



Cisco HyperFlex Workload Profiler

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Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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CHAPTER 1

Introduction

- [Introduction, on page 1](#)

Introduction

ESXi Introduction

Hx Workload Profiler is a VMware vCenter characterization tool that can estimate the compute, storage, and network usage of hosts and VMs across multiple vCenter deployments. The output of the tool can be fed into HxSizer product to size the HyperFlex cluster requirements. The workload requirements are estimated by the HxProfiler tool.

Hx Workload Profiler key outputs:

- 30-day historic summary of host-level compute metrics
- Detailed compute, storage, and network metrics for hosts and VMs for all vCenters profiled
- Detailed time series data to analyze trends of key metrics in the UI
- Download of time series data of all key metrics

The Hx Workload Profiler tool is delivered as an OVA and can be used to monitor multiple vCenters simultaneously.

Hyper-V Introduction

Hx Workload Profiler is a Hyper-V characterization tool that can estimate the compute, storage, and network usage of hosts and VMs across multiple Hyper-V deployments. The output of the tool can be fed into HxSizer product to size the HyperFlex cluster requirements. The workload requirements are estimated by the HxProfiler tool.

Hx Workload Profiler key outputs:

- Summary of host-level compute metrics
- Detailed compute, storage, and network metrics for hosts and VMs for all Hyper-V's profiled
- Detailed time series data to analyze trends of key metrics in the UI

- Download of time series data of all key metrics

The Hx Workload Profiler tool is delivered as a VHDX and can be used to monitor multiple Hyper-V servers simultaneously.



CHAPTER 2

System Requirements

- [ESXi System Requirements](#), on page 3
- [Hyper-V System Requirements](#), on page 4

ESXi System Requirements

| Requirement | Description |
|----------------------|--|
| ESXi version | v5.5 or later |
| OVA size | <ul style="list-style-type: none">• vCPU: 4• RAM: 8 GB• Disk: 100 GB (thin provisioning supported). It is recommended that you use thin provisioning while deploying the VM. |
| Scale for end-points | <ul style="list-style-type: none">• Maximum number of simultaneous vCenters: 16• Maximum number of hosts: 200• Maximum number of VMs: 4000 |
| Credentials | <ul style="list-style-type: none">• Root/admin credentials |
| Browser support | <ul style="list-style-type: none">• Chrome: Chrome version 50 or later• Firefox: Unsupported• IE: Unsupported• Safari: Unsupported |

Hyper-V System Requirements

| Requirement | Description |
|------------------|---|
| VHDX | <ul style="list-style-type: none">• vCPU: 4• RAM: 8 GB• Disk: 100 GB (Dynamically expanding disk as VHDX) |
| Credentials | <ul style="list-style-type: none">• Root/admin credentials |
| Browser support | <ul style="list-style-type: none">• Chrome: Chrome version 50 or later• Firefox: Unsupported• IE: Unsupported• Safari: Unsupported |
| Host OS Language | <ul style="list-style-type: none">• English <p>Note For non-English language operating systems, fetching data for Hyper-V VMs fails.</p> |



CHAPTER 3

Setting Up the Virtual Appliance

- [Logging into the Profiler, on page 5](#)
- [Deploying the Virtual Machine, on page 7](#)
- [Configuring and Using the Profiler Application, on page 12](#)
- [Using the Profiler Service, on page 14](#)
- [Locating the Application Logs, on page 15](#)

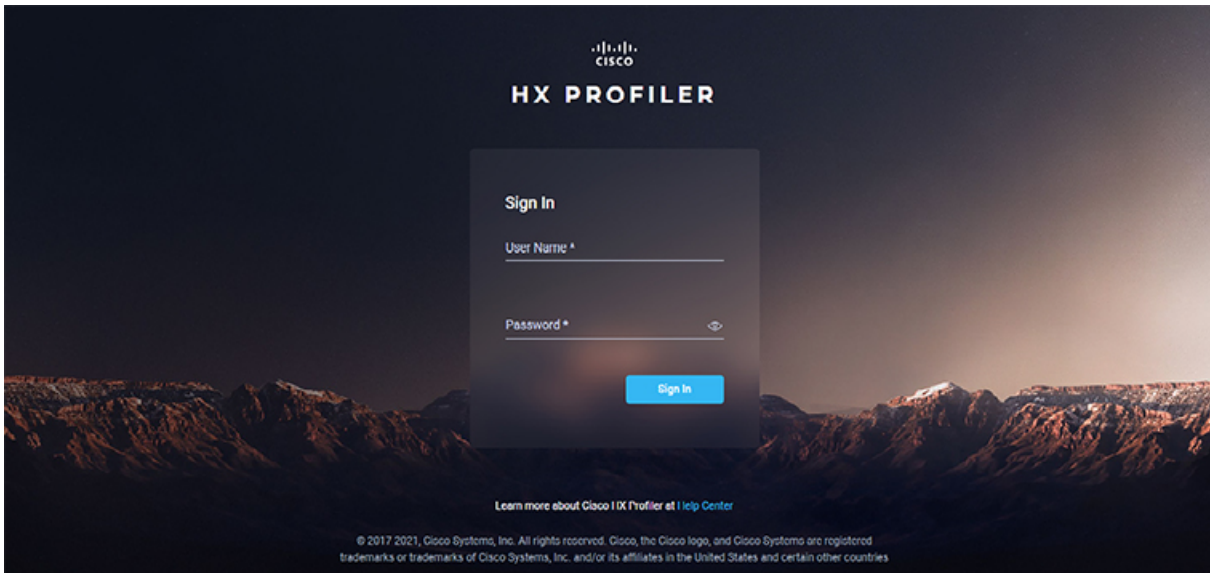
Logging into the Profiler

Logging in to the ESXi Profiler

The Hx Workload Profiler user interface (UI) uses system credentials for authentication.

Step 1 To access the UI, launch a browser window and enter `http://<IP>` or `http://<IP:8000>` or `http://<IP>/profiler/index.html` or `http://<IP:8000>/profiler/index.html`, where the IP is the IP address of the VM.

The HX Profiler UI appears:

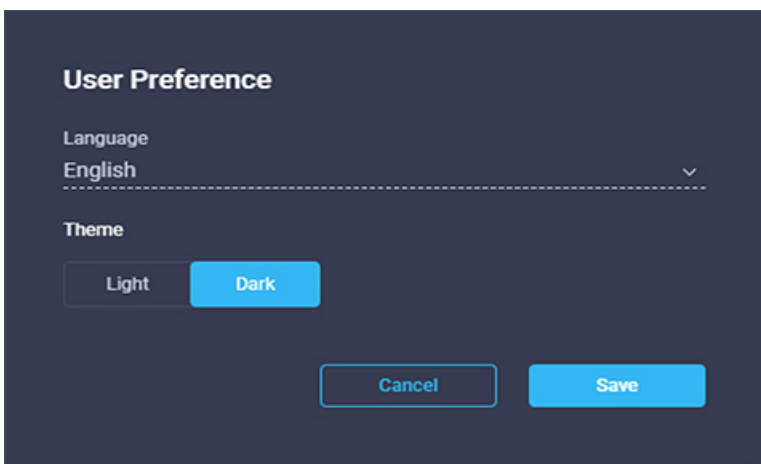


Step 2 When prompted, log in to the UI with the following credentials:

User name: **monitoring**

Password: **<new password set during the install workflow>**

Step 3 You can use the User Preference option in the top right corner of the UI to configure **Language** or **Theme**.



Click **Cancel** or **Save** to continue.

Step 4 When finished, you can end the user session by clicking **Logout** at the top right of the page.

Logging in to the Hyper-V Profiler

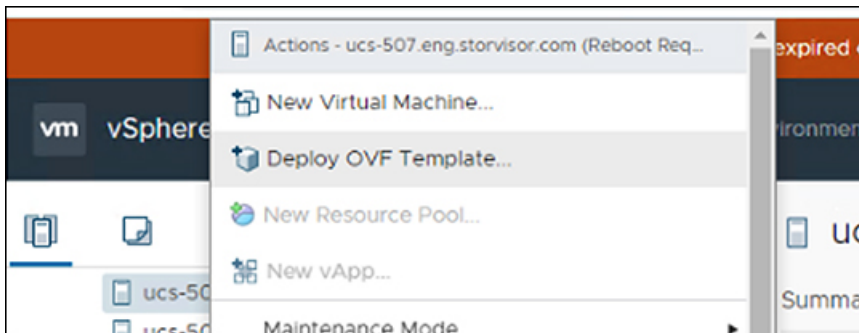
The Hx Workload Profiler user interface (UI) uses system credentials for authentication.

-
- Step 1** To access the UI, launch a browser window and enter `http://<IP>` or `http://<IP:8000>` or `http://<IP>/profiler/index.html` or `http://<IP:8000>/profiler/index.html`, where the IP is the IP address of the VM.
- Step 2** When prompted, log in to the UI with the following credentials:
- User name: **monitoring**
- Password: **<new password set during the install workflow>**
- Step 3** When finished, you can end the user session by clicking **Logout** at the top right of the page.
-

Deploying the Virtual Machine

Deploying the ESXi Virtual Machine

- Step 1** Log in to VMware vSphere Client.
- Step 2** Select **File > Deploy OVF Template**.



- Step 3** Select the OVA file you want to deploy from the **Select an OVF template** option.

Deploy OVF Template

- 1 Select an OVF template**
- 2 Select a name and folder
- 3 Select a compute resource
- 4 Review details
- 5 Select storage
- 6 Ready to complete

Select an OVF template
Select an OVF template from remote URL or local file system


Enter a URL to download and install the OVF package from the Internet, or browse to a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.

URL

http | https://remoteserver-address/filetodeploy.ovf | .ova

Local file

Choose Files No file chosen

 Select a template to deploy. Use multiple selection to select all the files associated with an OVF template (.ovf, .vmdk, etc.)

CANCEL BACK NEXT

Step 4 Click **Next**, review the OVF template details, and then click **Next** again.

Step 5 On the **Select a name and folder** page, specify the name and location for the virtual appliance, and then click **Next**.

Deploy OVF Template

- 1 Select an OVF template
- 2 Select a name and folder**
- 3 Select a compute resource
- 4 Review details
- 5 Select storage
- 6 Ready to complete

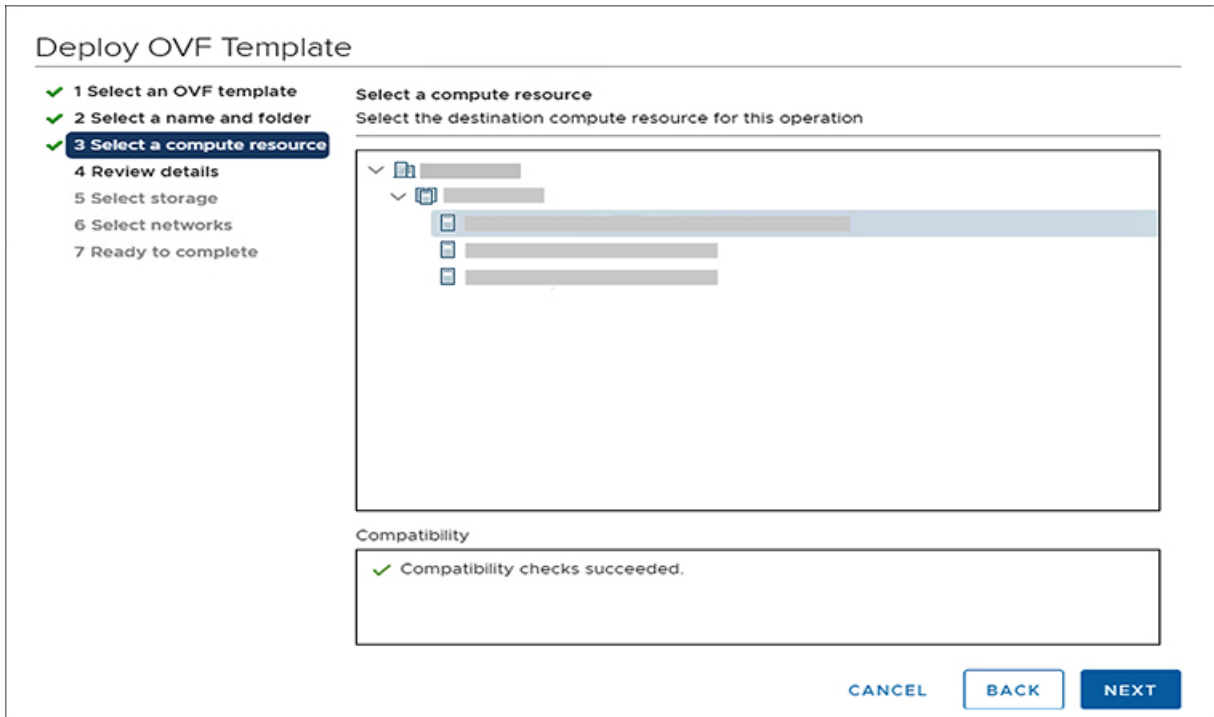
Select a name and folder
Specify a unique name and target location

Virtual machine name: Cisco-HXWorkload-Profiler-4.0-vCenter

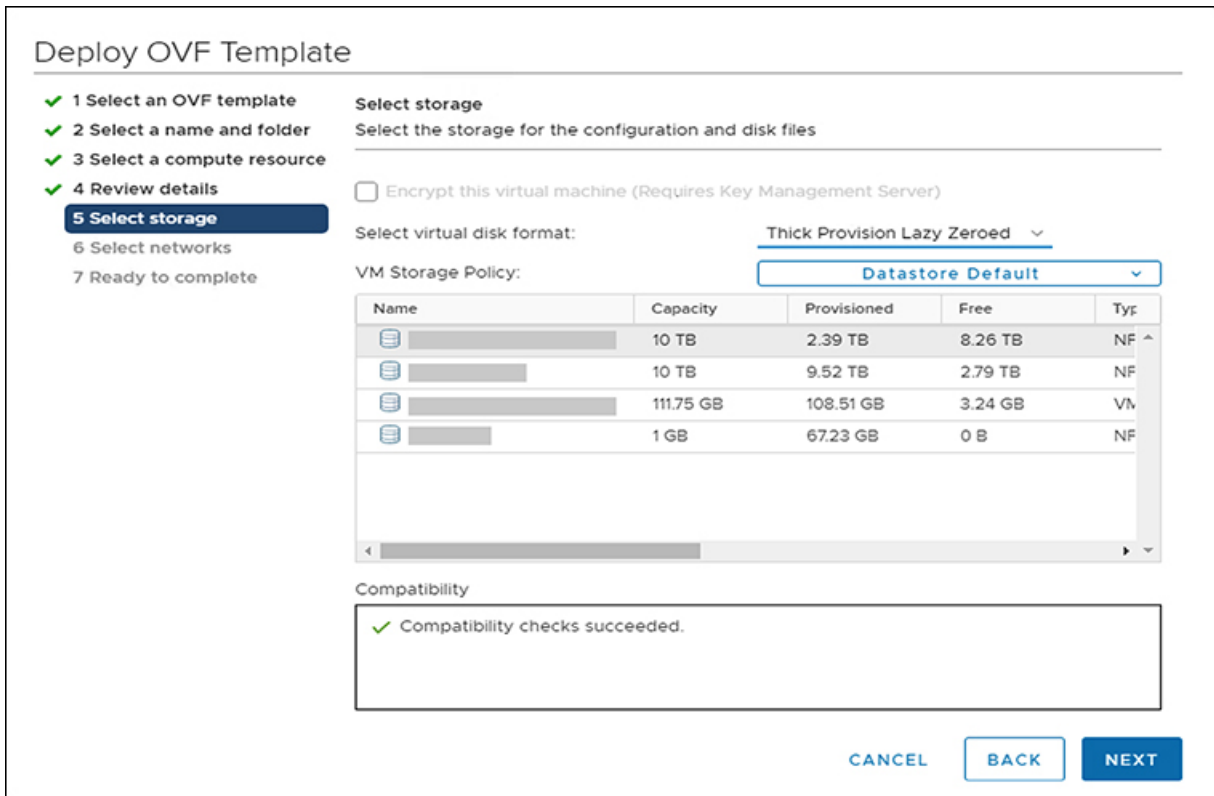
Select a location for the virtual machine.

- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]
- > [Folder]

CANCEL BACK NEXT



Step 6 On the **Select storage** page, specify the storage for the configuration and disk files, and then click **Next**.



Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- 6 Select networks
- 7 Ready to complete

Select storage
Select the storage for the configuration and disk files

Encrypt this virtual machine (Requires Key Management Server)

Select virtual disk format: Thin Provision

VM Storage Policy: Thick Provision Lazy Zeroed

| Name | Capacity | Used | Free | Type |
|--------|-----------|-----------|---------|------|
| [Icon] | 10 TB | 2.39 TB | 8.26 TB | NF |
| [Icon] | 10 TB | 9.52 TB | 2.79 TB | NF |
| [Icon] | 111.75 GB | 108.51 GB | 3.24 GB | VM |
| [Icon] | 1 GB | 67.23 GB | 0 B | NF |

Compatibility

✓ Compatibility checks succeeded.

CANCEL BACK NEXT

- Step 7** On the **Select networks** page, specify the destination network for each source network, and then click **Next**. You can configure either DHCP or a static IP address for the VM. (Mandatory) You must change the system password for default user monitoring in the System Password fields.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- ✓ 7 Customize template
- 8 Ready to complete

Select networks
Select a destination network for each source network.

| Source Network | Destination Network |
|----------------|---------------------|
| VM Network | VM Network |

1 items

IP Allocation Settings

IP allocation: Static - Manual

IP protocol: IPv4

CANCEL BACK NEXT

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- 7 Customize template**
- 8 Ready to complete

| | | |
|------------------------|---|--------------------------|
| Network | | 5 settings |
| Public Network Gateway | ex: 10.81.0.1/leave this empty if DHCP is used | |
| Public Network IP | ex: 10.11.0.120/leave this empty if DHCP is used | |
| DNS | ex: 8.8.8.8/leave this empty if DHCP is used | |
| Public Network Netmask | ex: 255.255.0.0/leave this empty if DHCP is used | |
| Public Network Type | DHCP | |
| Root Credential | | 1 settings |
| System Password | Please provide a password for monitoring user. (min 8 characters) | |
| | Password | <input type="password"/> |
| | Confirm Password | <input type="password"/> |

CANCEL BACK NEXT

Step 8 On the **Ready to Complete** page, review your deployment settings, select **Power On After Deployment**, and then click **Finish**.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- ✓ 7 Customize template
- 8 Ready to complete**

| | |
|------------------------|---------------------------------------|
| Provisioning type | Deploy from template |
| Name | <input type="text"/> |
| Template name | Cisco-HXWorkload-Profiler-4.0-vCenter |
| Download size | 3.2 GB |
| Size on disk | 100.0 GB |
| Folder | <input type="text"/> |
| Resource | <input type="text"/> |
| Storage mapping | 1 |
| All disks | Datastore: <input type="text"/> |
| Network mapping | 1 |
| VM Network | VM Network |
| IP allocation settings | |
| IP protocol | IPv4 |
| IP allocation | Static - Manual |
| Properties | Public Network Gateway = |

CANCEL BACK FINISH

What to do next

You must wait for the deployment task to complete. On completion, a successful deployment message displays.

If the IP address has not been assigned after the OVA deployment, reboot the HxProfiler VM.

Deploying the Hyper-V Virtual Machine

-
- Step 1** Log in to Hyper-V manager.
 - Step 2** Click **New** in Actions, and select **Virtual Machine** and click **Next** again.
 - Step 3** Enter your **VM name** in Name Text box and click **Next**.
 - Step 4** Select **Generation 1** and click **Next**.
 - Step 5** Enter the required memory size in **Startup Memory**, click **Use Dynamic Mem...**, then click **Next**.
 - Step 6** Select the preferred network from the **Connection** option and click **Next**.
 - Step 7** Select **Use an existing virtual hard disk** and select the **Browse** option, then select the required disk from the system and click **Finish**.
 - Step 8** Click **Start** to power on the VM and click **Connect** to connect via the console.
 - Step 9** Change the password from the console. While changing the password, use the default user name and password as monitoring/monitoring.
 - Step 10** Configure the static or DHCP IP from terminal for the first login.
Follow the instruction prompted in the terminal.
 - Step 11** After IP configuration enter the new password as prompted in terminal.
Machine will not reboot if DHCP and reboots with static IP selection.
 - Step 12** After all IP configuration changes, if any changes are required or any wrong entry IP is entered, edit the interfaces file using VIM editor: `/etc/network/interfaces`
 - Step 13** If you edit the above file, then reboot/reset the machine using Hyper-V manager.
-

Configuring and Using the Profiler Application

Configuring and Using the ESXi Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|---|
| Addition of a poller, which is referred to as a workload or node. | Adding vCenter to the ESXi Profiler, on page 17 |
| Configuration of the profiling attributes. | Starting ESXi Data Profiling, on page 25 |
| Start the polling operation. | Starting the Profiler Service, on page 14 |

Configuring and Using the Windows Bare Metal Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|--|
| Addition of a poller, which is referred to as a workload or node. | Adding Windows Bare Metal to the Profiler, on page 19 |
| Configuration of the profiling attributes. | Starting Windows Bare Metal Data Profiling, on page 26 |
| Start the polling operation. | Starting the Profiler Service, on page 14 |

Configuring and Using the Linux Bare Metal Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|--|
| Addition of a poller, which is referred to as a workload or node. | Adding Linux Bare Metal to the Profiler, on page 21 |
| Configuration of the profiling attributes. | Starting Linux Bare Metal Data Profiling, on page 28 |
| Start the polling operation. | Starting the Profiler Service, on page 14 |

Configuring and Using the Hyper-V Profiler Application

Perform the Hx Workload Profiler application configuration and operations from the web-based UI.

The following table shows the high-level steps for configuring the application.

| Task | See |
|---|---|
| Addition of a poller, which is referred to as a workload or node. | Adding Hyper-V to the Profiler, on page 23 |
| Configuration of the profiling attributes. | Starting Hyper-V Data Profiling, on page 29 |
| Start the polling operation. | Starting the Profiler Service, on page 14 |

Using the Profiler Service

Using the Profiler Service

The Hx Workload Profiler start and stop services use the `profiler_service.sh` command.

The following table shows the high-level steps for using the profile service.

| Task | See |
|---------------------------------|---|
| Starting the Profiler Service | Starting the Profiler Service, on page 14 |
| Stopping the Profiler Service | Stopping the Profiler Service, on page 14 |
| Restarting the Profiler Service | Restarting the Profiler Service, on page 14 |

Starting the Profiler Service

To start the profiler service:

Run the following command: `sudo service hxpmonitor start`.

Stopping the Profiler Service

Complete the following steps to stop the profiler service:

Step 1 Run the following command: `sudo service hxpmonitor stop`.

Step 2 Run the following command: `sudo service hxpcontroller stop`.

Restarting the Profiler Service

Complete the following steps to restart the profiler service:

Step 1 Run the following command: `sudo service hxpcontroller restart`.

Step 2 Run the following command: `sudo service hxpmonitor restart`.

Locating the Application Logs

Locating the ESXi Application Logs

You can find Hx Workload Profiler logs in the following locations:

Table 1: Application Logs

| Log | Path |
|------------|--|
| Server | /home/monitoring/monitor/server.log |
| Controller | /home/monitoring/controller/logs/* |
| Monitor | /home/monitoring/monitor/monitor/monitor.log |

Locating the Hyper-V Application Logs

You can find Hx Workload Profiler logs in the following locations:

Table 2: Application Logs

| Log | Path |
|------------|--|
| Server | /home/monitoring/monitor/server.log |
| Controller | /home/monitoring/controller/logs/* |
| Monitor | /home/monitoring/monitor/monitor/monitor.log |



CHAPTER 4

Configuring and Using the Profiler Application

- [Adding a Server to the Profiler, on page 17](#)
- [Starting Data Profiling, on page 25](#)
- [Downloading Profiling Results, on page 30](#)
- [Viewing Data Collections from Servers, on page 34](#)
- [30-Days Sizing Summary Report, on page 48](#)

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.

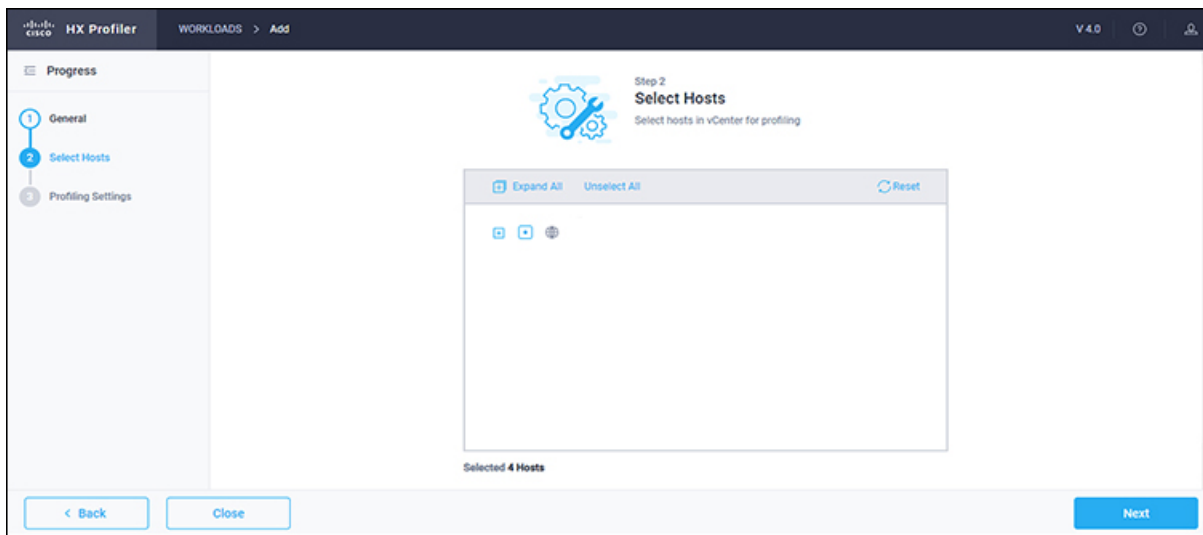
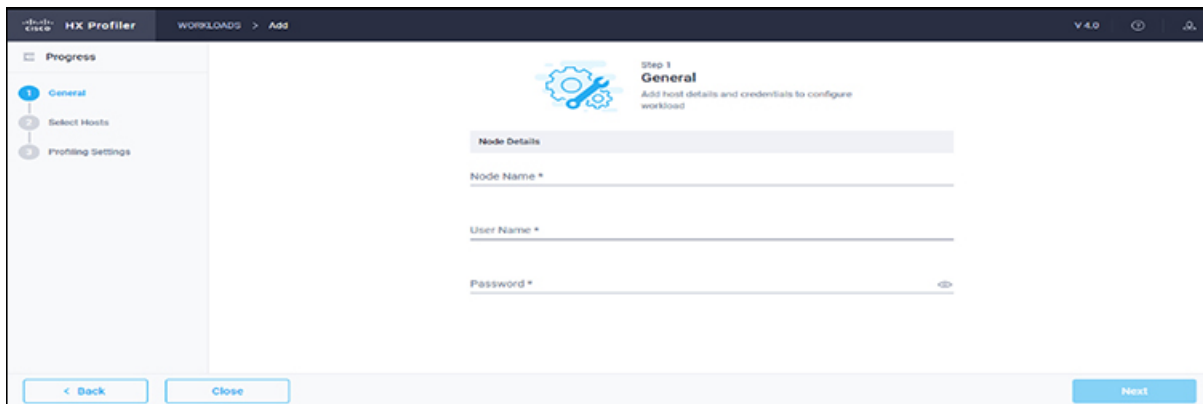
The workflow includes:

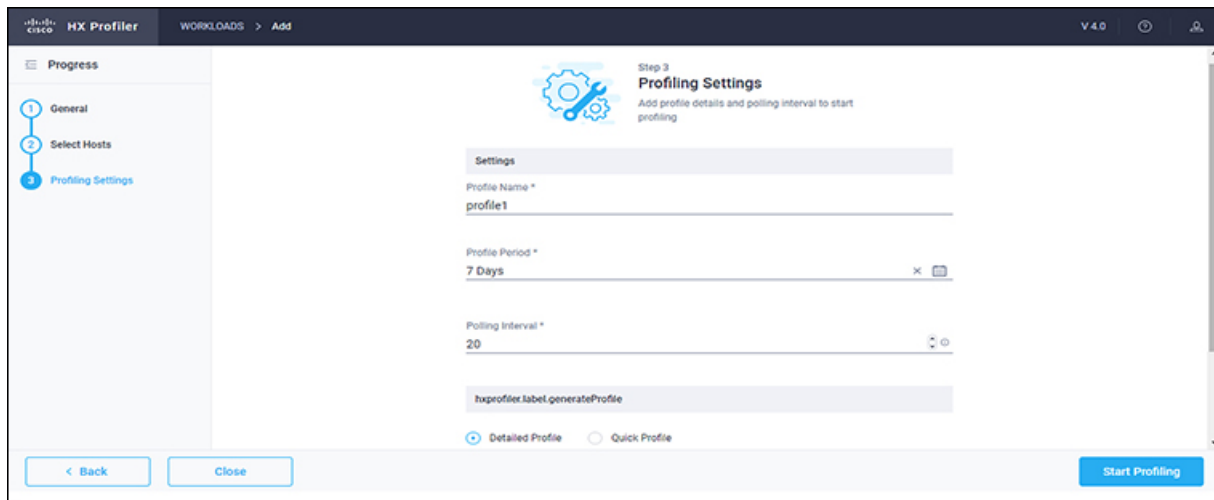
- **Node details tab:** Records your vCenter details and then connects to the vCenter. If the connection succeeds, the **Next** button displays enabling you to select the hosts for profiling.
- **Select Hosts tab:** Provides the vCenter details in hierarchy of vCenter, Datacenters, Clusters, and Hosts, 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, on page 5](#).

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 HxProfiler uses VMware SDK to collect different performance metrics. This requires connecting to the VMware vSphere server using an user account that has either administrator privileges or with Server Manager role, which has the access privileges to get the performance data. |
| 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. |



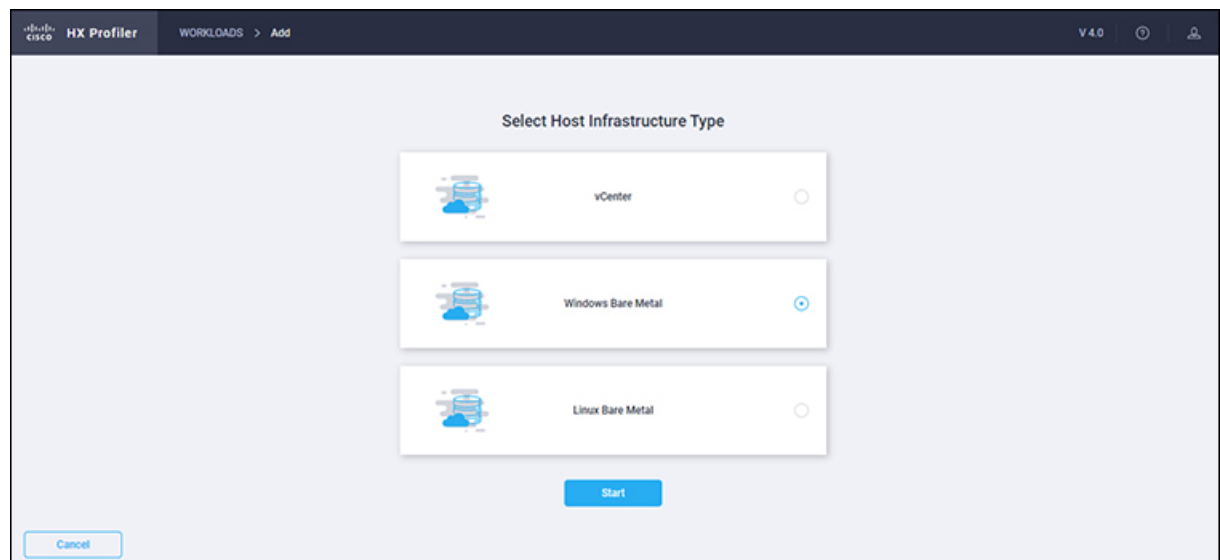


Step 3 Click **Start Profiling**. The Profiler service starts automatically. When the connection status indicates successful connection, click **Next**.

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:

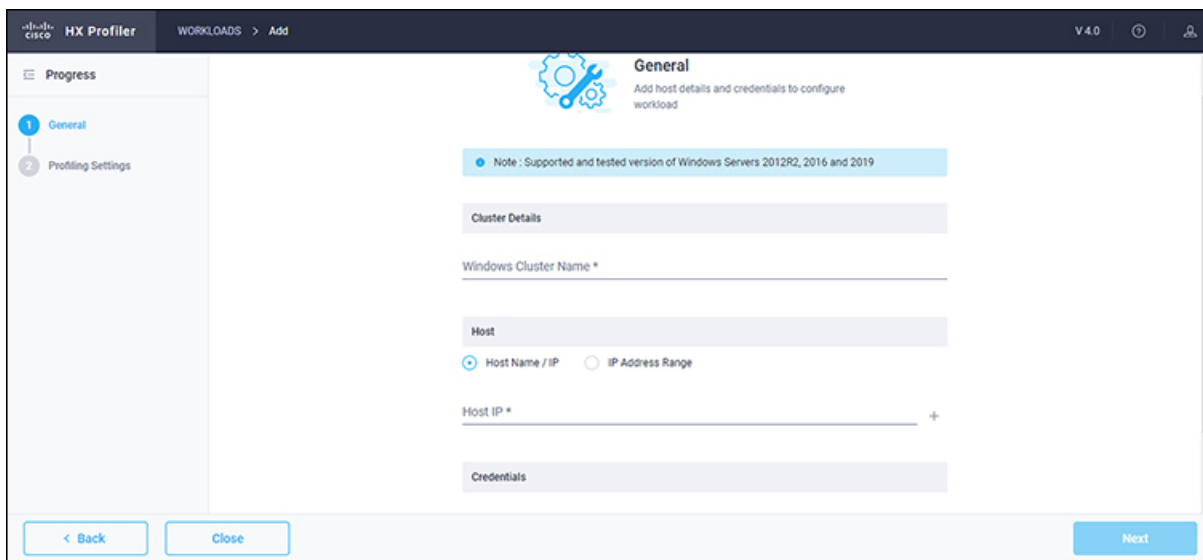
3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.
4. If you select the IP Address Range, click **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.

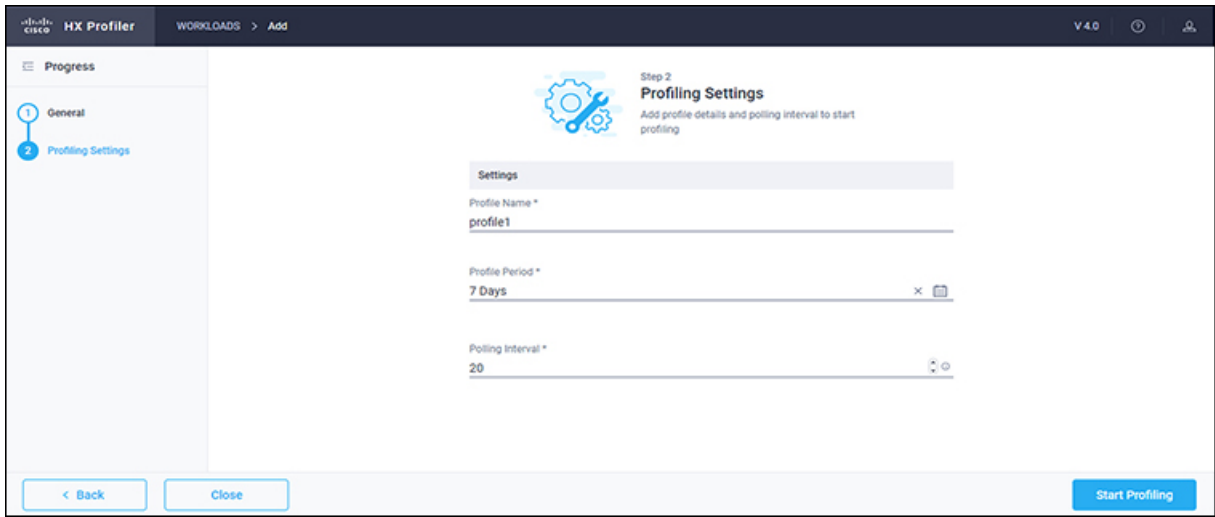
DETAILED STEPS

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 |
| Password | Login password for windows baremetal |
| Polling Interval (seconds) | Default 20 seconds |





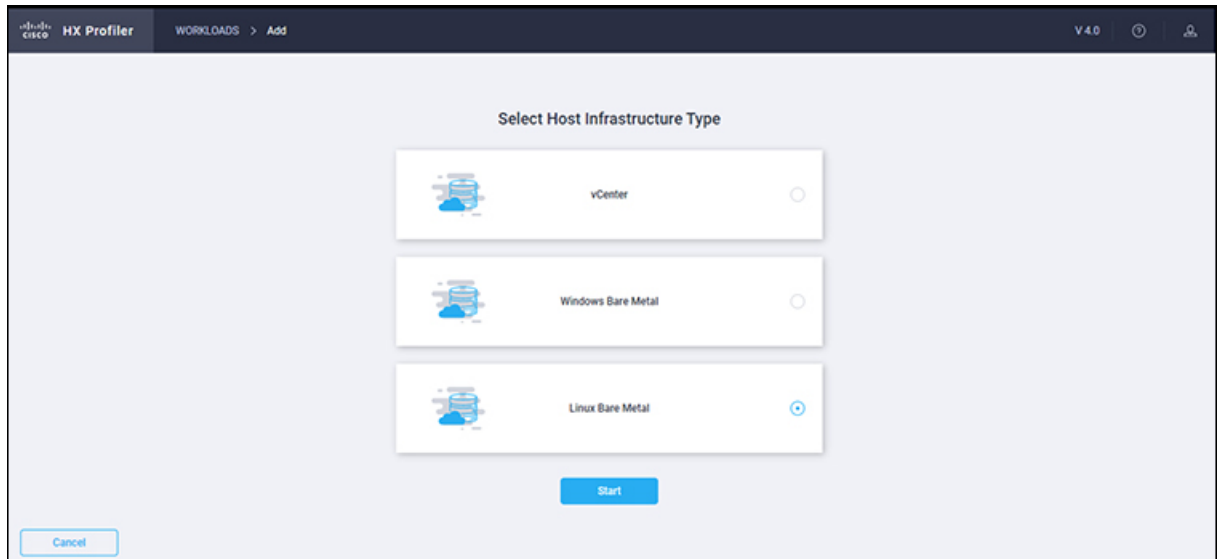
Step 3 If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided details, then click Save to add the workload successfully.

Step 4 If you select 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.



SUMMARY STEPS

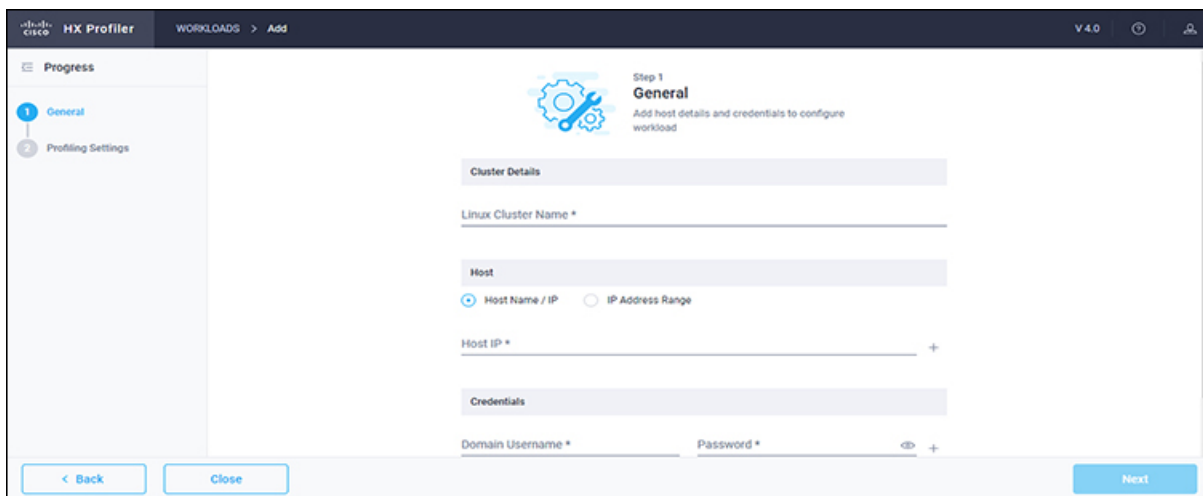
1. Log in to the Profiler.
2. On the **Node details** tab, enter values for the following options:
3. If you select the Host Name/IP address option, click **Save**. If the given credentials / IP is valid, then workload will be added successfully. In case of any error, recheck and update the provided 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.

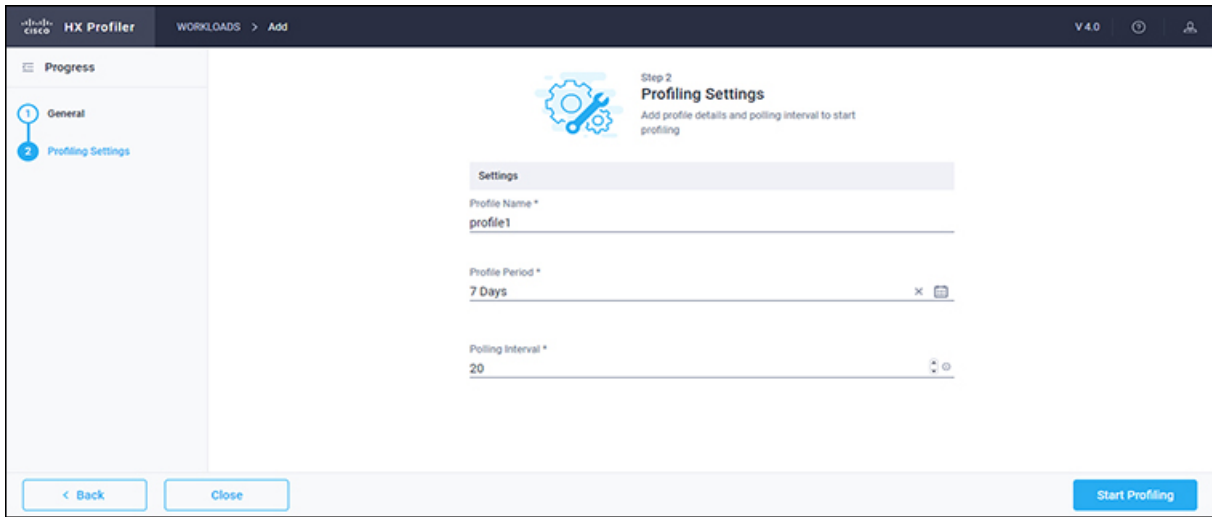
DETAILED STEPS

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.

Adding Hyper-V to the Profiler

At the first login following installation of the 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. Select HyperV to add multiple HyperV.

To calculate the metrics for a host, the Profiler captures the metrics for all the VMs on the Host. Select the VM to be profiled (by default none of the VMs are selected).

The workflow includes:

- Node details tab: Records your Hyper-V details and then connects to the Hyper-V. If the connection succeeds, details regarding the profile named appear. You can also specify and save the profile period time for profiling by clicking on the start profile button to start profiling.

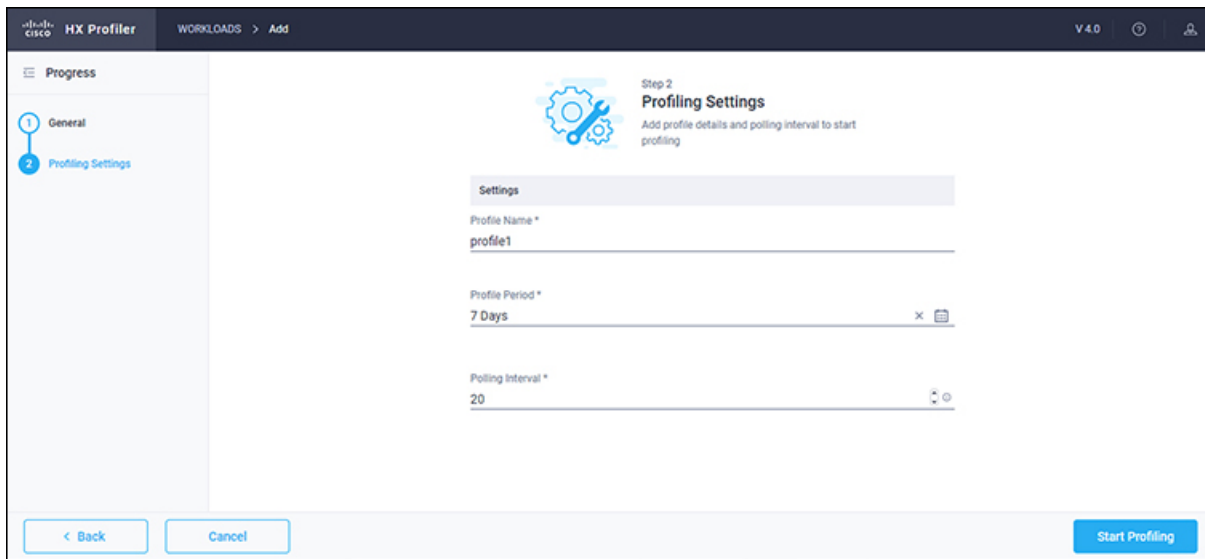
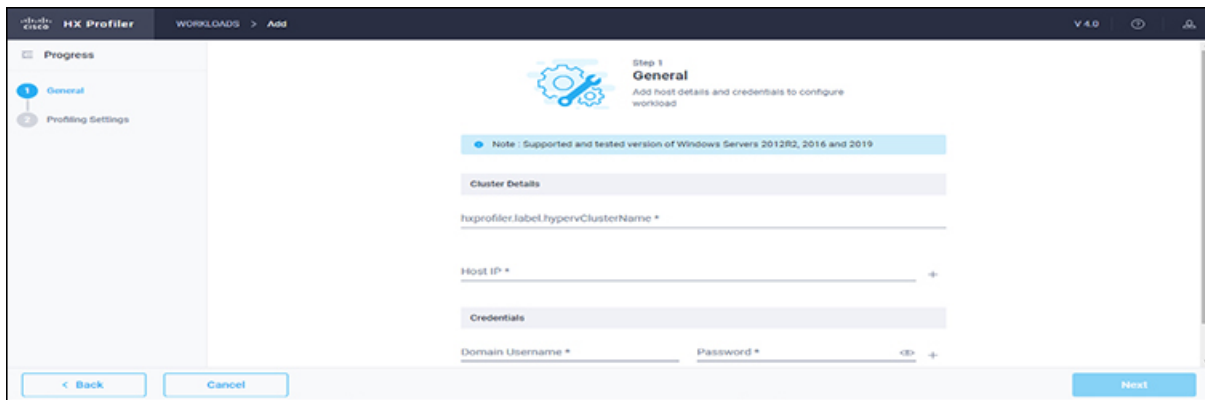
Step 1 Log in to the Profiler. See [Logging in to the Hyper-V Profiler, on page 6](#).

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

| Item | Description |
|----------------------|---|
| Hyper-V Cluster Name | Name of the Hyper-V you are adding. |
| Host IP | IP address of the Hyper-V node. The Add button allows you to add multiple Hyper-V host IP addresses. |

Adding Hyper-V to the Profiler

| Item | Description |
|----------------------------|---|
| User Name | Name of the user as part of the login credentials for the Hyper-V. Note The User Name must have the Admin role assigned to it. |
| Password | Password being set as part of the login credentials for the Hyper-V. The Add button allows you to add all the username and passwords for the IPs mentioned in the Host IP section. Note If the username and password is same for all the Hyper-Vs or any 2 or more Hyper-Vs, then there is no need to mention it again. |
| Polling Interval (seconds) | The interval at which you want polling to occur. Default: 20 seconds. You can change the interval to between 20 and 120 seconds. |



Step 3 Click Save.

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 3: Profiling Operation Options

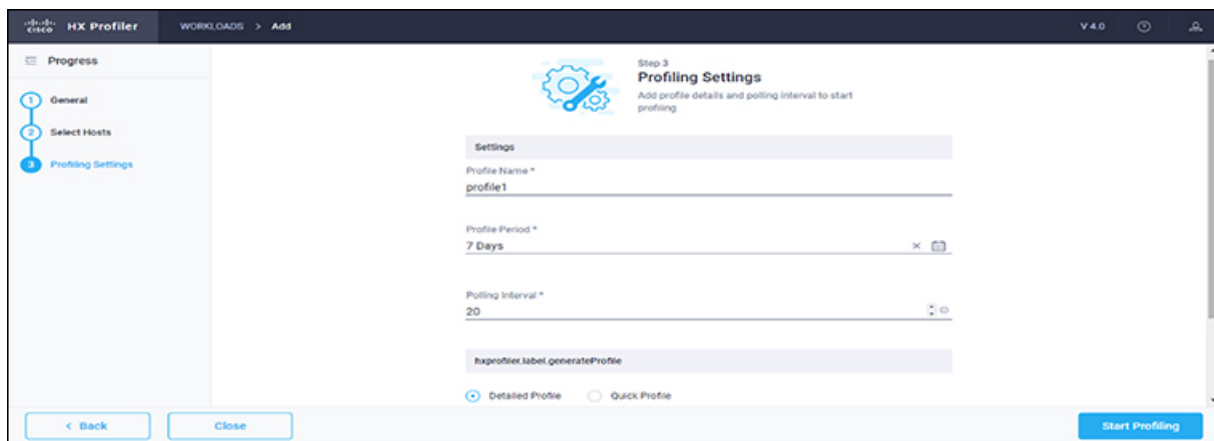
| Item | Description |
|------------------------|--|
| Delete (trash can) | Deletes a previously added vCenter. |
| Edit (pen) | Edit vCenter properties to add or remove hosts for polling. |
| Stop (symbol) | Stops the profiling so you can resume it later. |
| Reset (refresh symbol) | Performs a reset 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. |
| 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. |

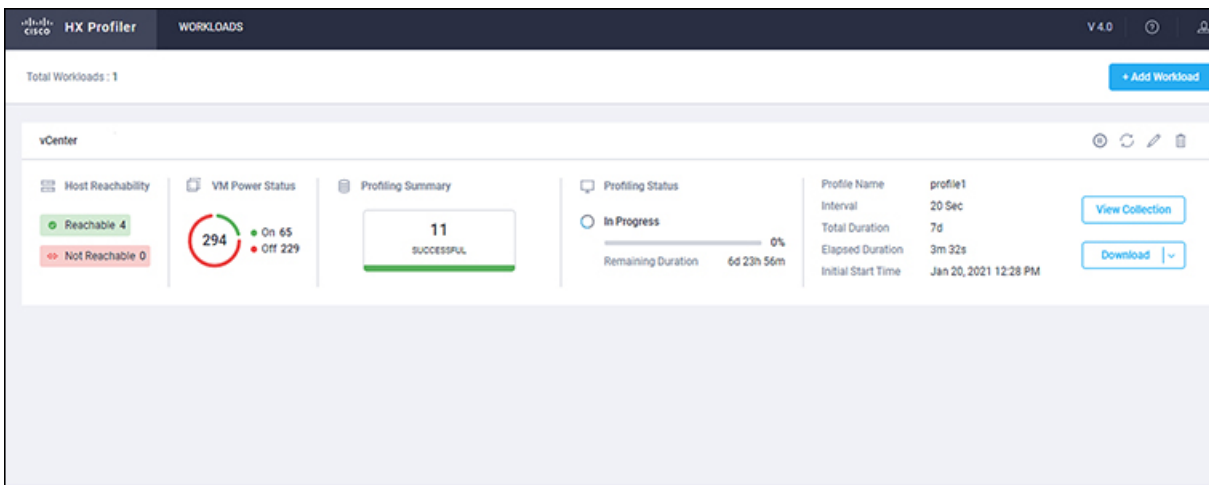
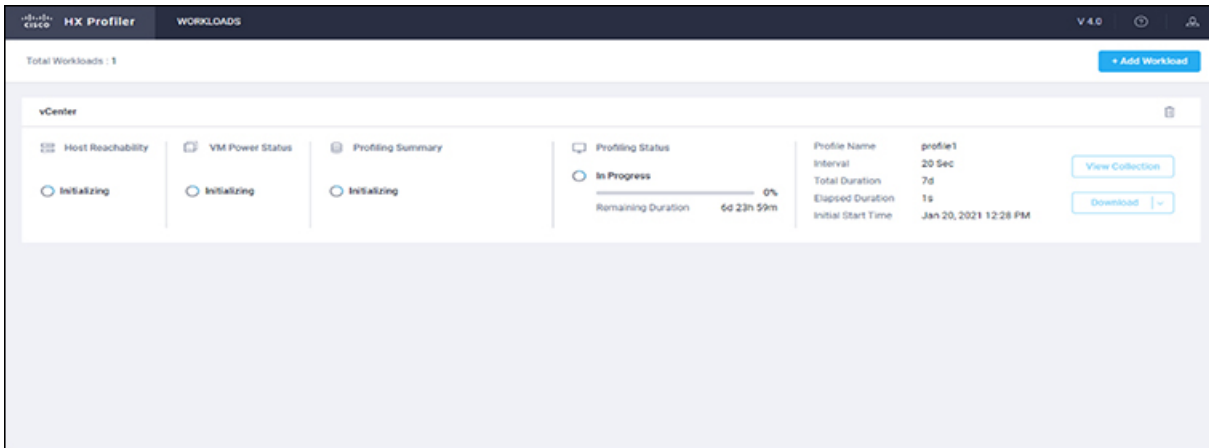
Profiling starts as soon as you enter the profiler name ,days and polling period.

Step 1

In the dialog that displays, perform the following steps:

- Enter a name for the profile.
- Select a duration value from the **Profiling Period** down-drop list.
- 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.

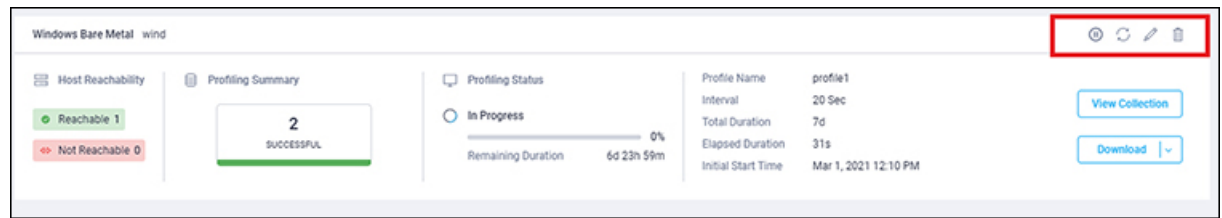
- Step 2** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service, on page 14](#).
- Step 3** (Optional) To stop an in-progress profiling operation, click **Reset**. You can then start a new one.
- Step 4** (Optional) To browse through the collected data, see [Viewing an ESXi Collection, on page 39](#).
- Step 5** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 30](#).

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 4: 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, on page 14](#)
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 39](#).
4. (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 30](#).

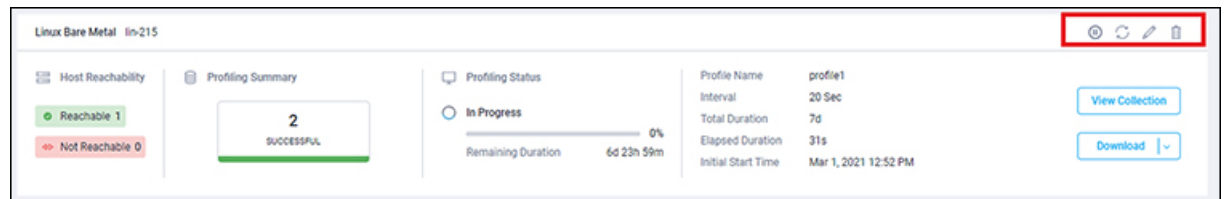
DETAILED STEPS

-
- Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service, on page 14](#)
 - 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 39](#).
 - Step 4** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 30](#).
-

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, on page 14](#)
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 39](#).
4. (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 30](#).

DETAILED STEPS

-
- Step 1** (Optional) To stop an in-progress profiling operation so you can resume it later, see [Stopping the Profiler Service, on page 14](#)
- 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 39](#).
- Step 4** (Optional) To download profiling data, see [Downloading ESXi Profiling Results, on page 30](#).
-

Starting Hyper-V Data Profiling

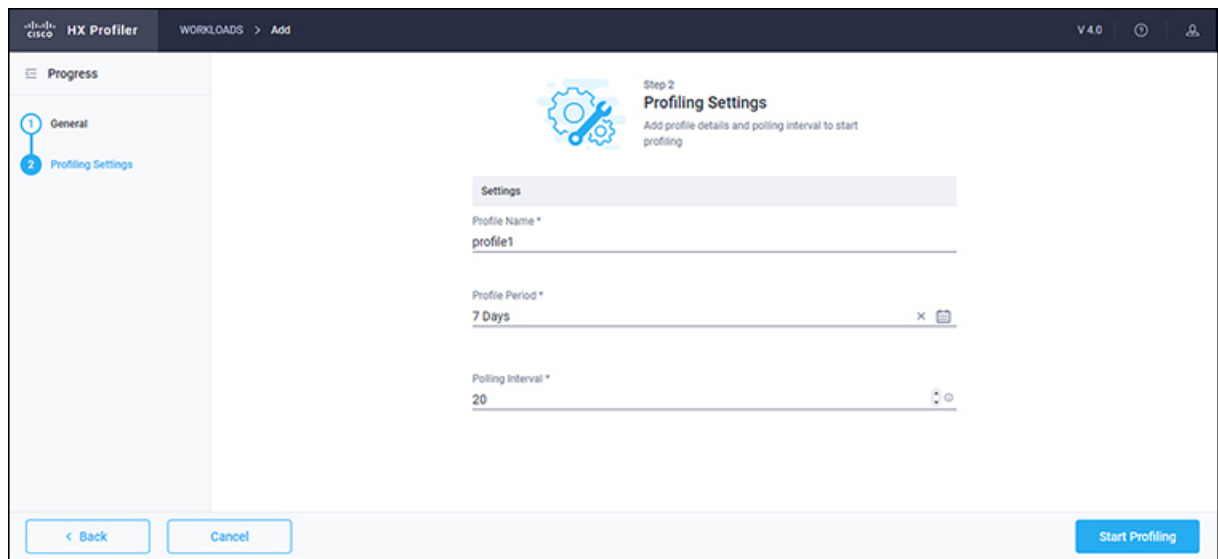
Following the successful addition of a Hyper-V Server, the new Hyper-V displays on the Data Inventory (home) page. You configure the profiling attributes by providing the profile name and duration.

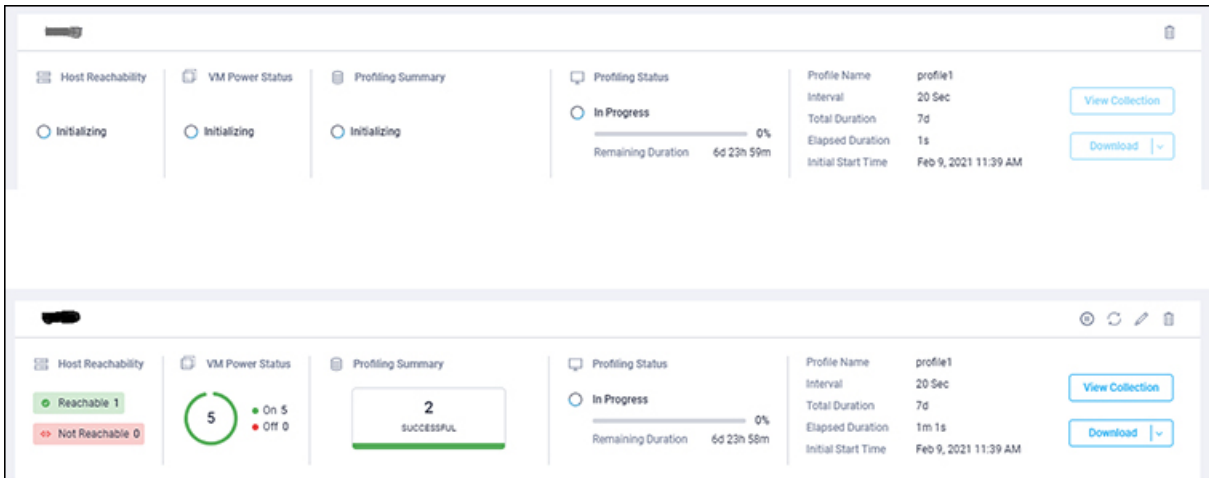
Table 5: Profiling Operation Options

| Item | Description |
|------------------------|--|
| Delete (trash can) | Deletes a previously added Hyper-V. |
| Edit (pen) | Edit Hyper-V 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. |
| 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. |

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 the 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.
- 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 a Hyper-V Collection, on page 46](#).
- Step 5** (Optional) To download profiling data, see [Downloading Hyper-V Profiling Results, on page 32](#).

Downloading Profiling Results

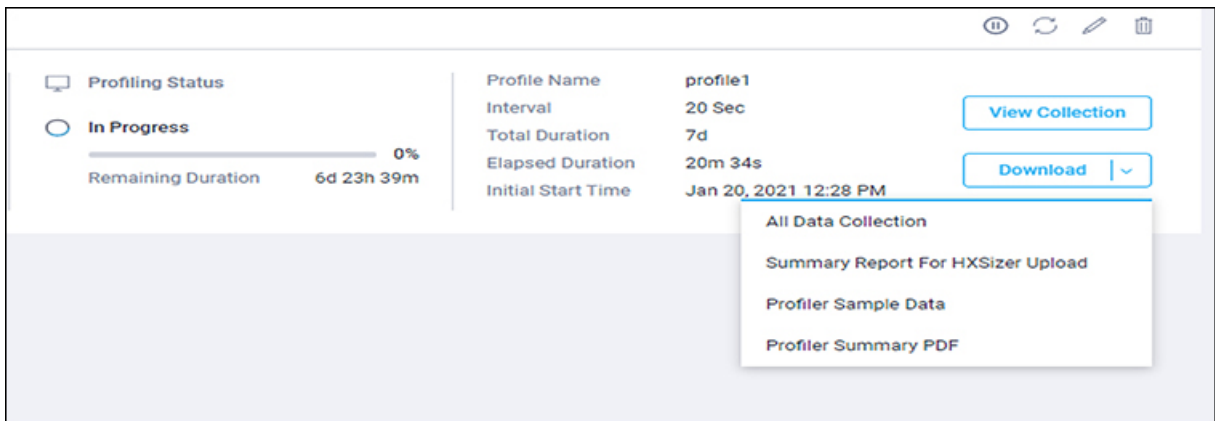
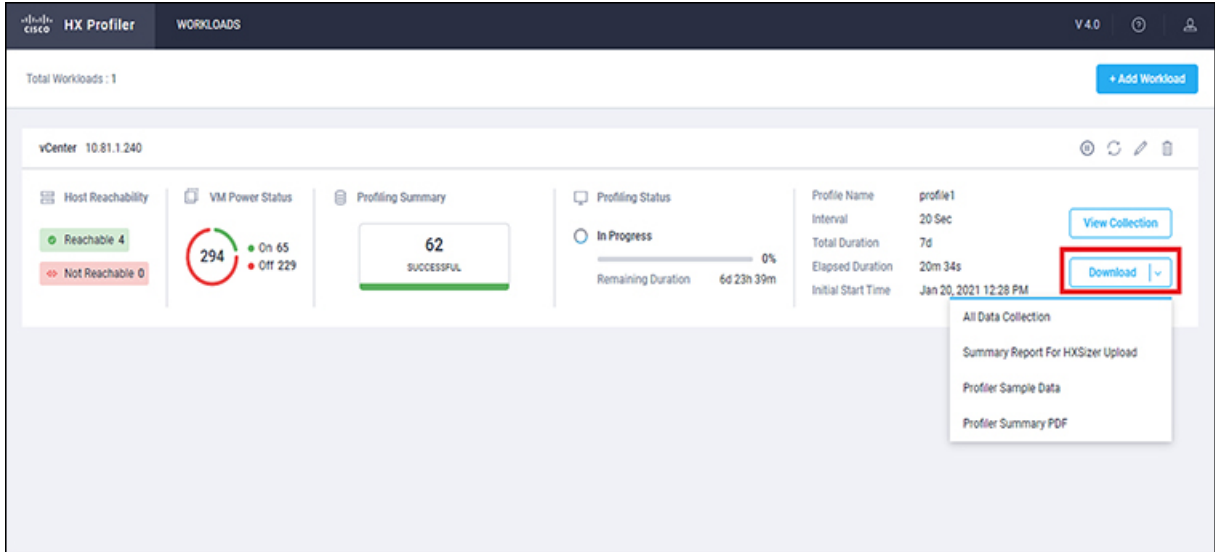
Downloading ESXi Profiling Results

Step 1 On the Datacenter Inventory page, locate and select the profile whose data you want to download.

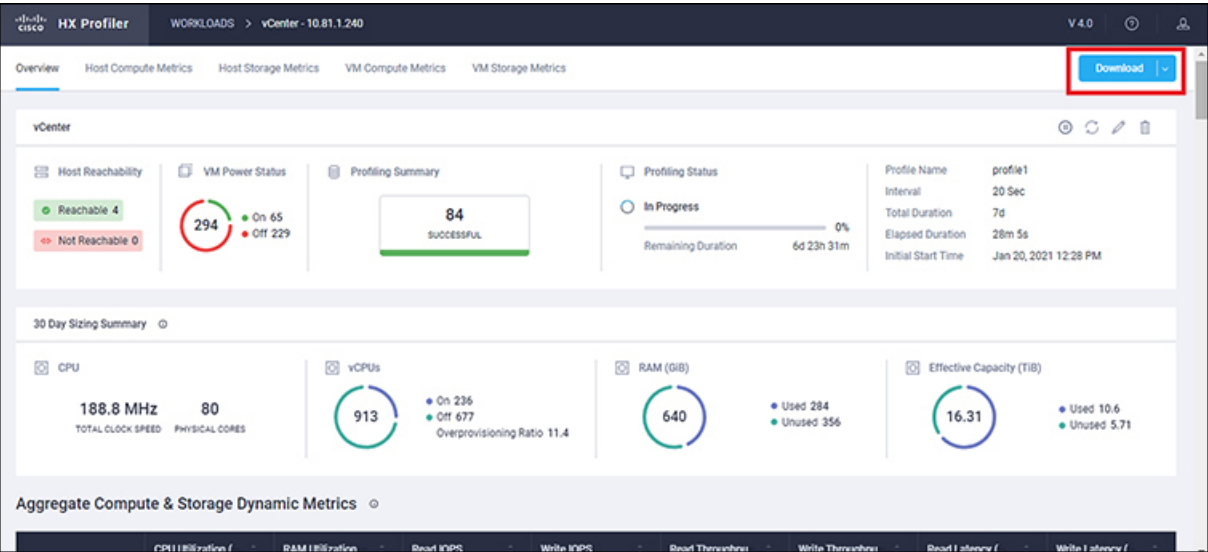
Step 2 Use the **Download** option to select one of the following:

| 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 |



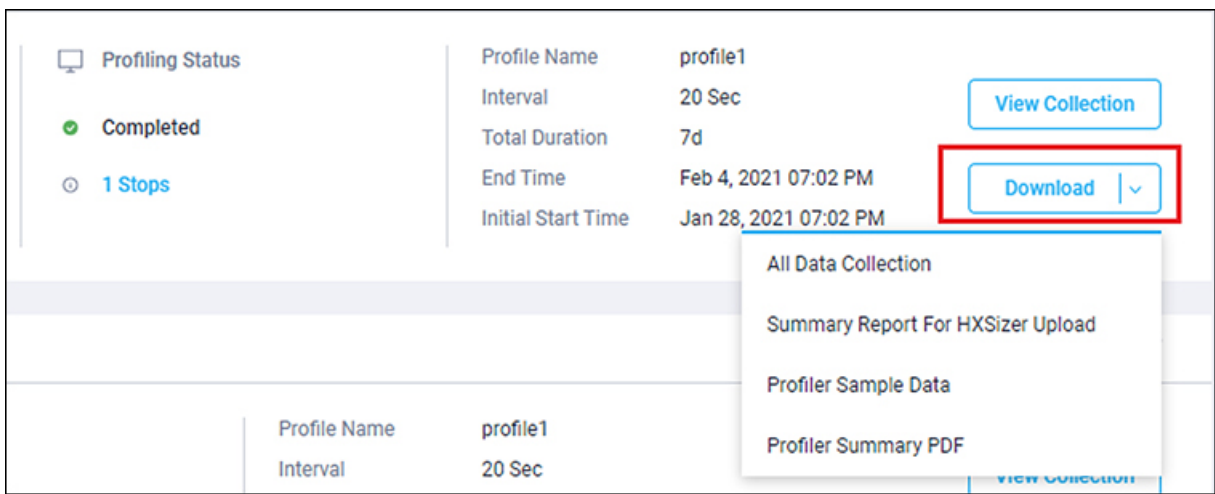
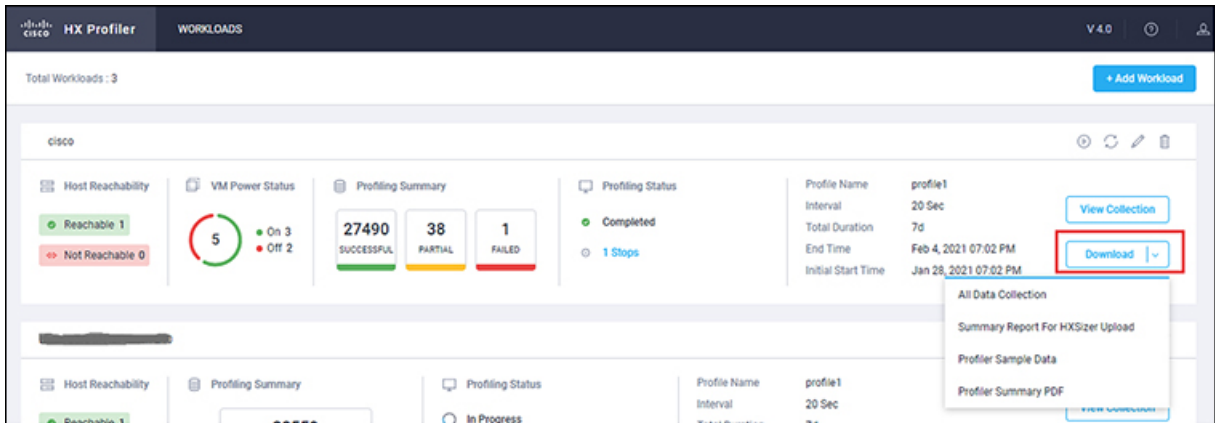
Step 3 You can still download the profiling results when viewing the compute, storage and network data of various hosts and VMs by clicking on the **Download** button on the top right corner of the UI.



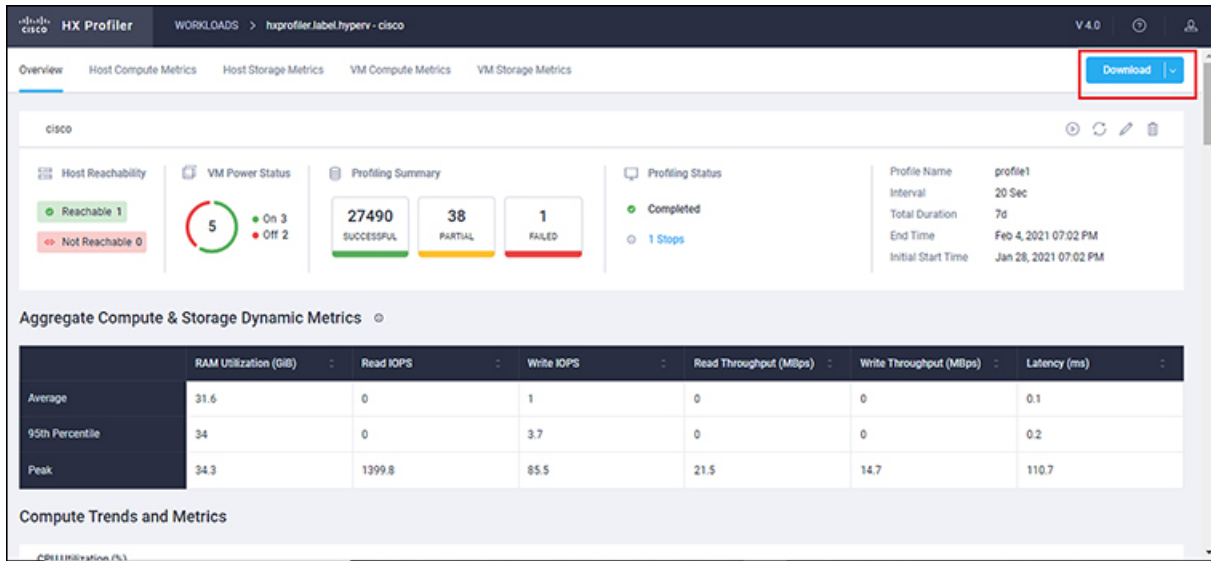
Downloading Hyper-V Profiling Results

- Step 1** On the Datacenter Inventory page, locate and select the profile whose data you want to download.
- Step 2** Right-click the **Download** icon at the upper right of the page to select to download one of the following:

| Option | Description |
|-----------------------|--|
| All Data Collection | Downloads time series and CVS for both the host and VM |
| Sizer Upload Summary | Collects the host summary information from Hyper-V. The download provides the output in CSV format and can be directly uploaded to the Compute and Capacity Workload of HxSizer. |
| Profiler sampled 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) |
| Profiler summary | 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 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.

HX Profiler WORKLOADS

Total Workloads : 1 + Add Workload

vCenter 10.81.1.240

| | | | | |
|--------------------------------|------------------------|-------------------------------|---|--|
| Host Reachability | VM Power Status | Profiling Summary | Profiling Status | Profile Name: profile1 Interval: 20 Sec Total Duration: 7d Elapsed Duration: 18h 50m 49s Initial Start Time: Jan 19, 2021 06:52 PM |
| Reachable 4 Not Reachable 0 | 294 On 64 Off 230 | 3368 SUCCESSFUL 25 PARTIAL | In Progress 11% Remaining Duration: 6d 5h 9m | View Collection Download |

HX Profiler WORKLOADS > vCenter

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

vCenter

| | | | | |
|--------------------------------|------------------------|-------------------------------|--|--|
| Host Reachability | VM Power Status | Profiling Summary | Profiling Status | Profile Name: profile1 Interval: 20 Sec Total Duration: 7d Elapsed Duration: 18h 45m 48s Initial Start Time: Jan 19, 2021 06:52 PM |
| Reachable 4 Not Reachable 0 | 294 On 64 Off 230 | 3353 SUCCESSFUL 25 PARTIAL | In Progress 11% Remaining Duration: 6d 5h 14m | |

30 Day Sizing Summary

| | | | |
|--|---|-------------------------------|------------------------------------|
| CPU | vCPUs | RAM (GiB) | Effective Capacity (TiB) |
| 188.8 MHz TOTAL CLOCK SPEED 80 PHYSICAL CORES | 913 On 232 Off 681 Overprovisioning Ratio 11.4 | 640 Used 284 Unused 356 | 16.31 Used 10.59 Unused 5.72 |

Aggregate Compute & Storage Dynamic Metrics

CPU Utilization (..) RAM Utilization (..) Read IOPS (..) Write IOPS (..) Read Throughput (..) Write Throughput (..) Read Latency (..) Write Latency (..)

HX Profiler WORKLOADS > vCenter

Overview Host Compute Metrics Host Storage Metrics VM Compute Metrics VM Storage Metrics Last updated on: 01:45 PM Download

Aggregate by Average value Reset Zoom 30m 1H 24H 1W 1M 2M

Jan 20, 12:46 PM to Jan 20, 01:45 PM

Aggregate Metrics (All VMs Selected)

| | | | | |
|-------------------------|--------------------------------------|-----------------------------------|-------------------------------------|----------------------------------|
| Status | CPU | vCPUs | RAM (GiB) | Transfer Rate (Mbps) |
| 294 On 64 Off 230 | 23399.6 MHz TOTAL CPU UTILIZATION | 913 Active 232 Inactive 681 | 2279.5 Used 290.5 Unused 1989 | 2 Receive 1.1 Transmit 0.9 |

Aggregate Metrics (All VMs Selected)

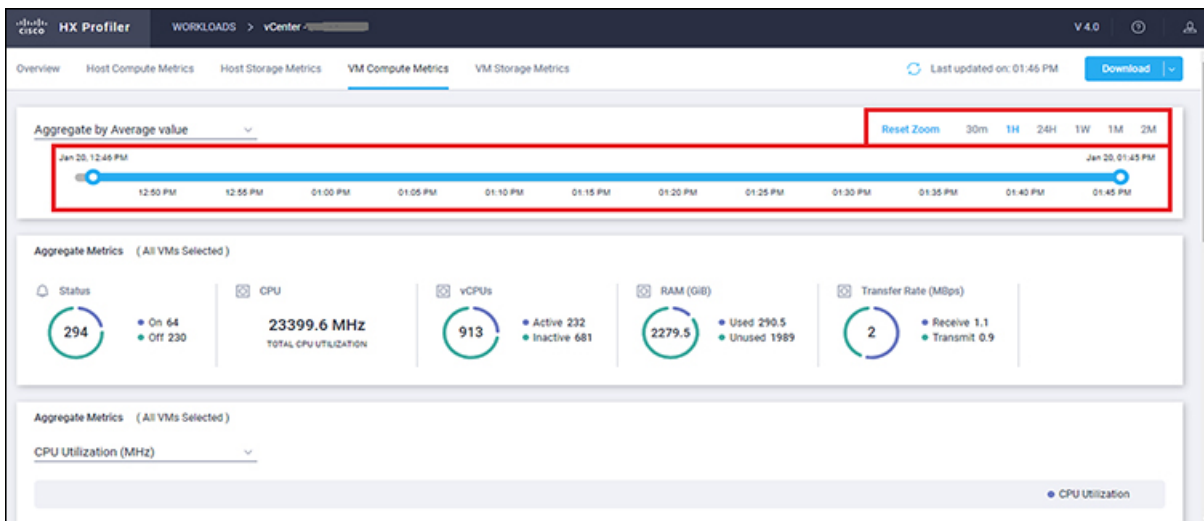
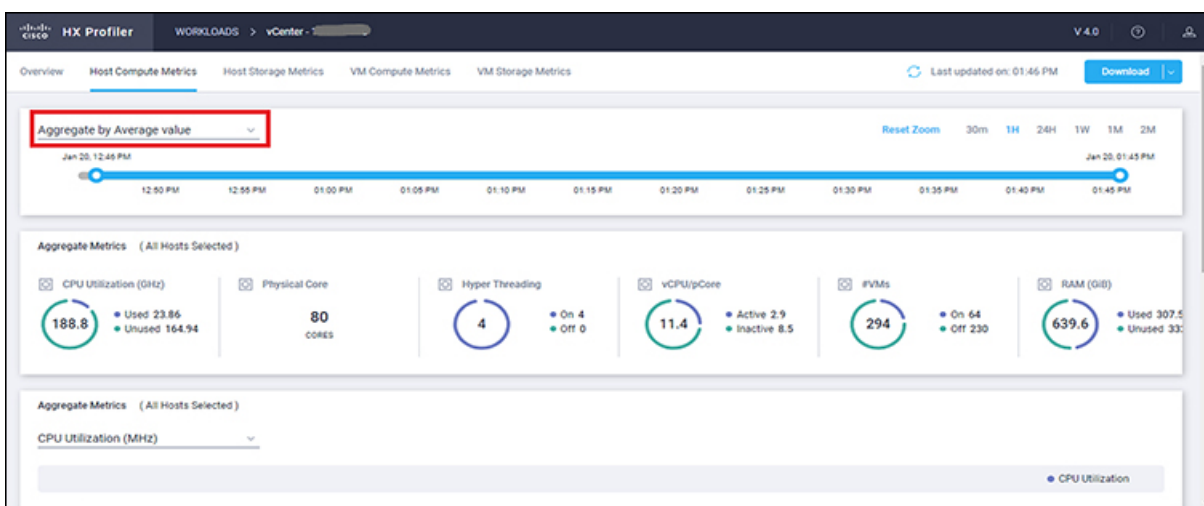
CPU Utilization (MHz)

CPU Utilization

Table 6: 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.

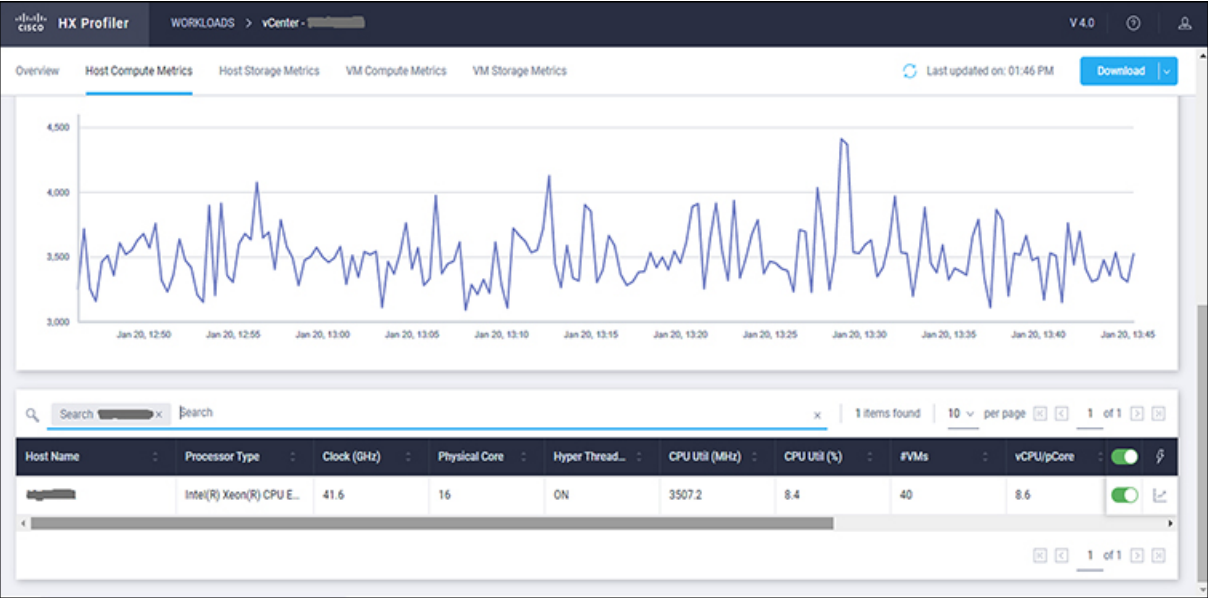
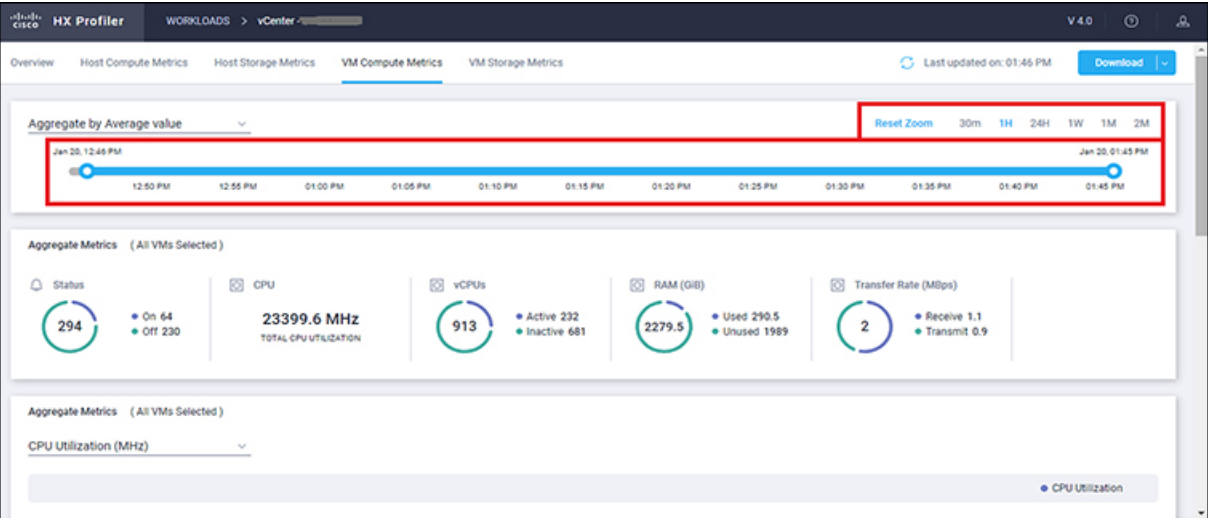
Viewing an ESXi Collection

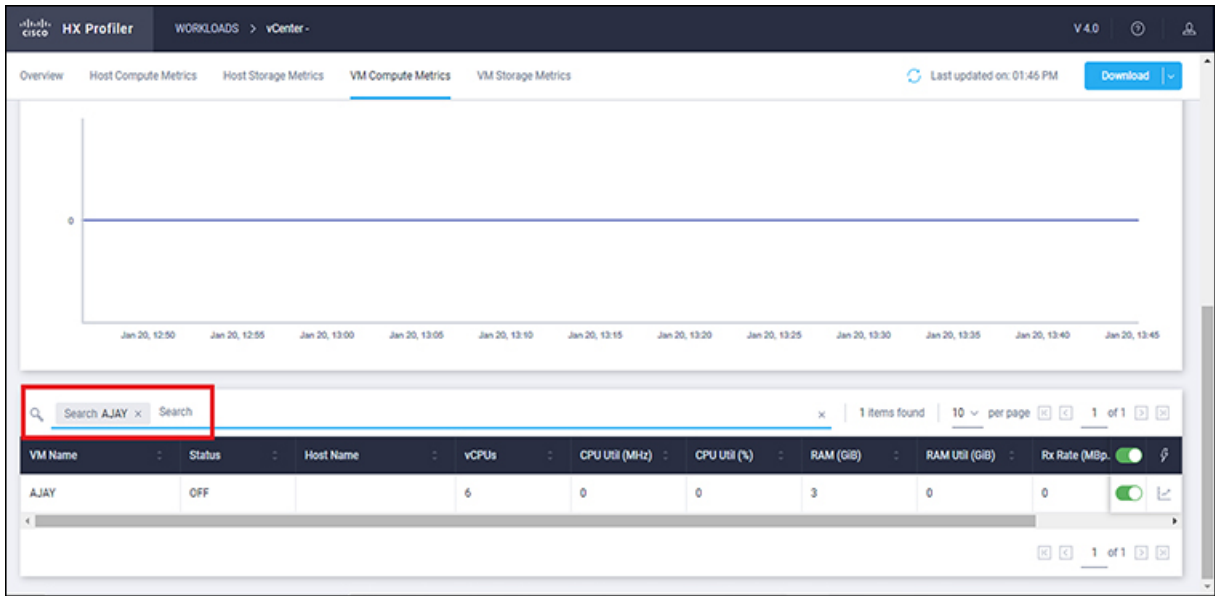
You can also use the filter and search tool in the Hosts and VM views to display only those hosts and VMs that you want to see.

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

Viewing an ESXi Collection

- 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 StorageMetrics**, **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.





Viewing Data Collections from Hyper-V 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 his section. The View Collection page also provides the summarized data for Compute Summary and Storage Summary of individual hosts and VMs. You can also fetch the data for a specific period of profiling using the predefined filter present on the top right corner of the page with the minimum being 30minutes. You 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 Data Collections from Hyper-V Servers

HX Profiler WORKLOADS V 4.0

Total Workloads: 3 [+ Add Workload](#)

cisco [Refresh](#) [Edit](#) [Delete](#)

Host Reachability

● Reachable 1

● Not Reachable 0

VM Power Status

5

● On 3

● Off 2

Profiling Summary

27490 SUCCESSFUL

38 PARTIAL

1 FAILED

Profiling Status

● Completed

○ 1 Stops

Profile Name: profile1

Interval: 20 Sec

Total Duration: 7d

End Time: Feb 4, 2021 07:02 PM

Initial Start Time: Jan 28, 2021 07:02 PM

[View Collection](#)

[Download](#)

HX Profiler WORKLOADS > haxprofiler.label.hyperv - cisco V 4.0

Overview [Host Compute Metrics](#) [Host Storage Metrics](#) [VM Compute Metrics](#) [VM Storage Metrics](#) [Download](#)

cisco [Refresh](#) [Edit](#) [Delete](#)

Host Reachability

● Reachable 1

● Not Reachable 0

VM Power Status

5

● On 3

● Off 2

Profiling Summary

27490 SUCCESSFUL

38 PARTIAL

1 FAILED

Profiling Status

● Completed

○ 1 Stops

Profile Name: profile1

Interval: 20 Sec

Total Duration: 7d

End Time: Feb 4, 2021 07:02 PM

Initial Start Time: Jan 28, 2021 07:02 PM

Aggregate Compute & Storage Dynamic Metrics

| | RAM Utilization (GiB) | Read IOPS | Write IOPS | Read Throughput (MiBps) | Write Throughput (MiBps) | Latency (ms) |
|-----------------|-----------------------|-----------|------------|-------------------------|--------------------------|--------------|
| Average | 33.6 | 0 | 1 | 0 | 0 | 0.1 |
| 95th Percentile | 34 | 0 | 3.7 | 0 | 0 | 0.2 |
| Peak | 34.3 | 1399.8 | 85.5 | 21.5 | 14.7 | 110.7 |

Compute Trends and Metrics

HX Profiler WORKLOADS > haxprofiler.label.hyperv - cisco V 4.0

Overview [Host Compute Metrics](#) [Host Storage Metrics](#) [VM Compute Metrics](#) [VM Storage Metrics](#) Last updated on: 12:03 PM [Download](#)

Aggregate by Average value [Reset Zoom](#) 30m 1h 24h 1w 1m 2M

Feb 2 12:03 PM Feb 9 12:03 PM

Aggregate Metrics (All Hosts Selected)

Physical Core

36 CORES

Hyper Threading

1

● On 1

● Off 0

vCPU/pCore

0.1

● Active 0.1

● Inactive 0

#VMs

5

● On 3

● Off 2

RAM (GiB)

384

● Used 33.4

● Unused 350.6

Transfer Rate (MiBps)

0.2

● R

● T

Aggregate Metrics (All Hosts Selected)

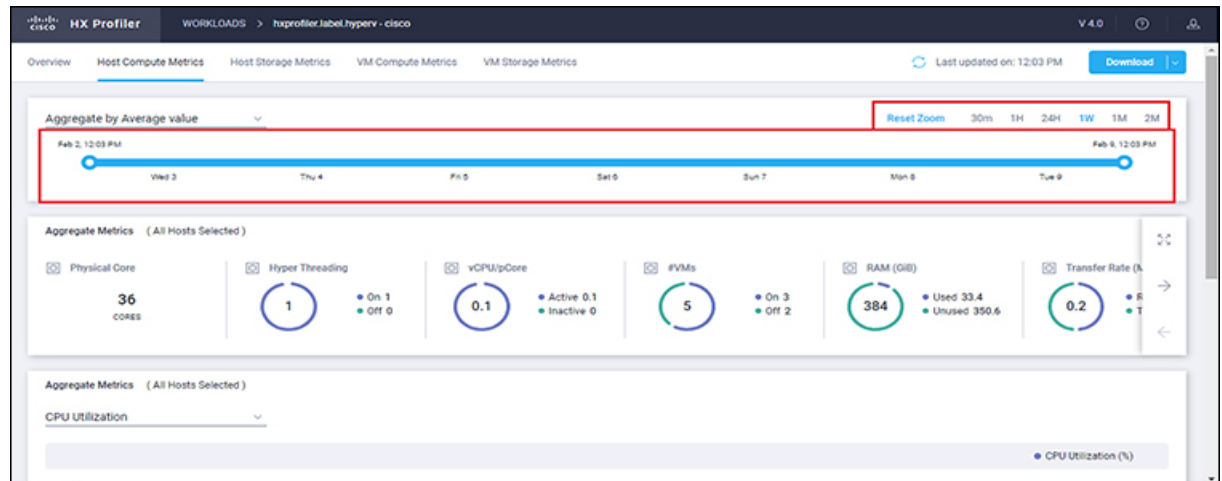
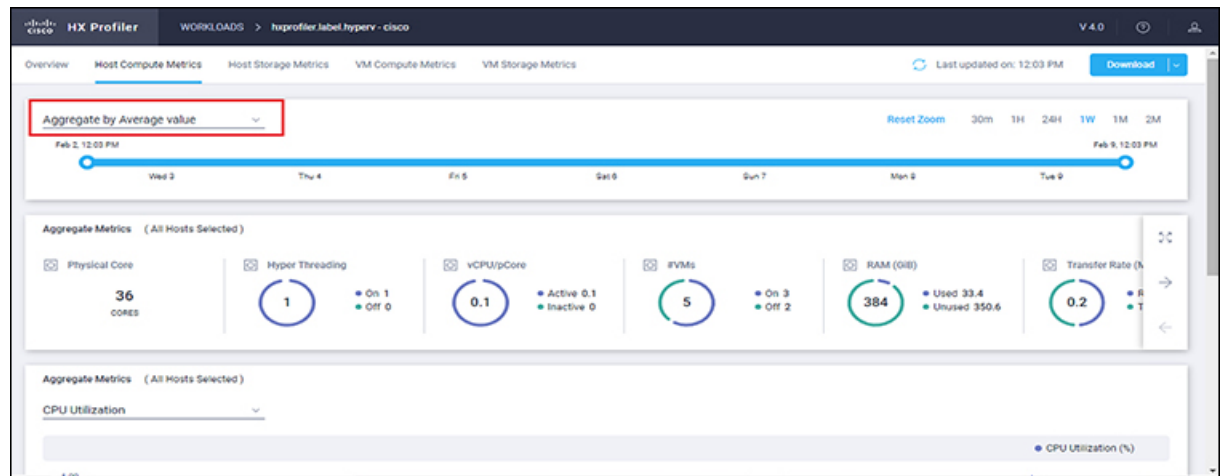
CPU Utilization

● CPU Utilization (%)

Table 7: Host View Filter Drop-Down Options

| Item | Description |
|-------------|--|
| Aggregation | <p>Filters to view the summarizations based on peak or average selections. Your selection determines the display of the table metrics and trends.</p> <p>The summarized values represent the following:</p> <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
- Hyper Threading – ON/OFF
- CPU Util in %
- #VMs
- vCPU of active VMs/pCore Ratio
- RAM (GB)
- RAM Util (GB)
- Network Throughput- Rx (Mbps)
- Network Throughput- Tx (Mbps)

Host View Storage Table

- Host Name
- Provisioned Capacity (TiB)
- Used Storage Capacity (TiB)
- Read Throughput (MBps)
- Write Throughput (MBps)
- Read (%)
- Write (%)
- Read IOPS
- Write IOPS
- 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
- 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 related to aggregate storage and compute matrix. 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 Overprovisioning Ratio (%)
- RAM Utilization (GB)
- RAM Overprovisioning Ratio (%)
- Receive Rate (Mbps)
- Transmit Rate (Mbps)

VM View Compute Trends

- RAM Utilization (GB)
- Receive Rate (Mbps)
- Transmit Rate (Mbps)

Host 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)

VM View Storage Trends

- Read Throughput (MBps)
- Write Throughput (MBps)
- Read Ratio
- Write Ratio
- Read IOPS
- Write IOPS



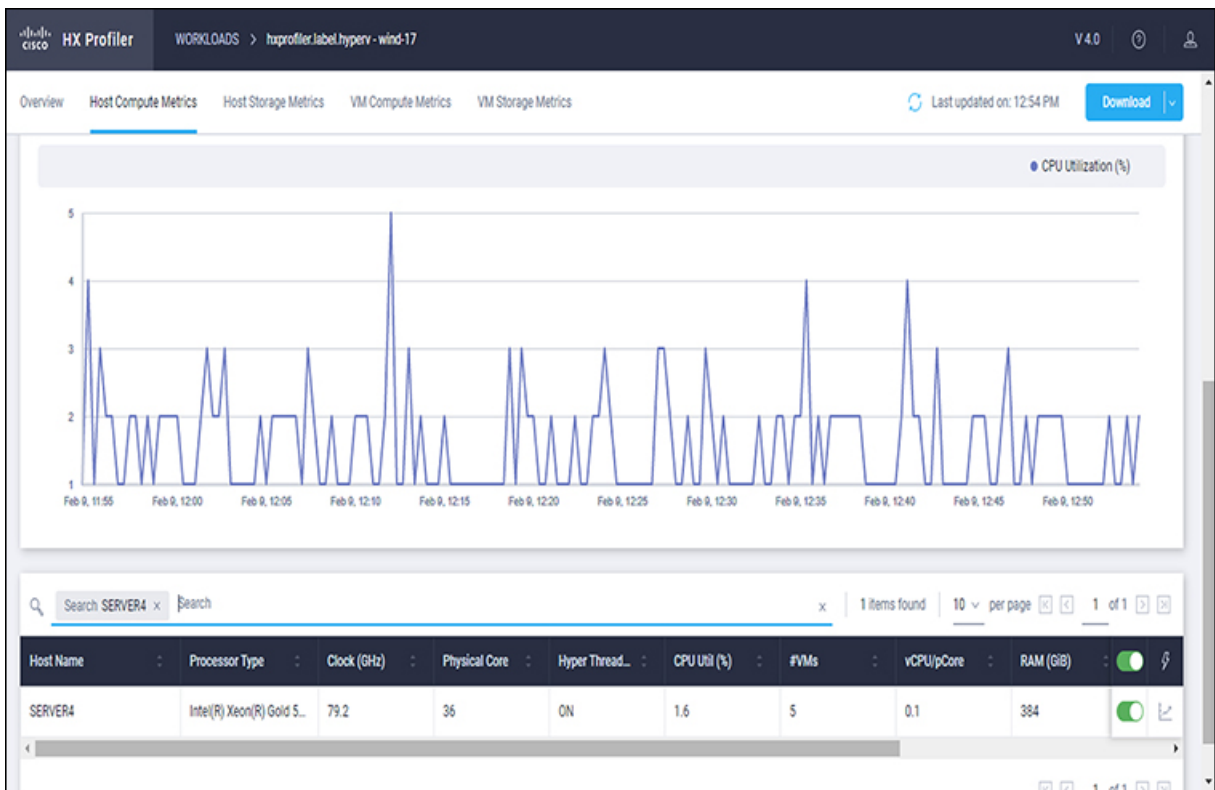
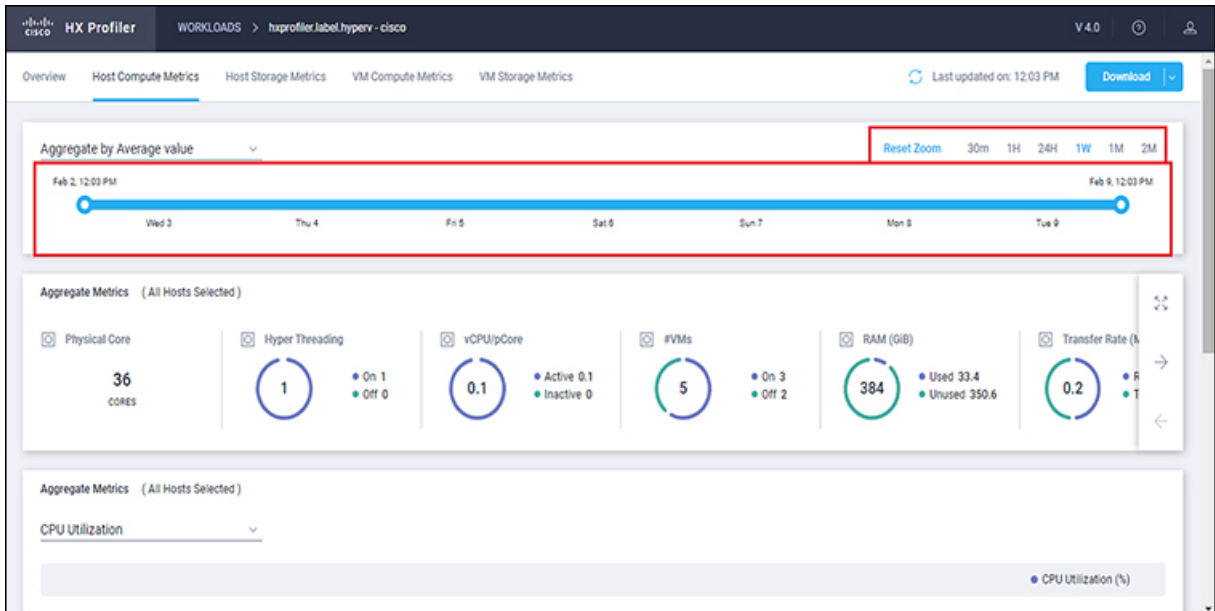
Note You can plot the storage parameter charts for two comparable charts from the Trend Line chart.

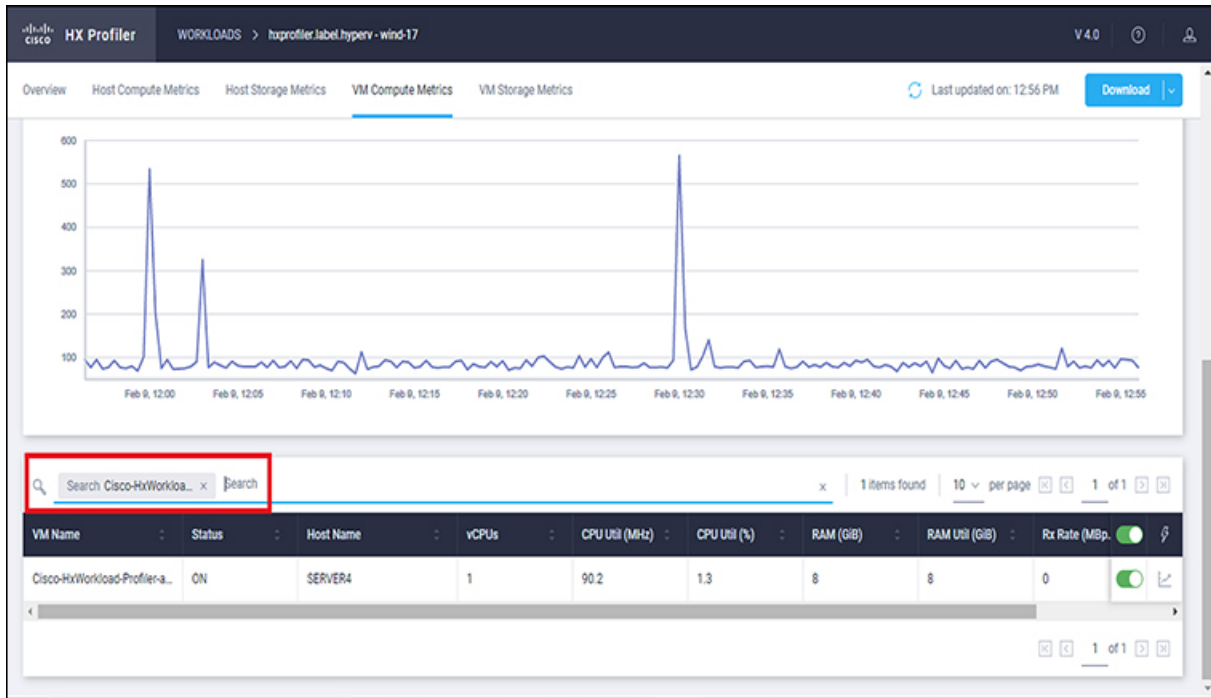
Viewing a Hyper-V Collection

You can view a summary of compute and storage parameters for the hosts and VMs available in the Hyper-V through the View Collections page as part of the profiling operation.

You can also use the filter and search 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 being 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

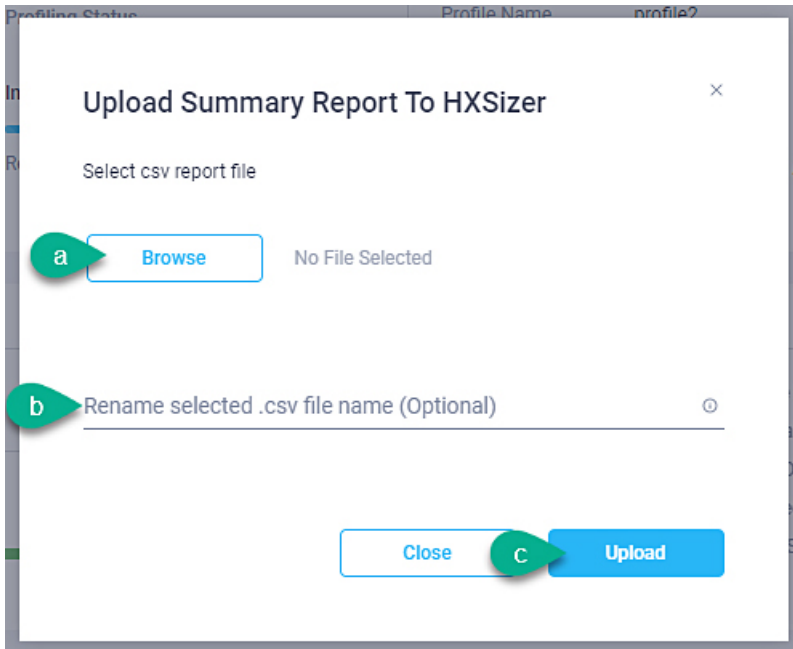
You can upload the 30-Days Sizing Summary Report to the HxSizer application from HxProfiler. When the report upload is successful, a reference number is generated. View the history of uploads along with the reference number from the HxProfiler application. In addition to identifying the report, the reference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

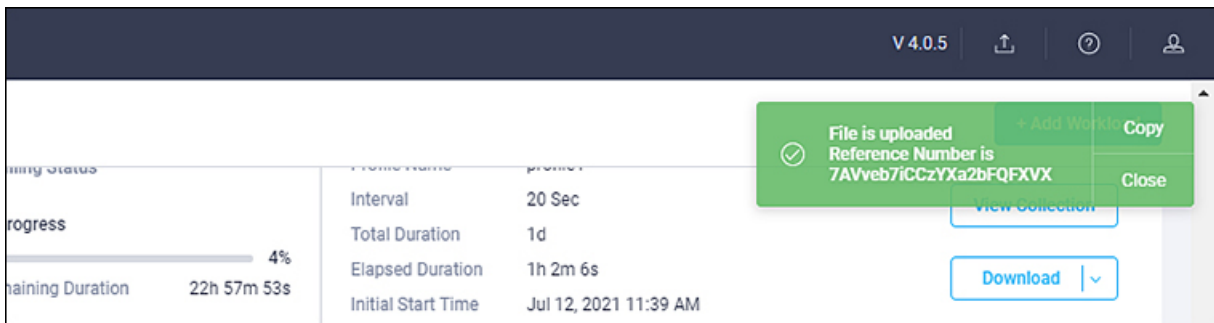


Step 2 Click the **Browse** button to navigate to the local .csv file that needs to be uploaded to the HXSizer portal.



- 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](#)



CHAPTER 5

Monitoring Approach

- [Download Quick Profile \(30-Days\) ESX Host Summary Statistics and Data, on page 51](#)
- [Profiler Data Collection Architecture, on page 51](#)
- [Performing Profiler VM Clean-up, on page 52](#)

Download Quick Profile (30-Days) ESX Host Summary Statistics and Data

You can download the Quick Profile (30-days) ESX Host Summary statistics/data report from the Profiler Home page > **Download Results** option. To use this monitoring option, see [Downloading ESXi Profiling Results, on page 30](#) for ESXi and [Downloading Hyper-V Profiling Results, on page 32](#) for Hyper-V.

Report characteristics:

- Includes VM/host level compute and storage capacity metrics
- Does not include deep storage or compute metrics or metrics for individual VMs
- Data downloads in CSV format and can be uploaded to the Compute and Capacity workload in the Hx Sizer tool

Profiler Data Collection Architecture

Understanding the ESXi Profiler Data Collection Architecture

The Profiler connects to vCenter using the root admin credentials.

Architecture characteristics:

- The Profiler directly collects the vCenter Inventory information (Data Centers, Datastores, Clusters, Hosts, VMs, and basic metrics) and the compute metrics from vCenter itself.
- The Profiler also collects deep storage metrics for each VM and aggregates these metrics at a host-level.
- The vCenter does not directly maintain deep storage metrics. The Profiler software invokes vCenter to fetch this data from each individual host (using vSCSI) to obtain detailed data for each VM. The Profiler

then summarizes the data from all VMs to build a host-level summary. For example, the software obtains maximum, minimum, and average values for metrics, such as latency, where as IOPS (Total Blocks/Interval) and throughput (Total Bytes/Interval) are average values only.

Understanding the Hyper-V Profiler Data Collection Architecture

The Profiler connects to Hyper-V using the root admin credentials.

Architecture characteristics:

- The Profiler directly collects the Hyper-V Inventory information (Hosts, VMs, and basic metrics) and the compute metrics from Hyper-V itself.
- The Profiler also collects deep storage metrics for each VM and aggregates these metrics at a host-level.
- The Hyper-V does not directly maintain deep storage metrics. The Profiler software invokes Hyper-V to fetch this data from each individual host (using WMIC and powershell cmdlets) to obtain detailed data for each VM. The Profiler then summarizes the data from all VMs to build a host-level summary. For example, the software obtains maximum, minimum, and average values for metrics, such as latency, where as IOPS (Total Blocks/Interval) and throughput (Total Bytes/Interval) are average values only.

Performing Profiler VM Clean-up

Performing ESXi Profiler VM Clean-up

After you complete your profiling activities, follow the best practice of performing the Profiler VM clean-up to achieve a thorough shutdown and exit of the Profiler.

-
- Step 1** Download the profiled data with the following steps:
- Launch the Profiler application.
 - Download the data (CSV format) from the Home page. See [Downloading ESXi Profiling Results, on page 30](#).
 - Save the CSV for further analysis.
- Step 2** To stop the Profiler Service, run the following commands:
- sudo service hxpmonitor stop**
 - sudo service hxpcontroller stop**
- Step 3** Shut down the VM.
- Step 4** Delete the VM if it is no longer required to profile the data for the environment.
-

Performing a Hyper-V Profiler VM Clean-up

After you complete your profiling activities, follow the best practice of performing the Profiler VM clean-up to achieve a thorough shutdown and exit of the Profiler.

-
- Step 1** Download the profiled data with the following steps:
- Launch the Profiler application.
 - Download the data (CSV format) from the Home page. See [Downloading Hyper-V Profiling Results, on page 32](#).
 - Save the CSV for further analysis.
- Step 2** To stop the Profiler Service, run the following commands:
- sudo service hxpmonitor stop.**
 - sudo service hxpcontroller stop.**
- Step 3** Shut down the VM.
- Step 4** Delete the VM if it is no longer required to profile the data for the environment.
-



CHAPTER 6

Troubleshooting

- [Troubleshooting, on page 55](#)

Troubleshooting

Troubleshooting Section for vCenter

1. If the selected hosts are not reachable, then perform the following steps:
 - Check the connection status of the hosts in vCenter.
 - Make sure all the selected hosts connection status is **Connected**.
2. If you forgot the Profiler VM password, then perform the following step:
 - Delete the old deployed machine and redeploy the new one.

Troubleshooting Section for Hyper-V

1. If you forgot the Profiler VM password, then perform the following step:
 - Delete the old deployed machine and redeploy the new one.

