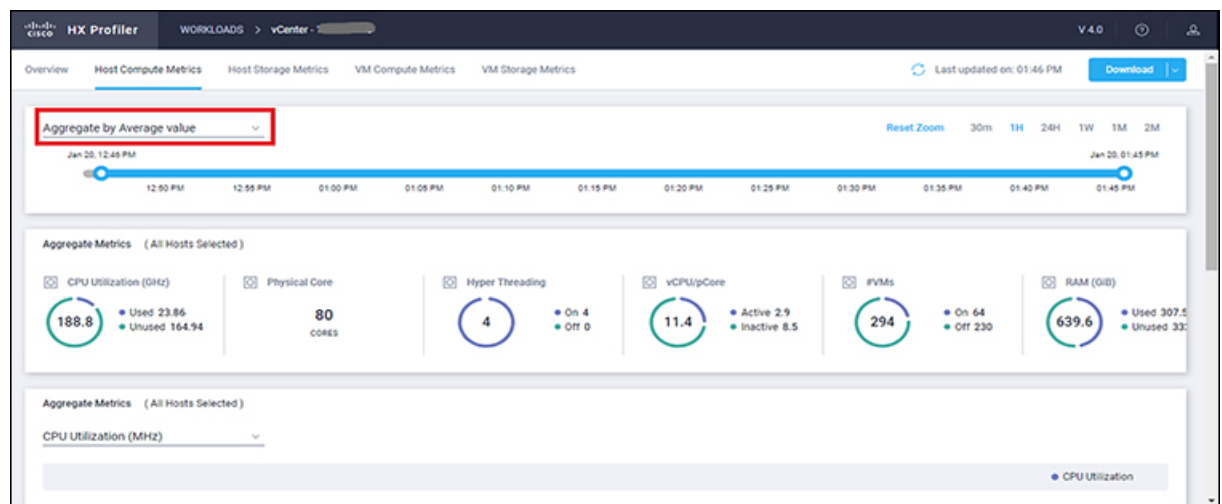
CPU Utilization (MHz)

CPU Utilization

Table 3: Host View Filter Options

Item	Description
Aggregation	Filters to view the summarizations based on peak or average selections. Your selection determines the display of the table metrics and trends. The summarized values represent the following: <ul style="list-style-type: none"> • Peak: Peak value of all the metrics in the selected interval • Average: Averages of all the values in the selected interval

You can filter Host metrics using the search option by host name only. For VM metrics, you can filter either by the Host name to which the VM belongs or directly with the VM name, using the search option.



Host and VM Summarized Metrics

Based on your time period and parameters selections, the Profiler computes and populates the compute and storage metrics. Metrics display for the following values:

Host View Compute Table

- Host_Name
- Processor Type
- Clock (GHz)
- #Physical Cores
- HT – ON/OFF
- CPU Util (MHz)
- CPU Util (%)
- #VMs
- vCPU of active VMs/pCore Ratio
- RAM (GB)
- RAM Util (GB)
- Network Throughput- Rx (Mbps)
- Network Throughput- Tx (Mbps)

Host View Storage Table

- Provisioned Capacity (TB)
- Used Storage Capacity (TB)
- Read Throughput (MBps)
- Write Throughput (MBps)
- Read (%)
- Write (%)
- Read IOPS
- Write IOPS
- Read Block Size (KB)
- Write Block Size (KB)
- Seq (%)
- Read Latency (ms)
- Write Latency (ms)

VM View Compute Table

- VM Name
- Status
- Host_Name

- vCPUs
- CPU Util (MHz)
- CPU Util (%)
- RAM (GB)
- RAM Util (GB)
- Network Throughput- Rx (Mbps)
- Network Throughput- Tx (Mbps)

VM View Storage Table

- VM Name
- Host_Name
- Disk Capacity (GB)
- Disk Used (GB)
- Read Throughput (MBps)
- Write Throughput (MBps)
- Read (%)
- Write (%)
- Read IOPS
- Write IOPS
- Read Block Size (KB)
- Write Block Size (KB)
- Seq (%)
- Read Latency (ms)
- Write Latency (ms)

Host and VM Trends

The View Collection page provides trend charts and an overview of various parameters at a host level and VM level for both compute and storage parameters. The overview provides information aggregate storage and compute matrix along with a 30-day sizing summary. You can view the trend charts by selecting the host or the VM from the table.

Metrics for the following values display in the trend charts:

Host View Compute Trends

- CPU Utilization (MHz)
- CPU Utilization (%)
- CPU Overprovisioning Ratio (%)

- RAM Utilization (%)
- RAM Overprovisioning Ratio (%)
- Receive Rate (Mbps)
- Transmit Rate (Mbps)

VM View Compute Trends

- Receive Rate (Mbps)
- Transmit Rate (Mbps)

Host and VM View Storage Trends

- Read Throughput (MBps)
- Write Throughput (MBps)
- Read Ratio
- Write Ratio
- Read IOPS
- Write IOPS
- Read Seq (%)
- Write Seq (%)
- Read Latency (ms)
- Write Latency (ms)
- Provisioned Capacity (TB)
- Used storage Capacity (TB)

Histogram Charts

- Read Block Size Histogram
- Write Block Size Histogram



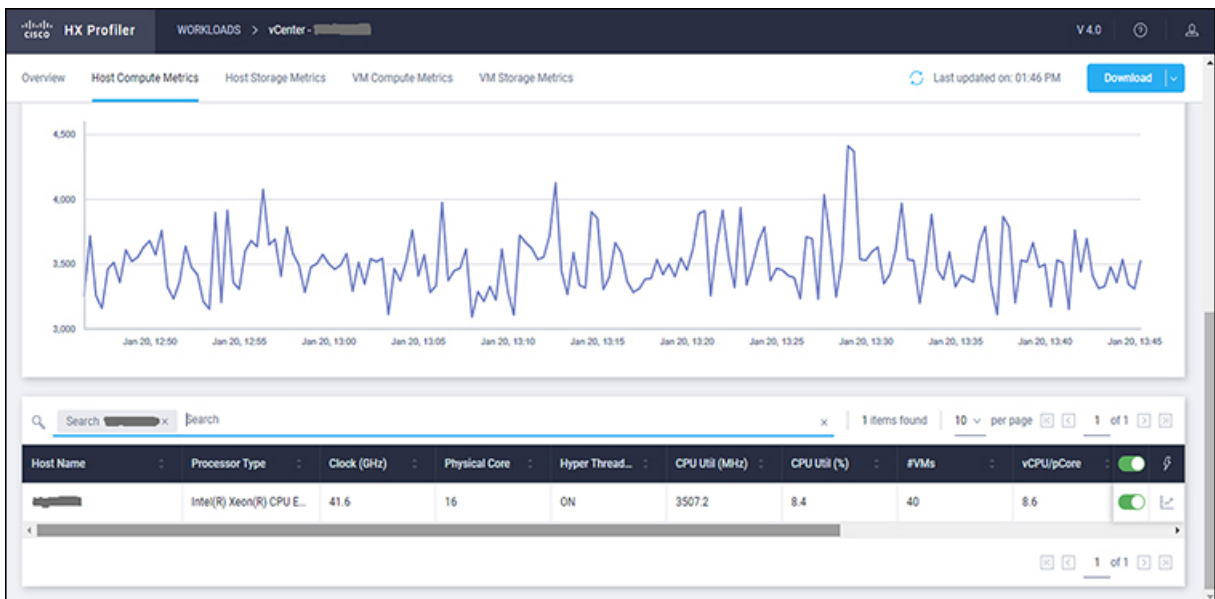
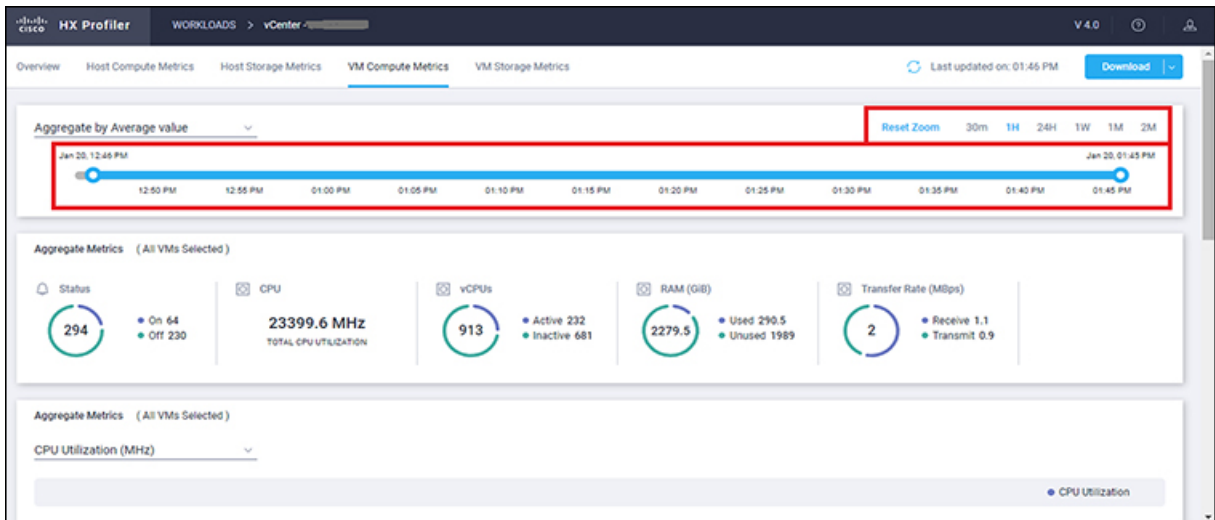
Note You can plot the storage parameter charts for two comparable charts either from the Trend Line chart or from the Histogram chart.

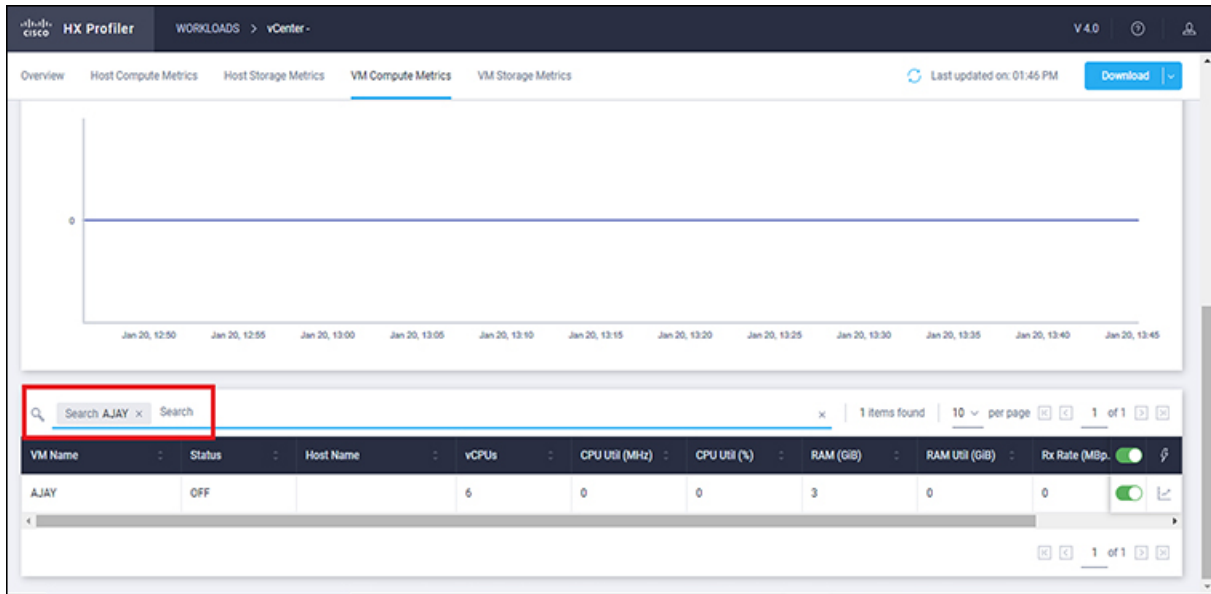
Viewing an ESXi Collection

You can also use the filter and search tool in the Hosts and VM views to display only those hosts and VMs that you want to see.

You can also use the filter tool in the Hosts and VM views to display only those hosts and VMs you want to see.

- Step 1** In the Datacenter Inventory page, click **View Collection** to browse through the collected data.
- Step 2** In the View Collection page, select between **Host Compute Metrics**, **Host Storage Metrics**, **VM Compute Metrics** or **VM Storage Metrics**.
- Step 3** In the **Select VMs** tab, select or unselect the toggle switch for the VMs you want to view, then click **Next**. All VMs are selected by default.
- Step 4** To view data for a different time period, select from the options in the top right corner with the default minimum value of 30 minutes. Use the time slider above the fixed time period selection to view data for a specific time range from the selected time period.





30-Days Sizing Summary Report

Upload 30-Days Sizing Summary Report

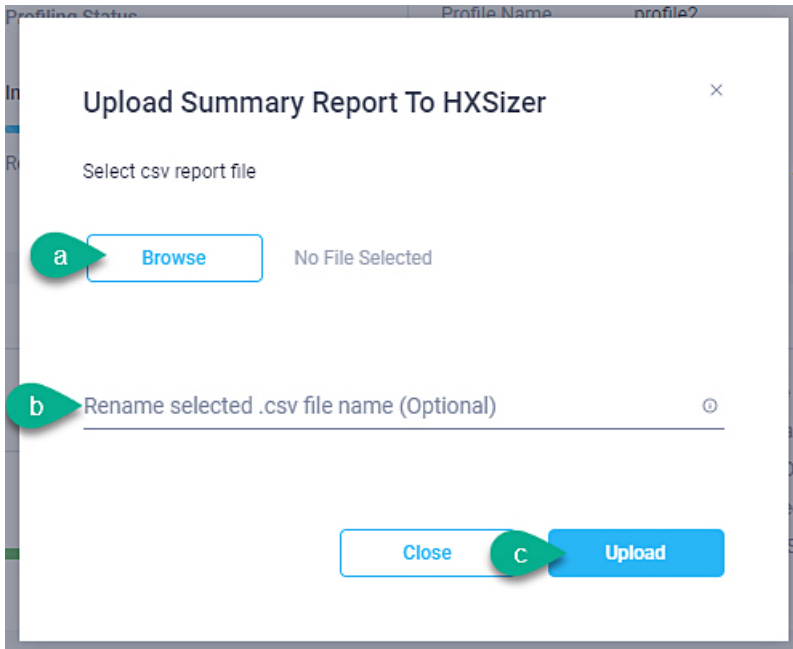
You can upload the 30-Days Sizing Summary Report to the HxSizer application from HxProfiler. When the report upload is successful, a reference number is generated. View the history of uploads along with the reference number from the HxProfiler application. In addition to identifying the report, the reference number may be used to claim the scenario from the HxSizer application.

Perform the following steps in the Cisco HX Profiler dashboard to upload the 30-Days Sizing Summary report:

Step 1 Click the **Upload** icon on the HX Profiler ribbon and select **Upload To HXSizer**. The **Upload Summary Report To HXSizer** window appears.

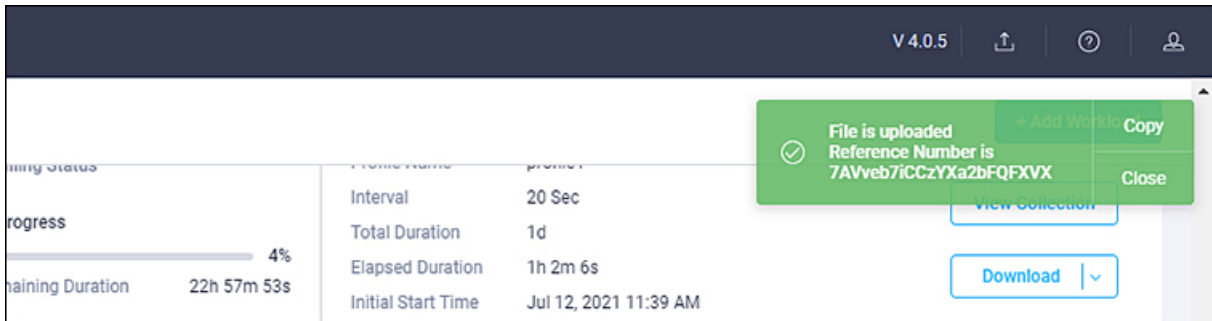


Step 2 Click the **Browse** button to navigate to the local .csv file that needs to be uploaded to the HXSizer portal.



- a) Select the desired .csv file.
- b) (Optional) To modify the csv file name, type a new name in the **Rename selected .csv file name** field.
- c) Click **Upload**.

A reference number indicates a successful upload. Use the **Copy** button to copy the reference number and use it to claim the scenario in the HXSizer application.



Step 3 (Optional) View Upload History

- a) Click the **Upload** icon on the HX Profiler ribbon and select **Upload History** to view the list of 30-Days sizing summary .csv files that have been uploaded to the sizer application from profiler.

Sizer Upload History

Search 2 items found | 5 per page | 1 of 1

File name	Uploaded Date	Reference Number	
Sizer_upload_Summary_perf-vc6.eng.storvi...	Jul 12, 2021 12:42 PM	7AVveb7iCCzYXa2bFQFXVX	
Sizer_upload_Summary_perf-vc6.eng.storvi...	Jul 12, 2021 12:29 PM	jceBxSkXUnsia4SpiwA6fr	

1 of 1

[Close](#)